MAINE PREP

SAT TEN FOR TEN SERIES

2010
THE TEN FOR TEN® USER’S GUIDE

Primary message: The people who write this test want you to get every question right if you know what you’re doing.

Secondary message: This test is not designed to be tricky, although some people feel that whenever they’re asked to think they’re being tricked.

Important to say: Don’t believe anything I tell you unless it makes logical sense or I can prove it—and the same goes for anyone else who would share their SAT knowledge with you.

We recommend that you loosely follow the order as set out below.

PART ONE: Reading

The reading section of the test includes three subsections (see the table on page 7 that classifies SAT questions by section and type). Each section begins with sentence completion problems (“SC”) and ends with passages. In the two 25-minute sections, test takers are faced with short passages as well.

Sentence Completion: Primary message: The right answer is perfect. If you know what a word means and you understand the sentence, you know whether or not the word fits the sentence. There is no such thing as an “almost-right answer.” If none of the choices you know fits the blank, you should choose the scariest choice you don’t know.

The Scary Choice shows test takers how they can strategically solve sentence completion problems.

Good/Bad is a technique that makes “value judgment” problems more manageable.

Definition can improve speed as well as accuracy because it shows where to look for words that define the missing word or words.

Synonyms, Antonyms, and the 10410 that combines both shows how the SAT uses recursive structure to provide clear clues.

Sentence Completion Practice provides 60 practice problems with explanations.

Passages: Primary message: The right answers will be On Message with the author’s Intention. So, learn about how to figure out the author’s Intention in the Passages Companion and then practice in Best of Intentions A and B. Combine your search for the author’s Intention with Indexing and you’ll be much faster and more accurate.

Passages Companion is a short discussion of our methods for improving concentration and scores in the passages. It should be used as a reference as the student works through the Reading passages.

Best of Intentions A and B are low-pressure exercises that allow students to practice their Intention identifying skills.

On Message shows how correct answers to questions that aren’t line-referenced will be clearly On Message with the author’s Intention.
**Intention and Context ("I&C") A:** This “easier” Reveal passage will start students off right.

**I&C B:** This Persuade passage will show the power of understanding the author’s Intention and the Reasonable Rule.

**I&C C:** This Inform passage shows how an author will remain On Message even when it appears he hasn’t.

**I&C D:** This Reveal passage reinforces that in such passages we should always remember that the author is the primary character in the story.

**I&C E:** This Persuade passage shows how all presented evidence is relevant to the author’s overall Intention.

**I&C F:** This Inform passage demonstrates how even “omniscient” third-person fiction is Inform and that every detail needs to be considered in light of the author’s Intention.

**I&C G through P:** More practice passages

**Short Passages:** The author’s Intention will help you make good decisions when answering these questions.

**Paired Passages ("PP") 1:** A combination of Inform and Reveal passages makes clear that paired passages will focus on one subject from contrasting points of view.

**PP 2:** This combination of Persuade and Inform passages points out the difference between subjective and objective styles.

**PP3:** This combination of two Reveal passages shows how two authors can feel differently about the same subject.

**PP4:** This combination is a classic comparison of Persuade passages.

**PP5:** This combination of Inform and Persuade passages shows how the SAT often uses an Inform passage to give us the information we need to use to make sense of the Persuade passage.

**PP6:** These Persuade passages take opposite sides in a debate about an historical figure.

**Short Paired Passages:** Here, paying attention to the author’s Intention and the Reasonable Rule will help students eliminate at least half the answer choices.

**Vocabulary on Quizlet:** Students can use our Quizlet links to play games with vocabulary.

**PART TWO: Math**

**Maine Prep Math 10410s:** We work mostly on skills, but we also work on strategy (see Do the Next Right Thing, What Else Do I Know?, Logic Problems, Picking Numbers, Watch Your Step, and Guess ’n’ Check).
Math Reference: Lots of formulas and other information that has proved helpful in filling “math gaps,” which seem to vary randomly from student to student.

Please note the “A” (simpler) and “B” (more difficult) columns on the TEN FOR TEN CHECKLIST. We offer over 400 SAT math practice problems.

Do the Next Right Thing discusses the test taker’s overall approach along with time management.

Message: The great time-waster on standardized tests is confusion. So, any minor time investment is worthwhile if the time taken is likely to minimize confusion.

Geometry Circles and Triangles A: A reason-based approach to geometry problems; this is an area in which a student who has had spotty geometry training can make great progress.

Picking Numbers A: Many SAT algebra problems can be solved without ever doing the algebra—more quickly too in a lot of cases.

Exponents A: Review and use exponents, alone and in combination.

Number Properties A: It’s amazing how many SAT math problems are based on odd/even, positive/negative, and/or prime numbers.

Average and Total A: Often, test takers have been taught to do math problems in one direction only (e.g., get the average from the total); the SAT usually requires test takers to do such problems the “other way.” Here, the ability to translate from average to total is vital to a good outcome.

Translation Skills A: The SAT uses word problems to see whether test takers can use their math without being spoon-fed equations.

Algebra A: Some simpler SAT algebra problems.

Charts and Tables: Pretty self-explanatory; good practice to read and interpret.

f is for function: An imagined conversation between a student and a teacher that starts by discussing simple function notation and ends up discussing some tough SAT function problems. This could be a great way to “break the ice” with students when introducing or clarifying function notation.

Algebraic Functions A: Fairly simple functions here help students get comfortable.

Draw It!: It’s essential that test takers draw whenever they’re given a visual problem without a diagram. This is a good place to discuss how doing essential things uses time efficiently.

Probability A: Simple probability and permutation problems show up regularly on the SAT, and most students haven’t mastered the basics of this simple skill.

Watch Your Step: We explore “tricky” SAT problems aren’t tricky at all if the test taker has thought through such situations beforehand.

What Else Do I Know?: SAT math problems often require test takers to make inferences. “If I know that all circles are red, and I know that Figure A is a circle, what else do I know?”
Slope and Angles: A review of how to calculate slope and identify supplementary, vertical, and corresponding angles.

Symbols: Stars, boxes, and upside-down triangles can be upsetting for anyone who doesn’t know that such problems are primarily anxiety-testers, and that any unknown symbol will be fully defined within the problem.

Exponents B: Looks at negative and fractional exponents.

Algebra B: More algebra practice.

Picking Numbers B: Slightly harder problems that can be solved by picking numbers.

Number Patterns A: Calculating patterns is all about understanding the concept of full sets and remainders. Those who have used calculators since sixth grade often don’t understand remainders.

Geometry Circles and Triangles B: A little tougher than A but on the same themes.

Logic Problems: Another possibly “tricky” set that explores different kinds of logic problems and how flexible thinking can be helpful in solving them.

Number Properties B: More number properties practice.

Absolute Value: Most students are iffy on the concept of absolute value, and the concept shows up often enough that a little practice can be very helpful.

Ratios, Fractions, Percents A and B: Test takers who do all their math on calculators can be uncomfortable with fractions.

Math Practice, Algebra Workshop, and Geometry Workshop all provide explanations to many more practice problems.

At this point, nearly all the rest of the math 10410s will need no introduction. Exceptions are:

Exponents C: This focuses mostly on quadratics, which should only be necessary for top math scorers.

Geometry Circles and Triangles C: Full of tough geometry problems that, again, should only be necessary for top scorers.

PART THREE: Writing

Our grammar work concentrates on parts of speech and parallel structure.

Identifying Sentence Errors (“ISE”): An introduction to the question type that seems to be most difficult for test-takers. We discover how easy it is to hide verb and pronoun errors in a sentence.

Improving Sentences (“IMS”): Structural clues and a preference for simplicity are key to succeeding with this question type, in which the shortest answer is right almost 40% of the time.
Improving Paragraphs: This six-question subsection is always at the end of the long Writing section; those who reach it with plenty of time left often can get all or nearly all of the questions right.

ISE Suspect the Verb: If you’re looking to hide an error in a sentence, the verb’s often the easiest part of speech in which to do so. Whether it’s subject/verb agreement or tense confusion ...

ISE Pronouns and Antecedents: Our statistics show that underlined pronouns tend to be the correct answer nearly 70% of the time. So, test takers should be on pronouns like hawks, and should always attempt to identify the pronoun’s antecedent.

ISE Dedicated to the Preposition: The very existence of prepositions can be news to some high school students; we see how removing prepositional phrases from sentences often exposes errors.

ISE Preposition Idioms: Prepositions also are used in idiomatic expressions, which tend to appear in the latter part of the Identifying Sentence Errors subsection. We will see how in The Circle of Death (problems 25-29 in the long Writing section), picking an underlined preposition is often a successful guess.

Parallel Possessives: This nontraditional piece explores various methods, including using prepositional phrases and demonstrative pronouns, for showing possession.

ISE More Sentence Errors?: Some more work with this question type. Should be attempted after completing Parallel Possessives.

IMS Go Short: If a student is guessing, it really matters how long an answer choice is. Here are “correct” statistics we’ve compiled for longest to shortest answer: 6%; 10%; 18%; 30%; 36%.

IMS Intro Descriptive: This deals with what one might call “misplaced” and “dangling” modifiers, and prompts us to ask what any descriptive phrase actually describes.

IMS Parallel Structure: A tough question set that forces students to indicate parallel structure indicators like punctuation and conjunctions.

Essay Workbook: This begins by helping students pre-write reusable evidence paragraphs and then continues by getting them to think through how they might use their pre-written evidence along with formulaic intros and conclusions to allow them more time to express their individuality.

GUESSING

Other than ten problems in one math section (the student-generated responses or “grid-ins”), the SAT is a multiple-choice test. Each problem is followed by five answer choices, one of which is correct. In order to formulate a winning guessing strategy, we should first examine the connection between the number of answer choices and the ¼-point deduction for any wrong answer.

PROBABILITY: If you are thinking of a number between one and five, and I try to guess that number, what are my odds of guessing correctly? One in five, or 20%. So, would you agree that if we continued play this game through several days and nights the percentage of my actual correct responses would be approximately 20%?
Now let’s see how that 1-in-5 chance of getting a problem right relates to the $\frac{1}{4}$ point “penalty” for wrong answers. Remember, a right answer adds a full point to a test taker’s score. So, if a test taker guesses on five problems, she is likely to get one right, for a +1, and four wrong, for a -1. So, mathematically, random guessing is an even money proposition, meaning that, odds-wise, it is never a bad idea to guess.

Those who oppose guessing on standardized tests will point out to a test taker the times he guessed the wrong choice. While the costly downside of guessing is evident, the benefits of guessing usually remain hidden, because when one guesses right no one thinks of that right answer as a guess! If right guesses are more than $\frac{1}{4}$ as numerous as wrong guesses, the guessing has improved the test taker’s score. The only way you can test this for yourself is to ask your students to make a special mark in the margin of any question on which he or she has guessed.

Why do so many people preach that guessing on the SAT is a bad thing? Clearly, they have never calculated the odds of guessing. It’s likely that they are passing on bad advice that they heard from authority figures when they were in high school.

TIMING

Students have asked me whether they should time themselves when working on the TEN FOR TEN curricular pieces. The answer I give is NO. Here’s why:

The skills necessary to excel on the SAT are NOT taught in school. They are specific to efficient reading and processing, to choosing the appropriate approach from a variety of math skills, and to assessing various parts of a sentence. In every area in which we are currently adept we once were not; in nearly every case, we learned “how” slowly; we did not expect ourselves to run at “full speed” until we truly understood what we were doing.

In general, students have a tendency to want to work too fast anyway. I explain to them that each of us has a certain “red line” at the top end of our optimal processing speed, and that I know that each time I violate that “red line” I make pretty idiotic mistakes. They usually identify.

So, to lessen the student’s fear, to allow her to, say, feel her way through the multiple steps of a math problem, to allow herself to use our reading technique, even though doing so might feel slower at first, it’s vital not to time a student while she is practicing. If you’ve ever done theater, you know that you don’t rehearse at “full speed” until just before opening night.

THE EXPERIMENTAL SECTION

The experimental (or “equating”) section is one section in each given SAT that could appear in any test as early as section 2 and as late as section 7. This section is not scored; rather, The College Board uses this section to test problems it intends to use in future SATs. Your experimental section could be a Reading, a Writing, or a Math. If I am sitting next to you, yours could be different from mine.

1) Do not try to figure out which section is experimental; doing so will disturb your concentration on what’s important—getting stuff right as efficiently as possible.
2) Remember that one section (this one) hasn’t been “smoothed out” yet, and so may feel a lot more difficult or random than other sections. So, if you are working on a section that seems to be destroying you, assume for the moment that it’s experimental. Why? Otherwise, you might suffer a bit psychologically, which could adversely affect your ability to concentrate and score in the sections that do count.

The SAT (broken down by question type):

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2009/10 SAT/ACT STUDENT INFORMATION
Please fill this out as fully as possible.

Student Name: ________________________________

Address: _____________________________________

City/Town: ____________________________________

Phone: _______________________________________

Email: _________________________________________

School: _______________________________________

Graduation Year and GPA: _______________________  

College Advisor (school or private): ____________________

Previous ACT results:

Math ______ Reading _________ Science _______

English _______ Essay _______ Overall _________

Previous “best” P/SAT results:

Math ______ Reading _________ Writing _________

Essay __________

AP/Subject Test results: _______________________________

Will you get extra time on test day? If so, please describe why:
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SAT SHORT COURSE AND GUESSING GUIDE

The Short Course

This is a last-minute quick review of what we’ve learned. Often, under pressure, we forget how much we have going for us.

Critical Reading ...

Passages: Indexing
Why do we Index?
First, it allows us to concentrate on the author’s Intention.
Second, it allows us to read the passage once and once only.
Third, it indicates when we’re “in the context zone” for an upcoming question.

Passages: The Author’s Intention How many Intentions can an author have? The test maker cannot distract you with bogus choices when you’ve decided on the author’s Intention. Often, when you’ve taken a moment to summarize the author’s Intention (“persuade—the author asks us to consider the downside of captive breeding of endangered species”), you will identify correct answer choices so quickly and easily that you’ll become suspicious.

Passages: The Reasonable Rule has two prongs:
The author can’t prove anything new in 100 lines (so we must reject “universal” answer choices; and
In third-person essays, the author wants you to keep your eye on the subject matter; if the author gets too emotional s/he becomes a distraction. So, answer choices like “disgusted” and “euphoric” can safely be disregarded.

Passages: The Simple Choice There is only one correct answer in each problem; the only drawback to our method is that a correct answer choice sometimes looks so simple and obvious that people reject it!

Passages: Vocabulary in Context Cross out the word(s) in the text you’re asked to replace. Now approach it as you would a Sentence Completion problem, plugging in the answer choices. You know this method works—will you use it?

Paired Passages: What’s At Issue? Concentrate on “What’s the same? What’s different?” (In short paired passages, the difference won’t be major!) Short Passages and Short Paired Passages: They’re Short! If you can’t prove much in 100 lines, how much can you prove in 10?

Sentence Completion: Perfect Fit The right choice fits the sentence perfectly. So, if you know a word’s meaning, you know whether it’s right or wrong. When you’ve ruled out every choice you know, it’s time to go to The Scary Choice. Remember, if you find yourself making a case for an answer choice, it’s wrong.
In general: **Boredom**

Yes, the SAT can be boring. Yes, the passages are tedious and can seem endless.
However, if you don’t do everything in your power to make this test one of the most fascinating experiences of your life, you will have chosen to indulge the part of yourself you’re probably not all that fond of. It’s up to you to motivate yourself—or pay the price later.

Sentence Completion: **The Scary Choice** At the end of the subsection, you’ll run into problems that feature lesser-known vocabulary. Whenever you can’t legitimately identify the right answer, and you’ve eliminated every choice that you know (see Perfect Fit, above), it’s time to pick the scariest remaining choice. After all, four answer choices were chosen to be tempting; the fifth one is right. Which one is likely to look scariest?

Sentence Completion: **Punctuation Clues** Is the blank followed by a colon, semicolon, or comma? If so, the definition of the word is coming next (and so you can ignore everything in the sentence before the blank).

Sentence Completion: **Good/Bad** Use this technique whenever there’s a value judgment in the sentence.

Sentence Completion: **Synonyms and Antonyms** Whenever the sentence repeats itself, you’ll find synonyms and/or antonyms.

In general: **Fresh Eyes**

We all can lose the ability to look at a frustrating problem with Fresh Eyes. Often, a problem has us totally confused but we refuse to let it go. If you’ve ever worked on a crossword puzzle, you know that fiercely trying to solve one corner is rarely as effective as jumping here and there, filling in what you can, and then returning to difficult portions of the puzzle. So, if a problem is frustrating you, put it aside, and return to it after solving a few more problems in that set.

**Math** ...

**General**: **Convert!** Most SAT math information must be converted to be useful. For instance, if we know a square’s diagonal, you can bet we’ll need to figure the square’s perimeter, area, or side.

**Write Down Everything You Know So Far**: If you know something about a problem, write it down. You’ll be surprised how often something you thought was unimportant turns out to be vital.

**Picking Numbers** (substitution): Whenever we see variables in the answer choices, substitution is likely to work. So, why sweat the algebra? Pick numbers that (a) follow the rules in the problem and (b) make your life easy!
**Guess and Check**: Whenever we see plain numbers in the answer choices, we should check to see whether the problem boils down to this question: “Which one of the following answer choices, when plugged into this problem, will make it work?” Guess and check starting with (c).

**Geometry: Find Every Measurement You Can**: If there is an “idle” angle in a triangle that you can label, do so. It’s likely that that “idle” angle is the most direct route to the right answer.

**Geometry: Equilateral Figures** (circles, equilateral triangles, squares): If we know one thing about any of these figures (side or diagonal of a square, circumference of a circle, etc.), we know everything about the figure. Right?

**Geometry: CdrA**: Circles have four pertinent measurements. Writing down CdrA immediately upon beginning work on a circle problem creates a template you can use to solve.

**Geometry: Triangles**: Equal sides opposite equal angles. So, when one angle is bigger than another, the side opposite the first angle is bigger than the side opposite the second angle.

**Geometry: Triangles**: The longest side of any triangle must be shorter than the sum of the two shorter sides.

**Geometry: Drawn to Scale**: Whenever an SAT diagram isn’t labeled “Not drawn to scale,” it’s drawn to scale! You can measure sides to compare them!

**Geometry: Not Drawn to Scale**: Trust the numbers only, never your eyes!

**Functions: Not as Scary as They Look**: Remember, each SAT function defines a line in a plane; in other words, functions are just scary-looking equations that help us find the y-coordinate (the f of x) for any x coordinate.

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**Psychology Break!**

In general: **Style Points**

SAT math is often more logic than math. If you continually search for an elegant method (also known as a formula) before fully considering a problem, you are unlikely to enjoy seeing your test results. Be sure that you understand what the question’s asking before you reach for your calculator. Often, you’ll find that **elegance is optional** … or, as I’ve probably told you, “Try to get each problem right as **dumbly** as possible.”

**Writing**:

**Essay**: Your evidence must dictate your argument, not the other way around: so, take at least 6-8 minutes to assemble evidence, then tailor your point of view to fit.

**Essay**: Write a shorthand draft of your opening sentence before writing the sentence on the lined sheet. First impressions and all that…

---

* Circumference (C = \( \pi d \)); diameter (d = 2r); radius; and Area (A = \( \pi r^2 \)).
**Essay:** You’re writing for English and Social Studies teachers. Don’t you figure they’ll treasure you forever if you make a really good point about some novel or time in history they like?

**Essay:** Remember The Reasonable Rule (see page 1). Small arguments backed up by big evidence look great. And don’t distract the reader by becoming too emotional.

**Essay:** Write your essay in the third person; if you choose to include a personal experience, write it in the first person; do not under any circumstances write in the second person.

**Essay:** Because the reader isn’t supposed to dock you for inaccuracies, it’s OK to make stuff up. For instance, if you know enough about Jefferson to “quote” him, feel free to do so.

**Essay:** Last, be careful with your politics and religion. You have no idea who’s reading these essays (we’re pretty sure The College Board knows to whom it’s sending the essays but don’t bet that some essays haven’t been subcontracted to unemployed family members) so if you make passionate political or religious arguments your score might suffer.

**Writing Section:** (1) Verb tense and person should be your primary focus; (2) always make sure you know to which noun any pronoun refers.

**Writing Section:** Leave the Circle of Death (problems 25-29) until after you have completed the Improving Paragraphs (problems 30-35).

**Identifying Sentence Errors:** Verbs and pronouns deserve extra attention; notice especially any use of “they,” which many folks today use as both a plural and a singular third-person pronoun.

**Identifying Sentence Errors:** If you can spot a prepositional phrase in the first line, it’s odds on that the error in the sentence will concern subject/verb agreement.

**Identifying Sentence Errors:** One or two idiom errors should show up at the end of the section. Beware of “ing” verbs.

**Identifying Sentence Errors:** Each choice, including (e), should be right about 20% of the time. So, if you’re somebody who tends to pick (e) a lot, and you finish a few minutes early, you know which problems to review.

**Improving Sentences:** The shortest choice is correct around 40% the time; so, when you’re stuck between two choices, go with the shorter one.

**Improving Paragraphs:** Index! Is the sentence grammatical? Does it fit in its paragraph? Does it need to provide a transition? Does it refer back? Again, every pronoun is suspect.
Psychology Break!

In general: **Agonizing**

Agonizing during the test can be perversely pleasurable. However, if you’ve used all your mental energy on a problem and two or more answers remain, adding your emotional energy to the equation is unlikely to help—continuing to agonize might keep you from getting to a problem or later in the section. So guess and go. Remember, no single problem is necessary to a good score—so don’t let any particular problem stop you in your tracks.

**Finally:** Anyone who works hard deserves a great score. Agreed?

The SAT Guessing Guide

The SAT tests not only your academics but also your game-playing skills. A good guesser can raise his or her score by 100 points or more.

First, random guessing is an even-money proposition. Of the five answer choices, four will cost you a quarter and one will win you a dollar. Probability says that if you guess randomly you will be right one time in five. So, you will lose four quarters and win a dollar, which puts you even. However, guessing on a problem you haven’t really looked at is a waste of time—you can get the same odds and not waste time by leaving that choice blank. So, here’s the rule:

If you **work** on a problem, **answer it**. It’s pretty unlikely that after spending time on a problem you won’t be able to eliminate any choices. So, **eliminate, guess, and go**.

**Reading**

**Sentence Completion:** The **Scary Choice**. See the discussion in The Short Course, above.

**Critical Reading:** **The Author’s Intention**. If you don’t have time to determine which choice is right, pick a choice **with which the author would agree**. As we know, right answer choices agree with the author’s Intention—wrong choices don’t.

**Writing**

**Improving Sentences:** **Go Short**. In this subsection, the shortest answer has proved to be right about 40% of the time (with the 2nd shortest right about 30%, the 3rd shortest 15%, 4th shortest 10%, and longest choice 5%). Note that this means that the shortest choice will be right about eight times as often as the longest choice! So, Plan A: **Eliminate any choice you know** is wrong; Plan B: **Pick the shortest remaining answer**.
Identifying Sentence Errors: Pay attention to parts of speech (review the parts of speech if you’re not rock solid sure what they are):

- **Verbs**: 50% of all sentence errors involve singular/plural agreement or verb tense. So, you should always check for:
  - Singular/plural (find the subject and match it up with the verb); and
  - Tense—you will never be asked to make a creative decision about tense; rather, you will need to make sure that any underlined verbs agree with non-underlined verbs in the sentence.

- **Pronouns**: It’s a fact that in the nine “released” tests we have seen any underlined pronoun is the right answer (i.e., the “error” in its sentence) about 70% of the time! This percentage is actually higher in the toughest Identifying Sentence Errors problems (22-29); so, if you’re not sure what to do in one of those problems and a pronoun is underlined, pick it!

- **Prepositions**:
  - Cross out (yes, physically) all prepositional phrases, which are never necessary to a sentence’s structure. When you do so, you will find that it’s easier to match up subject and verb.
  - In The Circle of Death (problems 25-29), note all underlined prepositions, since this is where the SAT likes to put preposition idioms (regard as, familiar with, preoccupied with, put a lot of effort into, etc.). If you’re stuck, and the sentence does not contain a pronoun—or if it does and you’re sure the pronoun is OK—it’s good strategy to pick the preposition!

**Math**

**The scary choice (math style)**: When you’re finishing a math section and faced with a problem you can’t answer, guess the scariest looking choice!

- **Range problems**: If you’re guessing, “Which one of these choices defines (is inside or outside) a given range?”, pick (a) or (e) (the smallest or the largest). If the second largest is in the range, wouldn’t the largest be, too?

- **Percentage problems**: If the choices contain a formula for finding a percentage, the correct answer will have the number 100 in its numerator.

- **Variable rate problems**: If a problem says something like, a phone call is \(x\) cents for the first three minutes, then \(y\) cents a minute for the remaining minutes, how much does a phone call of \(z\) minutes cost? The answer will always look like this: \(3x + y(z-3)\). Note that if you choose \(3x + yz\), you’re paying for the first three minutes twice.

If you’re late in a section, never guess this choice: “It cannot be determined from the information given.” So, eliminate, “It cannot …,” and guess among the rest.

The SAT loves “zero.” So, if it’s a choice, and you’re guessing, pick it.

**The Essay**

Be ready to expound upon the following subjects:

- Martin Luther King and the Civil Rights Movement
- Huckleberry Finn
- American Independence and the Revolutionary War
- Hester Prynne and The Scarlet Letter
- Your own life. Remember, you can make up names, places, and events!

**Bad Guessing Advice**

Before we leave, let’s review some guessing advice you may have gotten from well-meaning but ill-informed sources:

- **When in doubt, guess (c).** This one is so remarkably silly that I thought it was no longer in circulation—until recently when someone offered it up to me as sage advice.

- **The SAT never uses the same letter choice three times in a row.** This one’s been around since I took the test during the Van Buren administration. First, it’s not true (in a recent SAT’s Identifying Sentence Errors subsection, (d) was correct four times in a row); however, even if this were true, and you consider it after answering, say, (b) twice, how do you know your first two (b)s were correct?

- **And, of course, the grand prize winner of bad advice:** “Don’t Guess”
ABSOLUTE VALUE

Absolute value is a point's distance from zero.

\[ |n + 1| < 3 \]

1) How many integers \( n \) satisfy the equation above?
   a) None       c) Three       e) Seven
   b) Two        d) Five

2) The Amtrak train that runs from Providence to Chicago has a spotty on-time record. The train has always taken more than 15 hours and less than 21 hours to make the trip. Which one of the following absolute value statistics can be applied to the range of trip times on this Amtrak route?
   a) \(|p - 16| < 4\)       c) \(|p - 16| > 5\)       e) \(|p - 18| < 3\)
   b) \(|p - 16| > 3\)       d) \(|p - 18| < 2\)

3) Which of the lettered points in the figure above has coordinates \((x, y)\) such that \( |x| - |y| = -2 \)?
   a) A       c) C       e) E
   b) B       d) D

**PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW**

4) Reggie and Bill are combining their baseball card collections. Reggie’s collection has at least 190 and as many as 210 cards and Bill’s collection has at least 180 and as many as 200 cards. Which of the following expresses the number of cards in the combined collection?
   a) \(|c - 370| \leq 20\)       c) \(|c - 390| > 10\)       e) \(|c - 410| \leq 40\)
   b) \(|c - 370| > 40\)       d) \(|c - 390| \leq 20\)
5) **[Grid In]** What is the value of \( v \) that satisfies both equations above?

\[
\begin{align*}
| 10 - v | &= 3 \\
| v - 5 | &= 8
\end{align*}
\]

6) On the number line above, which of the following corresponds to \(-(| n - p |)\)?

- a) \( m \)
- b) \( q \)
- c) \( r \)
- d) \( s \)
- e) \( t \)

7) NASA guidelines for space flight require that an astronaut weigh more than 120 and less than 160 pounds. Which of the following can be used to determine whether or not a prospective astronaut’s weight satisfies the NASA guidelines?

- a) \(| w - 120 | < 40 \)
- b) \(| w - 130 | < 10 \)
- c) \(| w - 140 | < 20 \)
- d) \(| w - 140 | < 30 \)
- e) \(| w - 160 | < 40 \)

8) In the equations above, \( r < 0 \) and \( s < 0 \). What is the value of \(| s - r |\)?

- a) -47
- b) 34
- c) 38
- d) 41
- e) 47

9) Chad weighed 10 bags of apples and found that each bag was either 2.75 pounds or less or 3.15 pounds or more. If \( w \) is the weight, in pounds, of one of these bags, which of the following must be true?

- a) \(| w - 2.95 | \leq 0.2 \)
- b) \(| w - 2.95 | \geq 0.2 \)
- c) \(| w + 2.95 | \geq 0.2 \)
- d) \(| w - 0.2 | \geq 2.75 \)
- e) \(| w - 10 | \leq 2.95 \)

10) Amanda’s babysitter Sid has never been what you might call consistent when giving the 4-year-old her milk and animal crackers. One time, Sid gave the child only 5 animal crackers, and once, he gave her as many as 71. Which of the following expressions captures Sid’s inconsistency? (Assume that the child never receives partial crackers.)

- a) \(| a - 5 | \leq 38 \)
- b) \(| a - 5 | \leq 66 \)
- c) \(| a - 38 | \leq 33 \)
- d) \(| a - 38 | \leq 34 \)
- e) \(| a - 71 | \leq 5 \)
**ABSOLUTE VALUE**

1) **D.** Draw a number line. Since absolute value is the distance from zero, we know that \( n + 1 \) must be less than 3 away from zero in either direction (note that the range is always twice the absolute value, right?). How many integers are inside this absolute value range? -2, -1, 0, 1, and 2. When we add 1 to \( n \), it must equal one of those integers which means that \( n \) has to be -3, -2, -1, 0, or 1. Note that the answer would have been the same had the problem read \(|n – 17| < 3\), because again, there are only five integers (-2, -1, 0, 1, and 2) that \( n – 17 \) can equal!

2) **E.** When we’re using absolute value in order to define a range, we have to:
   a) Define the median (it’s 18) and the range (15 to 21, exclusive);
   b) Reduce all numbers in the range by the value of the median (which always produces a median of zero and here gives us a range of -3 to 3)—what we’ll call “zeroing out the median”;
   c) Determine the absolute value of the ends of the range (here, less than 3).

**Maine Prep Method:** STEP 1: Draw two number lines, one above the other. Label the midpoint of the lower line “0”. Now, define the ends of the top line by using the outside numbers in the problem’s range (here, 15 and 21).

STEP 2: Determine and label the midpoint of the top line (here, the midpoint is 18).

STEP 3: Subtract the value of the midpoint from all of the values on the top line and place the results on the bottom line. Here, when we subtract 18 from the top line, 15 becomes -3 and 21 becomes 3.

STEP 4: Color in the range on the bottom number line. Here, the range on each side of zero is less than 3.

STEP 5: Mark the correct answer choice (here, it’s E).*

3) **A.** The \( x \) value is -1 and the \( y \) value is 3. Since we’re finding absolute value **first** and then subtracting, we get \( 1 – 3 = -2 \).

Please return and finish Problems 4 through 10

* **Continuous vs. discontinuous:** If a range is **continuous**, its absolute value will always be less than (or equal to) a certain value; if the range is **discontinuous** (if the range is, say, less than 15 and more than 21), then its absolute value from the median will be greater than (or equal to) a certain value. Expect to run into the “less than (or equal to)” variety of this problem.
4) **D.** When Reggie and Bill pool their cards, they have at least 370 and as many as 410 cards. If you haven’t reviewed the entire discussion of problem 2, please do so now, using 370 to 410 as the top line’s range. Next, let’s find the median of the top line, and then reduce the numbers on that line by the line’s median, recording the results on the bottom line. When we do so, our new median is zero (as it always will be in an absolute value problem) and our new range on either side of zero is less than or equal to 20.

5) **13.** In the first equation, we know that \(10 - v\) must equal either 3 or -3, right? So, our possibilities are 7 and 13. Next, let’s plug 7 and 13 into the second equation; only 13 works.

6) **B.** In problems where no one can tell you for sure what each variable’s value is, you should estimate and then work through the problem using your estimations. Let’s estimate -0.75 for \(n\) and -0.5 for \(p\), OK? First, we need to subtract \(p\) from \(n\) \([-0.75 - (-0.5) = -0.25]\) and then express that result in terms of its absolute value (0.25) before applying the negative sign outside the parentheses!

7) **C.** I hope that you have reviewed the explanations for problems 2 and 4, above, and are starting to think of this kind of problem as something that’s pretty simple. Let’s “zero out the median” \((140)\) by subtracting it from each number on the top line—because of the conditions of this problem, the absolute value of the difference will always be less than the distance from the median to the end of the range (20).

8) **D.** Did you notice that both \(r\) and \(s\) are less than zero? (It wouldn’t be much of a problem otherwise …) We’re told that \(r - 3 = (7 \text{ or } -7)\), and we know that \((s + 7) = (38 \text{ or } -38)\). However, because \(r\) and \(s\) are negative, we must choose respective values that result in -7 and -38, right? So, \(r\) is -4 and \(s\) is -45. \(-45 - (-4) = (-41)\). The absolute value of -41 is ….

9) **B.** As we noted earlier, for the occasional discontinuous range problem, we can use the same methods we’ve been using. Start with two lines, identify the ends of the ranges, and indicate on the line where the range goes (here, to infinity in both directions). Next, what’s the median? 2.95. When we subtract 2.95 from each number on the top line and color in the range, it’s … more than 0.2 on each side of zero.

10) **C.** Once again, if you need to review how to “zero out the median,” please read the explanation to problem 2, above. I hope that you were able to find the median, 38, and realize that the range was less than or equal to 33.

^ See the explanation to problem 2.
ALGEBRAIC FUNCTIONS A

A function is a set of instructions.

We can choose either (a) to follow the instructions or (b) to make up our own problem. Normally sensible people who answer a phone when it rings rather than run full-speed into a wall often go mildly insane when given a function and then asked to find the y-value (or f(x)-value) that corresponds to a strange x-value.

So, the function instructs us exactly how to relate our two variables [x and f(x)] and thus how to come up with the right answer. But we know that—aren’t we often mistaken for experts when we’re asked to substitute a numerical x-value (e.g., g(x) = 7x; what is g(2)?)? But, we’re less adept when we’re asked to plug in another variable (e.g., g(x) = 7x; what is the g(3p)?)

Unless you are told otherwise, when working on function problems always assume that the simple variable (say, z) is the x-value. That makes its weird-looking partner (say, h(z)) the y-value. The good news is: That’s it. There are only two dimensions (at least on the SAT).

1) If \( g(m) = \frac{14 - 3m^2}{2} \) for all nonzero m, then \( g(4) = \)
   a) 65  c) -17  e) -418
   b) 1  d) -81

2) [Grid In] If \( f(x) = 3x - 15 \), for what value of x will \( f(x) = 0 \)?

<table>
<thead>
<tr>
<th>z</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>g(z)</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>

3) The table above gives values of the quadratic function \( g \) for selected values of z. Which of the following equations defines \( g \)?
   a) \( g(z) = z^2 + 1 \)  c) \( g(z) = 2z^2 - 2 \)  e) \( g(z) = 2z^2 + 1 \)
   b) \( g(z) = z^2 + 2 \)  d) \( g(z) = 2z^2 - 1 \)

4) The function \( g \) is given by \( g(r) = -16r^2 + 46r + 5 \) represents the height of a discus, in feet, \( r \) seconds after it is thrown. To the nearest foot, what is the height of the discus after two seconds?
   a) 5  c) 35  e) 46
   b) 33  d) 38

* If we happily substitute 2 into the function, giving us 7(2)^3, why can’t we as easily substitute 3p into it, giving us 7(3p)^3?
5) The table above shows some values for the function \( h \). If \( h \) is a linear function, what is the value of \( c + d \)?
   - a) 12
   - b) 24
   - c) 36
   - d) 48
   - e) It cannot be determined

6) Let the function \( f \) be defined by \( f(r) = 3(r^2 - 4) \). When \( f(r) = -93 \), what is the value of \(-2 - 4r\)?
   - a) 35
   - b) 10
   - c) 7
   - d) -7
   - e) -11

7) Based on the graph of function \( g \), to the left, what are the values of \( x \) for which \( g(x) \) is not positive?
   - a) \(-1 \leq x \leq 1 \) or \( 5 \leq x \leq 8 \)
   - b) \(-1 \leq x \leq 1 \) or \( 5 \leq x \leq 6 \)
   - c) \( 1 \leq x \leq 5 \) or \( 6 \leq x \leq 7 \)
   - d) \( 1 \leq x \leq 5 \)
   - e) \(-1 \leq x \leq 8 \)

8) For which of the following functions \( h(s) \) is \( h(-4) > h(4) \)?
   - a) \( h(s) = 4s^2 \)
   - b) \( h(s) = 4 \)
   - c) \( h(s) = 4/s \)
   - d) \( h(s) = s^4 + 4 \)
   - e) \( h(s) = 4 - s^5 \)
9) The table above gives the linear function $f$ for selected values of $w$. Which of the following equations defines $f$?

\begin{array}{|c|c|c|c|}
\hline
w & -1 & 0 & 1 & 2 \\
\hline
f(w) & 4 & 2 & 0 & -2 \\
\hline
\end{array}

- a) $f(w) = \frac{1}{2}w + 1$
- b) $f(w) = -\frac{1}{2}w + 1$
- c) $f(w) = -w + 1$
- d) $f(w) = -w + 2$
- e) $f(w) = -2w + 2$

10) If the function $g$ is defined by $g(w) = aw^2 + bw + c$, where $a$, $b$, and $c$ are positive constants, which of the following could be the graph of $g$?

- (a) 
- (b) 
- (c) 
- (d) 
- (e)
ALGEBRAIC FUNCTIONS A

Overall important stuff:

a) When we say that \( f(x) = y = 2x \), we’re saying that we can determine any \( y \)-value on a line or curve by inserting the corresponding \( x \)-value into an unchanging formula (in this formula, the \( y \)-value is 2 times the \( x \)-value). Similarly, if we’re given the \( y \)-value, we can determine the corresponding \( x \)-value. That’s about it. That’s functions.

b) Remember **PEMDAS**—Parentheses, then Exponents, then Multiplication/Division, then Addition/Subtraction. There is a difference between \( 3z^2 \) (which is 3 times \( z^2 \)) and \( (3z)^2 \) (which is the square of 3 times \( z \)).

1) **C**. If we square 4 before multiplying by 3, we get \((14 - 48)\) divided by 2, or \(-17\). If we spell **PEMDAS** [see (b) above] some other way, we might get (d) or (e).

2) **5**. A function expresses the relationship between any set of coordinates that make up a line or curve in a plane. That’s it. It’s not magic. Next, if \( a = b = c \), does \( a = c \)? You bet. Here, if \( f(x) = 3x - 15 \) and \( f(x) = 0 \), therefore, \( 3x - 15 = 0 \).

3) **A**. Here, we’re trying to match up a function equation with the data in the table. When we plug in a given \( z \)-value, such as 3, the correct equation predicts its respective \( g(z) \)-value, which would be 10. So, all we need to do is plug each number in the \( z \)-row into each equation until we find the one that works for all four columns! (In general, I find that plugging in the largest such value (here, the \( z \)-value of 3) into the equations allows me to eliminate the wrong choices more quickly. In other words, if you find that only one works with the largest value, it’s gotta be right ....

**PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10**

4) **B**. The weirder a problem looks, the more likely it is that the SAT will give us explicit instructions to help us solve it! Since the object here is to find out the height when \( r = 2 \), can’t we plug in 2 for \( r \) and get \( g(2) = -16(2)^2 + 46(2) + 5 \)? So, \(-64 + 92 + 5\). What’s the height of the discus after 3 seconds?*

5) **B**. Since this is a linear function, the coordinate points must form a straight line. Consider any straight line: Is its slope consistent from one end to the other? Yes? So, that means that the relationship between the change in \( y \) and the change in \( x \) never varies. Each time \( y \) changes one unit, say, \( x \) changes a fixed amount. We know that when \( x = 1 \), \( y = 12 \). Notice that the other \( x \) values we’re given, 0 and 2, are equidistant from 1. If that’s the case, doesn’t it make sense (since the change in \( y \) over the change in \( x \) is constant) that \( h(x) \) values \( c \) and \( d \) would be equidistant from 12?

* After three seconds, the discus has landed! \(-16(3)^2 + 46(3) + 5 = -144 + 138 + 5 = -1\).
Alternatively, since \( h \) is a linear function, we can use only addition or multiplication in the equation we use to define it. Let’s write a couple of function equations that can relate an \( x \) coordinate of 1 to a \( y \) coordinate of 12: \( h(x) = x + 11 \), or \( h(x) = 12x \). If you try each of these plugging in 0 and 2, you’ll find that you get the same answer for \( c + d \)!! Can you come up with a couple more equations that work?

6) B. First, let’s lay out what we know: \( 3(r^3 - 4) = -93 \). So, dividing by 3 (you didn’t distribute, did you?), we have \( r^3 - 4 = -31 \); adding 4 gives us \( r^3 = -27 \); taking the cube root, \( r = -3 \). So, plugging in -3 for \( r \), our second expression is \(-2 - 4(-3) = -2 + 12 = 10\).

7) B. Every so often you’re faced with a strange-looking curve or zigzag that you’re told charts a function. Sometimes, test takers take one look at this weird picture and rush to the next problem. However, if you just refuse to panic and relate the question to the picture you might find that answering the question is really easy! Here, all we need to report on is the range of \( x \) values for which the corresponding \( y \)—or \( g(x) \)—values are not positive (meaning they’re negative or 0). So, where on the line aren’t the \( y \) values above the \( x \)-axis? No, really. If you can get through the function notation, it really is that easy.

8) E. Negative and positive numbers that are equidistant from zero will always be equal when raised to even powers, right? (If you didn’t answer right immediately, stop right now and think about it, OK?) That fact lets us eliminate (a) and (d). Won’t choice (b) look the same no matter what value for \( s \) we plug in? And (c) will be negative when \( s \) is negative. However, in (e), think about what happens when you subtract a negative number ...

9) E. Please read the explanation for problem 3. Once again, the correct equation defines the relationship between the corresponding \( x \) and \( y \)-values. Also, if you plug in a \( w \)-value of 2 (which we recommended in the explanation to problem 3), the problem will be over pretty quickly.

10) D. The constant \( a \) indicates whether the parabola is positive or negative (when \( a \) is positive, the parabola smiles; when \( a \) is negative, it frowns). So, let’s eliminate the “frowns,” (a) and (b). Next, let’s look at the \( c \) value, which tells us about the \( y \)-intercept. Here, it’s positive, which means the parabola cuts the \( y \)-axis in positive territory (above zero). IMPORTANT: The SAT will never be a test of your eyesight, so if you thought you discerned that choice (c) really had a (very tiny) positive intercept, get over it. The test will never be about how well you see (good thing for me).
ALGEBRAIC FUNCTIONS B

Please read the following first! Two simple techniques can help us simplify function problems:

- Use parentheses! On the left side of the equation, note the variable that’s inside the function parentheses. Now, find that same variable on the right side of the equation and put it in parentheses! If $f(p) = 3p - 2$, then $p$ is this function’s sample $x$-value. As such, put it in parentheses: $f(p) = 3(p) - 2$. OK? Then, if we’re asked to solve for a new $x$-value, we need only to sub that new value into the right-side parentheses. So, $f(p) = 3(p) - 2$ becomes $f(2v) = 3(2v) - 2$—note that what’s in the parentheses is all that has changed.

- Use more than two columns! Often (as in problems 1, 3, 5, and 6 below), we can make use of a third column when expanding each function. This is vital when two functions are set equal to each other—say, $g(3v) = g(v - 2)$. We need to expand each in its own column and then set the expansions equal to each other. In general, it’s good to budget for three columns—or four if two functions are set equal to each other!

1) [Grid In] Let the function $g$ be defined by $g(t) = 10 + t^2$. If $7t = g(2t)$, what is one possible value of $t$? 

2) The graph of $y = f(x)$ is shown to the left. If $f(6) = m$, which of the following could be the value of $4f(m)$?

   a) 2.5  
   b) 5  
   c) 12.5  
   d) 14  
   e) 22

3) [Grid In] Let function $g$ be defined by $g(w) = w^2 + 18$. If $n$ is a positive number such that $g(2n) = 2g(n)$, what is the value of $n$?

Please read the answers and explanations for problems 1 through 3 now.
4) If \( f(x) = x + 3 \) and \( g(x) = x^2 - 9 \), which of the following statements are true about the graphs of \( f \) and \( g \) in the \( xy \)-plane?

I. The graphs are exactly the same
II. The graphs are the same except when \( x = 3 \)
III. The graphs have an infinite number of points in common.

a) I only  
b) II only  
c) III only  
d) I and III  
e) II and III

5) [Grid In] Let function \( h \) be defined by \( h(w) = w + 1 \). If \( 3h(w) = 42 \), what is the value of \( h(2w) \)?

6) Let function \( h \) be defined by \( h(y) = 2y - 1 \). If \( \frac{1}{4} h(\sqrt{y}) = 1 \), what is the value of \( y \)?

a) \( \frac{3}{\sqrt{2}} \)  
b) \( \frac{7}{4} \)  
c) \( \frac{9}{2} \)  
d) \( \frac{25}{4} \)  
e) \( \frac{81}{4} \)

---

Questions 7-8 refer to the following functions \( f \) and \( g \):

\[
\begin{align*}
f(t) &= t^2 + t \\
g(t) &= t^2 - t
\end{align*}
\]

7) \( f(7) - g(6) = \)

a) 35  
b) 26  
c) 7  
d) -7  
e) -11

8) Which of the following is equivalent to \( g(p + 1) \)?

a) \( f(p) \)  
b) \( f(p) + 1 \)  
c) \( f(p - 1) \)  
d) \( g(p) + 1 \)  
e) \( g(p) - 1 \)

---

9) Let \( g(s) = s^2 - s \) for all values of \( s \). If \( g(m) = g(m - 2) \), what is the value of \( m \)?

a) 1  
b) 1/2  
c) 3/2  
d) 6/5  
e) 3
10) The graph of $y = f(x)$ is shown to the left. Which of the following could be the graph of $y = f(x - 2)$?
ALGEBRAIC FUNCTIONS B

Algebraic function problems describe lines and curves in two-dimensional spaces. A single variable (like $r = 2$) is enough to locate a point on a line; however, a single variable is not enough to help us locate a point in a two-dimensional plane. We need two variables (like Battleship).

1) **2 or 5.** Because $7t = g(2t)$, we need to substitute in $2t$ for $t$ when we expand the function. So: $7t = 10 + (2t)^2/4 = 10 + 4t^2/4 = 10 + t^2$. Whenever you see a variable squared, the same variable multiplied by a plain number, and a plain number by itself, you should be thinking about a quadratic equation. Immediately, bring all the values over to one side, which will leave the other side equal to zero. Doing so here, we get $t^2 - 7t + 10 = 0$. We can break this down to binomials $(t - 2)(t - 5) = 0$, making the $x$ intercepts 2 and 5.

2) **D.** On the given (very strange) line, the $y$-value that corresponds to an $x$-value of 6 is 3, correct? So, when we plug (3) into our $f(m)$, this time our $y$-value is 3.5. Next, we can multiply the value of a function the same way we can multiply the value of any other value. In this case, if $f(3) = 3.5$, then 4 times $f(3) = 4(3.5)$, or 14.

3) **3.** Please look back at problem 2 for a discussion of how we can add, subtract, multiply, or divide functions. Here, we have functions on both sides of our equation. Using the (parentheses) method, let’s incorporate our new $x$-values into those functions’ expressions. Doing so, here’s the left side: $(2n)^2 + 18$; and the right side: $2(n^2 + 18)$, which means that the equation turns out to be $(2n)^2 + 18 = 2(n^2 + 18)$, or $4n^2 + 18 = 2n^2 + 36$, or $2n^2 = 18$, or $n^2 = 9$, or $n = 3$.

4) **E.** Remember, 99% of all the given information in an SAT math problem is relevant. So, what’s the connection between the $f(x)$ and $g(x)$ expressions? If we break down the quadratic numerator of the $g(x)$ function, get $(x + 3)(x - 3)$, which means we can almost always eliminate the $(x - 3)$ in both the numerator and denominator. So, why isn’t $g(x) = f(x)$ (Roman I)? Because we can’t ignore the original denominator in $g(x)$; what value in any denominator makes a number undefined (and thus would leave a gap in a function line or curve)? Right, zero. So, when $x = 3$, the $g(x)$ denominator equals zero, meaning that $g(x)$ is undefined when $x$ is 3. As for Roman III, remember that infinity minus 1 is still infinity!

5) **27.** If $3h(w) = 42$, can we divide both sides by 3 so we know what one $h(w)$ equals? $h(w) = 14 = w + 1$, meaning that $w = 13$. So, since $2w = 26$, $h(2w) = h(26) = 26 + 1 = 27$.

6) **D.** In problem 5, we worked with a multiple of a function. We can as easily work with a portion of a function, such as $\frac{1}{4}h(\sqrt{y})$ here. Let’s start by writing down what we know so far (much easier using three columns—see bullet point above): $\frac{1}{4}h(\sqrt{y}) = 1$; so $h(\sqrt{y}) = 4$, right? Now, let’s sub our new $x$-value into the parentheses: $h(\sqrt{y}) = 2(\sqrt{y}) - 1 = 4$. Adding 1, we get $2(\sqrt{y}) = 5$; dividing by 2, we get $(\sqrt{y}) = 5/2$. Square both sides to get $y = 25/4$.

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10
7) B. Multiple problems based on the same given information appear often in standardized tests. Whenever a set is a "two-fer," like this one, the first problem will be relatively easy, and the second problem will be much more challenging. Here, don’t we just have to plug 7 into the first function equation \((49 + 7)\) and plug 6 into the second function equation \((36 – 6)\)? So, 56 minus 30 ...

8) A. This is a great example of how easily a seemingly difficult SAT algebra problem can be solved if you’re willing to use alternative methods. (See the Picking Numbers TEN FOR TENs.) Let’s choose 3 for \(p\) and see what happens. So, we’re asked which answer choice is equivalent to \(g(3 + 1)\), which is \(g(4) = 4^2 – 4\), or 12. Now, plugging 3 in for the \(p\) values in the answer choices, which one gives you 12? Go ahead and choose a different number for \(p\), and see whether plugging in your new number identifies the same right answer choice.

9) C. Very much like in problem 4, we need to incorporate our new \(x\)-values into each side of the equation before setting those sides equal. So, substituting the new \(x\)-value of \(m\) for the original \(x\)-value of \(s\), we get \(g(m) = (m)^2 - (m)\), and substituting the new \(x\)-value of \((m – 2)\) in the same way on the right side, we get \(g(m – 2) = (m – 2)^2 – (m – 2)\). Setting them equal gives us:

\[m^2 - m = (m – 2)^2 – (m – 2); or m^2 - m = (m – 2)(m – 2) – (m – 2), right? So,

\[m^2 - m = m^2 – 2m – 2m + 4 – (m – 2); or m^2 - m = m^2 – 4m + 4 – m + 2; eliminating,

\[m^2 - m = m^2 – 4m + 4 \quad \text{or} \quad 0 = –4m + 6; or 4m = 6, or m = 6/4 (3/2).

10) E. First, there’s a difference between \(y = f(x) + 2\) and \(y = f(x + 2)\). One of these will move the line graph up and down, and the other left and right. (It wouldn't make sense for two math operations to do exactly the same thing.) Up/Down: In the first of our two sample expressions, \(y = f(x) + 2\), after we determine the line that corresponds to \(y = f(x)\), we need to add 2 to the \(y\)-value (in other words, move the entire line up by 2). Left/Right: In our second sample expression, \(y = f(x + 2)\) tells us to move the \(x\)-value 2 to the right before executing the function, which means that our original \(x\)-value must be 2 places to the left of where it needs to end up. So, here we're looking for the same function "check mark," only starting 2 places to the right (since we'll need to subtract 2 from \(x\) before executing the function). Exciting stuff, eh?

* "Three-fer" problem sets will be easy, medium, and hard, in that order.
ALGEBRA A

CDE: Coefficients, Denominators, Exponents. Often, it seems that to solve any particular algebra problem, you need to rid of CDE. To make each of these disappear, divide by the Coefficient, multiply by the Denominator, and raise any Exponent to its reciprocal. Immediately.

1) If $3v/v + 1/v = 4$, then $v =$
   
   a) 0  
   b) 1/8  
   c) 1/2  
   d) 1  
   e) 3/2

2) If $b(c - e) = 0$, and $b$, $c$, and $e$ are all nonzero integers, which of these must be true?
   a) $c = e$  
   b) $b = e$  
   c) $b = c$  
   d) $bc = 0$  
   e) $be = 0$

3) Which of the following is an expression for 17 less than the product of $r$ and 4?
   a) $r^2 - 17$  
   b) $4(r + 6) - 7$  
   c) $(r + 4) - 17$  
   d) $17 - 4r$

**PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW**

4) [Grid In] What is one possible value of $z$ for which $(3.72 - z)(4.38 - z) < 0$?

5) [Grid In] $12y - p = 78$. If $y = 22$, what is the value of $p$?

6) If $r = 3q$, for what value of $q$ is $r = q$?
   a) 0  
   b) 1/3  
   c) 2/3  
   d) 3  
   e) $r$ cannot equal $q$.

7) [Grid In] If $e(3d) = (5)(9)$, what is 30 percent of $ed$?

8) [Grid In] If $2r + 3t = 36$ and $4r + 3t = 42$, what is the value of $3r + 3t$?

9) If $b > 0$ and $t$ is 9 less than the product of $a$ and $b$, which of the following is an expression for $a$ in terms of $t$ and $b$?
   a) $t + 9 \over b$  
   b) $tb + 9$  
   c) $t - 9 \over 9$  
   d) $tb - 9$  
   e) $t - 9 \over b$

10) [Grid In] If $(m + n)(m - n) = 100$ and $m - n = 10$, what is the value of $m + n$?
ALGEBRA A

1) **D.** We have a common denominator on the left side of our equation, so after multiplying both sides by that denominator, \( v \), we end up with \( 3v + 1 = 4v \). Subtracting \( 3v \) from each side, we end up with \( 1 = v \).

2) **A.** If \( xy = 0 \), what do we know? That \( x \) equals zero and/or \( y \) equals zero, right? Can we have a product of zero when neither factor equals zero? Didn’t think so. Here, we have two unknowns: \( b \) and \( c - e \). So, \( b = 0 \) and/or \( c - e = 0 \). Since \( b, c, \) and \( e \) are all nonzero integers, \( b \) cannot equal \( 0 \); that leaves \( c - e = 0 \); add \( e \) to both sides and get \( c = e \)! If you distributed the \( b \), please note that nearly every apparent SAT “distribution” problem can be solved more easily if you don’t distribute.

3) **E.** How easy would the SAT be if the test maker wrote this sort of problem: “Which of the following is an expression for 4 times \( r \) minus 17?” To make the current problem the least bit difficult, doesn’t the test maker have to word it backwards? So, be sure whenever you see this sort of problem that you write down the elements (-17) and \( 4r \) first, and only then relate the elements to each other.

**PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10**

4) **3.72 < z < 4.38.** Think about two numbers you would multiply together to get a negative product. One would be positive, the other negative, right? So, we have to come up with a value for \( z \) that makes one of our expressions negative but keeps the other positive. Please note that here, as in occasional grid-in response problems, your answer is correct if it’s within the specified range. (So, if you came up with 4, great!)

5) **186.** One of the first things we learn in algebra is that we can’t solve for two variables using only one equation. However, when we’re given a value for one of the variables (like \( y \), here), we are left with only one variable and can solve. Plugging in 22 for \( y \), we get the equation \( 264 - p = 78 \).

6) **A.** There is no number the SAT folks like more than zero. The “trick” here, as in many SAT problems, is to recognize that the “implied” coefficient of \( r \) is 1. So, \( 1r = 3q \) seems like nonsense, in that there is no non-zero number answer. However, because zero times anything is zero, problems that initially seem nonsensical can eventually make sense if you always remember to consider zero!

7) **45.** First, if we’re asked for the value of \( ed \), the test must give us a way to figure out what \( ed \) is, right? First, is \( e(3d) \) the same thing as \( e \) times 3 times \( d \)? (Is 2 times 3 times 4 the same as 3 times 4 times 2?) So, 45 equals 3 times \( ed \), which makes \( ed \) equal to 15.
8) **39.** There are a couple of ways to approach this problem. First, logically: Note that $3t$ is the same in both equations (which means that it doesn’t change and so won’t be a factor); since $3r$ is halfway between $2r$ and $4r$, shouldn’t we look for a value that’s halfway between 36 and 42 (39)? If that doesn’t work, let’s try math (system of equations):

Combine equations to eliminate a variable:

\[\begin{align*}
4r + 3t &= 42 \\
-(2r + 3t &= 36)
\end{align*}\]

so $r = 3$ making $t = 10$, which means that $3r + 3t = 39$.

9) **A.** First, let’s write down the elements of this equation ($t$, 9, $a$ times $b$); now, let’s use the problem’s instructions to relate our elements ($t = ab - 9$); next, let’s solve for $a$. To isolate a variable, think SADMEP (it’s PEMDAS backwards): First, add or subtract; then, multiply or divide; then deal with exponents; then remove parentheses. Here, to isolate $a$, we can add 9, giving $u + 9 = ab$; now, we can divide by $b$.

10) **2.** I hope you made sure you understood all of the information before you did any calculation on this problem. If so, you knew that you could simplify the problem thus: $5(m + n)(m - n) = 100$; then, dividing both sides by 5: $(m + n)(m - n) = 20$; then, substituting the value of 10 for $m - n$, $(m + n)(10) = 20$; dividing by 10, we get $(m + n) = 2$.

---

*I rate “system of equations” superior to “substitution” in about 90% of multiple-variable algebra problems.*
**Good technique cuts down on “dumb mistakes”:** In SAT algebra, you might try to perform two or three tasks simultaneously. In order to do your best, break up your tasks. Do them individually. This is one area where impatience will surely do you in—so be patient. If a problem requires four steps, be willing to do six.

1) **[Grid In]** The expression \( \frac{3a - 1}{4} + \frac{a + 10}{4} \) is how much greater than \( a \)?

2) A geologist has 10 rocks of equal weight in her knapsack. If 6 rocks and a 10-ounce weight balance on a scale with 4 rocks and a 22-ounce weight, what is the weight of one of these rocks, in ounces?
   - a) 4
   - b) 5
   - c) 6
   - d) 7
   - e) 8

3) If \( j - 2k - 2m = 18 \) and \( m + k = 11 \), then \( j = \)
   - a) -4
   - b) 12
   - c) 20
   - d) 32
   - e) 40

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) If \( r \) and \( w \) are integers and \( r + w = 2r + 4 \), which of the following must be true?
   - I. \( r \) is even
   - II. \( w \) is even
   - III. \( w - r \) is even.
   - a) None
   - b) I only
   - c) II only
   - d) III only
   - e) I, II, and III

5) If \( d = e^2/c \) and neither \( e \) nor \( c \) is equal to 0, then \( 1/e^2 = \)
   - a) \( d/c \)
   - b) \( c/d \)
   - c) \( 1/cd \)
   - d) \( cd \)
   - e) \( cd/e \)

6) If \( -3 \leq a \leq 5 \) and \( 0 \leq b \leq 6 \), which of the following gives the set of all the possible values of \( ab \)?
   - a) \( 0 \leq ab \leq 5 \)
   - b) \( ab = 14 \)
   - c) \( -3 \leq ab \leq 11 \)
   - d) \( 0 \leq ab \leq 30 \)
   - e) \( -18 \leq ab \leq 30 \)

7) **[Grid In]** If \( m = 8 + n \) and \( 4m = 9 - 2n \), what is the value of \( m \)?
8) When a circus clown is shot straight up at a certain speed, his height \( f \), in feet, after \( s \) seconds is given by the formula \( f = 60s - 6s^2 \). How many feet high will the clown be two seconds after he is shot?

\[
\begin{align*}
\text{a)} & \quad 36 \\
\text{b)} & \quad 54 \\
\text{c)} & \quad 60 \\
\text{d)} & \quad 72 \\
\text{e)} & \quad 96
\end{align*}
\]

9) For how many different positive integer values of \( j \) does \((jz - 8)^3 = 0\) have integer solutions?

\[
\begin{align*}
\text{a)} & \quad \text{None} \\
\text{b)} & \quad \text{One} \\
\text{c)} & \quad \text{Two} \\
\text{d)} & \quad \text{Four} \\
\text{e)} & \quad \text{Six}
\end{align*}
\]

10) If \( r \) is a positive even integer, then \((r + 2)(r + 3)\) could equal which of the following?

\[
\begin{align*}
\text{a)} & \quad 10 \\
\text{b)} & \quad 20 \\
\text{c)} & \quad 30 \\
\text{d)} & \quad 40 \\
\text{e)} & \quad 50
\end{align*}
\]
ALGEBRA B

1) 2.25. We can always combine fractions that share the same denominator, so here we can combine to get \(4a + 9\) over 4. Knowing that the plus sign makes it OK for us to split the fraction into \(4a/4 + 9/4\), we end up with \(a + 9/4\). So, either 9/4* or 2.25 will fill this grid correctly!

2) C. When you run into a word to math translation problem, please make sure you do the translation slowly, OK? This translates to \(6r + 10 = 4r + 22\); so \(2r = 12\).

3) E. Any specific information the SAT gives us will be useful. Since the problem asks us to solve for \(j\), let’s begin by isolating that variable. Doing so, we get \(j = 2k + 2m + 18\), right? Although the ability to distribute is an overrated talent, the SAT does like to test how well we can factor out a common multiplier. How should we know to factor? Well, since we know that \(m + k = 11\) must be relevant, let’s factor out \(k + m\). So, \(j = 2(k + m) + 18\). Plugging in 11, we get \(j = 2(11) + 18\) ...

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) D. Whenever we see the same variable on both sides of an equation, what should we do first? Right, isolate the variable on one side only! When we subtract \(r\) from both sides, we’re left with \(w = r + 4\). Note Roman numeral III: \(w – r\) is even. Is there any way we can determine whether that’s so? How about we subtract \(r\) from both sides of our new equation? So, \(w – r = 4\); so, I guess that makes \(w – r\) even. But do we know anything about \(w\) and \(r\) individually? Only that the distance between \(w\) and \(r\) is 4, which means they must be both odd or both even.

5) C. Are we trying to isolate \(e\)? No! We’re trying to isolate \(e^2\). Determining what we need to solve for can save us from doing a lot of unnecessary work—here, we merely need to isolate \(e^2\) and then find its reciprocal. So, what first? How about we multiply both sides by \(c\), giving us \(dc = e^2\). As we saw in problem 1, what’s the denominator of any number that doesn’t seem to have one? Right, 1. What can we do to both sides of any equation? Right, anything we want. So, if we flip \(e^2/1\) to get \(1/e^2\), then we also have to flip \(cd/1\) to get \(1/cd\).

6) E. Whenever you are asked for the product of two ranges, you must multiply both ends of the first range by both ends of the second. Two of the four products will define the ends of the range, while the other two products will be essentially useless—however, don’t predict which two of the four products you need—just do the work. Here, -3 times 6 is -18, which is the low end of the range, and 6 times 5 is 30, which is the top end. The other two products do nothing to define the range.

* We always need to convert mixed numbers to “improper fractions” or decimals, since if we try to write this number as “two and one-fourth,” the SAT answer scanner will read it as “21/4.”
7) **25/6 or 4.17.** Let’s try using a “system of equations” to solve this type of problem. Since we’re trying to solve for \( m \), how do we get rid of \( n \)? Well, we multiply the first equation by 2, to get \( 2m = 16 + 2n \), and then we combine it with the second equation. Next question: Once we have arranged the two equations one above the other, how do we know whether to add or subtract? Well, the signs in front of the variable you want to get rid of will always tell you—when the signs are the same, you subtract to get 0 (what’s anything minus itself?), and when the signs are different, you add (what’s the sum of 2 and -2?). Here, we add, so we end up with \( 6m = 25 \). Dividing both sides by 6 ...

8) **E.** Problems like this one that look very difficult at first glance can turn out to be remarkably easy as long as you’re willing to proceed step-by-step. We start out here with an equation that has two unknowns; to solve, we need a value to plug in for one of them. Then we’re told that \( s = 2 \). Substituting for \( s \) gives us \( f = 60(2) - 6(2)^2 \). So, \( 120 - 24 = 96 \).

9) **D.** If “something” to the third power equals zero, mustn’t that “something” equal zero? Here, can \( x^3 = 0 \) if \( x \neq 0 \)? Of course not. So, \( jz - 8 = 0 \); adding 8 to each side, we find that \( jz = 8 \). Now, we know that while we can’t solve for \( j \) or \( z \) individually, we can figure out what one might be when the other is something else (along these lines): when \( j \) is 1, \( z \) is 8; when \( j \) is 2, \( z \) is 4; when \( j \) is 4, \( z \) is 2; and when \( j \) is 8, \( z \) is 1. So, depending on the value of \( z \), \( j \) can be 1, 2, 4, or 8.

10) **B.** How about we start out by plugging in a positive integer value or two for \( r \)? Let’s start by trying 2: We get 4 times 5, which is 20. Alternatively, we could do the math and FOIL our binomials: \( r^2 + 5r + 6 \), and then plug in for \( r \). Your choice.

---

*I rate “system of equations” superior to “substitution” in about 90% of multiple-variable algebra problems.*
1) If 2 more than 3 times a number is 20, what is 5.5 times the number?
   a) 18  b) 23  c) 24  d) 30  e) 33

2) If $y$ is a positive number, then 40 percent of $9y$ equals
   a) $2y$  b) $3.2y$  c) $3.6y$  d) $4y$  e) $9y$

3) If $1/z < 6$, which of the following could be the value of $z$?
   (I) $-5$
   (II) $-1/5$
   (III) $1/8$
   a) I only  b) II only  c) I and II only  d) I and III only  e) I, II, and III

4) [Grid In] If $y = 4x + 3$, what is the value of $x$ when $y = 19$?

5) Which of the following must equal $4a + 2b + 6$?
   a) $2(2a + b) + 3$
   b) $2(2a + b + 3)$
   c) $2(2a) + b + 3$
   d) $2(4a + b + 3)$
   e) $2a + 4b + 6$

6) To type a term paper, Frank charges 3 cents per word plus a flat fee of $4.00. If he types a term paper that has 512 words, how much will he charge?
   a) $16.19$
   b) $19.36$
   c) $20.25$
   d) $21.08$
   e) $23.22$

7) [Grid In] If the sum of two numbers is 2 and their difference is 1, what is their product?

8) If $(r + 5)(7 - 4) = 24$, then $r =$
   a) 0  b) 2  c) 3  d) 4  e) 5

9) If $x + 2y = 7$, what is the value of $3x + 6y$?
   a) 7  b) 14  c) 21  d) 28  e) 35

10) [Grid In] The sum of $y$ and $y + 2$ is greater than 7 but less than 11. If $y$ is an integer, what is one possible value of $y$?
11) If \( \frac{x}{9} = \frac{2}{3} \), then \( x = \)

a) \( \frac{8}{3} \)  

b) \( 3 \)  

c) \( 6 \)  

d) \( 7 \)  

e) \( \frac{27}{2} \)  

\[ 8 < x < 12 \]

\[ 13 < y < 15 \]

12) **[Grid In]** If \( x \) is an odd integer and \( y \) is an integer, what is one possible value of \( xy \)?

If \( x \) and \( y \) are integers and \( y \neq 0 \), then \( \frac{x}{y} \) must be an integer.

13) Which of the following values of \( x \) and \( y \) proves that the statement above does NOT have to be true?

a) \( x = 9, \ y = 3 \)  

b) \( x = 10, \ y = 4 \)  

c) \( x = 6, \ y = 3 \)  

d) \( x = 5, \ y = 5 \)  

e) \( x = 7, \ y = 1 \)  

14) If \( 4(x - 7) = 32 \), what is the value of \( x \)?

a) \( \frac{32}{7} \)  

b) \( 7 \)  

c) \( \frac{8}{7} \)  

d) \( 12 \)  

e) \( 15 \)  

15) If \( 3(x - 20) = 7(x - 20) \), what is the value of \( x \)?

a) \( 0 \)  

b) \( 2 \)  

c) \( 16 \)  

d) \( 20 \)  

e) \( 60 \)  

16) **[Grid In]** If \( 40 - x = 7x \), what is the value of \( x \)?

17) **[Grid In]** If \( x \) and \( y \) are different positive integers, \( x > y \), and \( x + y = 5 \), what is the greatest possible value of \( 6x + 5y \)?

18) If \( \frac{3}{x} + \frac{6}{5} = 0 \), what is the value of \( x \)?

a) \( -18 \)  

b) \( -6 \)  

c) \( -4 \)  

d) \( -2.5 \)  

e) \( 2.5 \)  

19) For which of the following values of \( n \) will the value of \( -3n - 1 \) be greater than 10?

a) \( -4 \)  

b) \( -2 \)  

c) \( 0 \)  

d) \( 2 \)  

e) \( 4 \)  

20) **[Grid In]** If \( \frac{7}{r} = \frac{s}{4} \), what is the value of \( 3rs \)?
ALGEBRA WORKSHOP

SADMEP. What is SADMEP and how do we use it? Well, if you can read backwards, you know that SADMEP is PEMDAS (Parentheses, Exponents, Multiplication/Division, Addition/Subtraction) backwards—and SADMEP is the easiest, fastest way to isolate a variable in an algebra problem.

Also: When you first read any problem, do you assume that any unknowns are integers (whole numbers)? If so, please remember that when you’re taking the SAT you can never assume anything you’re not told explicitly. When people talk about the SAT’s tricks and traps, what they don’t understand is that we test takers set the traps for ourselves by trying to make problems simpler than they are. Therefore, always be willing to consider all the possibilities. When a problem tells us that \( x \neq 0 \), what do you think the odds are we’ll get the problem wrong if we assume that \( x \) must be positive?

1) **E.** Did you translate to \( 3x + 2 = 20 \)? If so, you realized that \( x = 6 \). Now, multiply that by 5.5.

Aren’t calculators great?

2) **C.** “Per cent” means “of one hundred,” so whenever you see a percent, keep the percent number and convert the percent sign to a denominator of 100! So, here we have \( \frac{40}{100} \) times \( y \). Multiplying gives us \( \frac{360y}{100} \), which our calculator tells us equals 3.6\( y \).

3) **C.** First, let’s agree that all negative numbers are less than 6, right? Well, if that’s the case, then Roman I and Roman II must be correct, since dividing a positive number by a negative number always produces a negative number. Roman III asks you to put \( \frac{1}{8} \) in the denominator. Before you do so, however, how about you convert \( \frac{1}{8} \) to its decimal equivalent (0.125)? Now divide 1 by 0.125 to get 8 (which is greater than 6).

The other issue here is how and when to guess in Roman Numeral problems. Once you knew that Roman I and Roman II were OK, you could eliminate all but two answer choices, (c) and (e). At this point, if you were to guess, you would be betting \( \frac{1}{4} \) point (the cost of the one possible wrong answer) to gain 1 point (the reward of the right answer). It’s a smart bet.

4) **4.** If \( a = b = c \), then does \( a = c \)? Yep. So, if a problem tells us that an unknown, such as \( y \) here, equals two different things, can we assume that those two things also equal each other? We can. That means that \( 19 = 4x + 3 \); using SADMEP, we can subtract 3 from both sides and then divide by 4. (Note: Although we can divide by 4 before we subtract 3, doing so will produce this result: \( \frac{19}{4} = x + \frac{3}{4} \). In the best-case scenario, we will get the problem right more slowly; let’s not think about the worst-case ... So, SADMEP, right?

5) **B.** The answer choices suggest that we’ll need to factor 2 out of our example, so let’s do so. We get \( 2(2a + b + 3) \). Factoring our example only is a lot faster than distributing the 2 in four of the five answer choices, wouldn’t you say?

Also, if you’re making a case for (e) (or any other choice) on the basis that \( b \) (or \( a \) for that matter) could equal zero, note that the problem doesn’t ask which of the choices can equal \( 4a + 2b + 6 \) but which choice must equal \( 4a + 2b + 6 \). So, that means no matter which numbers we sub in for \( a \) and \( b \)—now there’s a good idea, one answer choice will always work.
6) **B.** How do we set this up? How about \( t = .03(512) + 4.00 \)? In this equation, \( t \) is the total charge.

7) \( 0.75 \). Can we translate to algebra? Let’s write down the two equations: \( x + y = 2 \); \( x - y = 1 \). Now we can use the system of equations method to eliminate one variable. We can add the equations:

\[
\begin{align*}
x + y &= 2 \\
(x - y) &= 1 \\
2x &= 3
\end{align*}
\]

to solve for \( x \), or we can subtract the second equation from the first

\[
\begin{align*}
x + y &= 2 \\
(x - y) &= 1 \\
2y &= 1
\end{align*}
\]

to solve for \( y \). In either case, solving for one variable helps us determine the value of the other variable.

8) **C.** Note that the second parentheses contains \((7 - 4)\). Well, why don’t we subtract 4 from 7 before we go any further? After doing so, we are left with \((r + 5)(3) = 24\). To solve now, we can walk along one of two roads: To walk the more difficult road, we should distribute the 3 to get \(3r + 15 = 24\); to walk the easier road, we should merely divide both sides by 3 to get \(r + 5 = 8\). Whenever you’re about to distribute, always check to see whether you can divide both sides by the value instead.

9) **C.** Is there any information in an SAT math problem that you can just ignore? For instance, how about, “If \( x + 2y = 7 \)”? Do you have to pay attention or can you just skip it? If you answered pay attention, you win. While we can’t determine the value of \( x \) or the value of \( y \), we find that when we multiply the sum \((x + 2y)\) by 3 we get \(3x + 6y\).

10) **3 or 4.** Can we translate this as \(7 < y + (y + 2) < 11\)? Let’s combine the \( y \) values to get \(7 < 2y + 2 < 11\). Using SADMEP (can we use SADMEP with inequalities? Yes!), we subtract 2 from all three “sides,” leaving \(5 < 2y < 9\). Dividing by 2 gives us \(2.5 < y < 4.5\).

I prefer to approach inequality problems in a slightly different way. While I’m working on the problem, I change the inequality signs to equal signs. Here: \(7 = 2y + 2 = 11\). Now, we know that \(2y + 2\) can’t equal both 7 and 11. But if \(2y + 2\) were to equal 7, \(y\) would equal 2.5; if \(2y + 2\) were to equal 11, \(y\) would equal 4.5. Now that we know that, we can return the inequality signs, realizing that \(y\) has to be more than 2.5 and less than 4.5. By the way, if you came up with either of the “correct” answers you got this one right!

11) **C.** When you have denominators on both sides, you can get rid of both of them at once—by cross-multiplying! So, we get \(3x = 18\).

12) **126 or 154.** Since \( x \) is odd, it can be 9 or 11. However, \( y \) is just an integer (did you think it also had to be odd and so the problem had no solution?), so it’s 14. By the way, if you came up with either of the “correct” answers you also got this one right!
13) **B.** We’re looking for the choice that *doesn’t* work. (Notice that the SAT folks put words like NOT and EXCEPT in capital letters so we feel even more foolish when we ignore them.) When we sub in each of the “wrong” choices, x/y is an integer, which proves nothing. So, get out your calculator and punch in 10/4. ...

14) **E.** As we saw in problem 8, whenever we have a choice between distributing a value and dividing both sides by that value, we should divide. So, dividing by 4 we get x – 7 = 8.

15) **D.** If I told you that 3 times the amount of money in my right pocket is equal to 7 times the amount of money in my left pocket—and then I told you that I have the *same* amount of money in both pockets, you’d tell me that both statements can’t be true unless what I have in both pockets is *nothing*. Three times zero does equal seven times zero, right? So, x – 20 must equal zero.

16) **5.** Whenever you see the same unknown on both sides of an equation, you should make it disappear from one side. The quickest, easiest way to do so here is to add x to both sides, resulting in 40 = 8x.

17) **29.** The possibilities are (x value first): (1 + 4), (2 + 3), (3 + 2), and (4 + 1), right? Since we have more x’s, wouldn’t it make sense to assign the largest value to x? So, when x is 4 and y is 1, 6(4) + 5(1) = 29. You can try the other ones if you don’t believe me.

18) **D.** Did you cross-multiply? I sure hope that you subtracted 6/5 from both sides first (otherwise you ended up with (e)). When we subtract 6/5 from both sides we get 3/x = -6/5. So, -6x = 15. Dividing both sides by -6 gives us -2.5.

19) **A.** N has to be negative, since the negative of any positive value will always be less than 0. The SAT loves to ask you to work with negative numbers and zero, because those numbers just make people uncomfortable. Get comfortable.

20) **84.** How on earth can the SAT ask us to solve for an unknown (rs) that it hasn’t defined in the problem? Maybe because we can cross-multiply and end up with rs = 28. Since that’s the case, we need only multiply by 3 to get our answer.
AVGARIYE AND TOTAL T

Rule 1 for Average problems: If you’re told the Average, find the Total. Immediately.

Corollaries: This problem type has only three moving parts (Total, Average, and Number of terms). The SAT has to give us two of the three parts; in order to solve the problem, we’ll need to use one of the following three equations to find the third part:

\[
\text{Average} = \frac{\text{Total}}{\text{Number of Terms}} \hspace{1cm} (A = \frac{T}{N})
\]

\[
\text{Total} = \text{Average} \times \text{Number of Terms} \hspace{1cm} (T = A \times N)
\]

\[
\text{Number of Terms} = \frac{\text{Total}}{\text{Average}} \hspace{1cm} (N = \frac{T}{A})
\]

1) The average (arithmetic mean) of twelve numbers is 12. When a thirteenth number is added, the average of the thirteen numbers is also 12. What is the thirteenth number?
   - a) 0  
   - b) 3/4  
   - c) 13/9  
   - d) 12  
   - e) 13

2) [Grid In] If the average (arithmetic mean) of three different positive integers is 90, what is the greatest possible value of one of the integers?

3) [Grid In] The sum of 5 consecutive integers is 2,000. What is the value of the least of these integers?

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) If the average (arithmetic mean) of 7, 7, 15, 19, and \( v \) is equal to \( v \), what is the value of \( v \)?
   - a) 6  
   - b) 8  
   - c) 9  
   - d) 12  
   - e) 15

5) If the average (arithmetic mean) of \( w \) and \( 3w \) is 12, what is the value of \( w \)?
   - a) 2  
   - b) 6  
   - c) 9  
   - d) 12  
   - e) 24

6) The average (arithmetic mean) of \( b \) and \( c \) is 11 and the average of \( b, c, \) and \( d \) is 4. What is the value of \( d \)?
   - a) -19  
   - b) -10  
   - c) -3  
   - d) 6  
   - e) 10
7) The sum of ten positive even integers is 26. Some of these integers are equal to each other. What is the greatest possible value of one of these integers?
   a) 24  c) 14  e) 6
   b) 22  d) 8

8) The sum, product, and average (arithmetic mean) of three integers are equal. If two of the integers are 0 and -5, the third integer is
   a) -5  c) 2  e) 10
   b) 0  d) 5

9) [Grid In] The average (arithmetic mean) of the test scores of a class of \( z \) students is 72, and the average of the test scores of a class of \( y \) students is 90. When the scores of both classes are combined, the average score is 86. What is the value of \( z/y \)?

10) [Grid In] What is the greatest of 7 consecutive integers if the sum of these integers equals 210?
AVERAGE AND TOTAL A

Remember to refer back to Rule 1 and its Corollaries!

The SAT loves to define the average as the (arithmetic mean). They're the same thing! So ignore the words in the parentheses, OK?

1) **D.** Putting it another way: You have a 93.00 average in Creative Woodworking class. If after your next test your grade is still 93.00, what grade did you get on the test? So, if everyone in our group has $5, we have an average bankroll of $5. If Cassie, who has $5, joins our group, does the average amount of money per group member change?

2) **267.** First, find the total! $3 \times 90 = 270$. Next: Here’s a scenario: If you and I have 20 pencils between us, and each of us has to be given at least one, how many can we give you? Well, if I get the minimum, one, you’ll get 19, right? Now imagine that there are four people in the room; each has to receive at least one pencil and (new condition), no two of us can receive the same number of pencils. Again, we want you to receive the most pencils. Wouldn’t the other three people receive 1, 2, and 3 pencils, respectively, leaving 14 for you?

Here, in order to determine the largest number that can be in this group, and because the problem requires different numbers in the other two slots, shouldn’t we fill those slots with the two smallest positive integers (1 and 2)? Now, in order to get the three numbers in the set to add up to 270, we need to put 267 into the third slot. Extra credit: What would our answer be if the word “different” were removed from the problem?∗

3) **398.** When we’re solving a problem that features consecutive numbers of any kind (integers, even numbers, square roots of 7), it’s important to understand that the average of such a set will always equal the median of that set! So, if we use our first Average Formula above, we find that the average is $2,000/5$, or 400. If we plug 400 in as the median, our consecutive set must include the two numbers before 400 and the two numbers after 400 (or 398, 399, 400, 401, 402).

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) **D.** Let’s set up an equation:

\[
\frac{7 + 7 + 15 + 19 + v}{5} = v
\]

If we want to average five numbers, we add them up and divide by 5! Next, since at Maine Prep, we always immediately multiply both sides by any denominator (right?), we do so here and get $48 + v = 5v$. Subtracting $v$ from both sides gives us $48 = 4v$; so $v = 12$!

∗ 268. (The other two slots would be occupied by 1 and 1.)
5) **B.** How do we set this up? How about \((w + 3w)/2 = 12\)? Does it matter that one of the terms is three times the other? Not for our purposes, because after we multiply both sides by the denominator (2) we get \(4w = 24\). Alternatively, we could “guess and check” this one—our clue to use that method is when the problem asks, “Which one of these answer choices, if we plug it in for the variable, makes this equation work?” Another intuitive alternative: What’s the average of 1 and 3? So what’s the average of \(w\) and \(3w\)?

6) **B.** Before you review this answer, go back and read Rule 1 at the top of the first page of this TEN FOR TEN®. Then try the problem again. You may not need this explanation.

OK, you’re back. How do you find the average of two numbers? Add them up and divide by 2, right? (See problem 3.) Can we reverse the process to find the total if we’ve given the average? Since the average of \(b\) and \(c\) is 11, can we multiply that average by the number of unknowns (\(b\) and \(c\)) to get their total? Yes! So, \(b + c = 22\). Now, let’s try the same thing with the second set; if the average of \(b\), \(c\), and \(d\) is 4, how about we multiply by 3 (the number of entities) and learn that \(b + c + d = 12\)? So, if \(b + c = 22\), and \(b + c + d = 12\), which is 10 less than the sum of just \(b + c\), then \(d\) must be -10.

7) **D.** We are looking for the biggest number we can possibly fit into this problem; so, the other nine numbers must be as small as possible (see problem 2). What are the smallest numbers we can use if they all have to be positive even integers? 2? Can all of the other nine numbers be 2’s? Let’s check the rules, which say, “Some of these integers are equal to each other.” So, yes, nine of the numbers can be 2’s, which add up to 18, and leaves 8 for the tenth number.

8) **D.** What’s the product of zero and any other real number? Here, zero is one of the factors, so the product is zero, which means that that both the sum and the average have to be zero.

9) **2/7 (or .285 or .286).** Can we say \(72z + 90y = 86(z + y)\)? Translated, we have a number (\(z\)) of students who, because they average 72, have a total score of 72 times \(z\) (imagine that there are 2 students, so that \(z = 2\); wouldn’t the total of their two 72s be 144?). We have another number (\(y\)) of students who, because they average 90, have a total score of 90 times \(y\). OK, but what about the right side of the equation? Doesn’t the problem tell us that all of the students (which must be the \(z\) group plus the \(y\) group) average 86? So, when we distribute the 86, we get \(72z + 90y = 86z + 86y\). Now, subtract 72z from both sides while subtracting 86y from both sides to get \(4y = 14z\). Divide by \(y\) to get \(4 = 14z/y\); divide by 14 to get \(4/14 = z/y\).

10) **33.** Please read through the explanation to question 3 if you haven’t done so already. When we’re dealing with consecutive numbers, the median always equals the average. So, the average of this set, which is total divided by number of terms, is 30. So, our **consecutive set:** __, __, __, 30, __, __, __.
AVERAGE AND TOTAL B

**Rule 1 for Average problems:** If you’re told the Average, find the Total. Immediately.

**Corollaries:** The Average problem type has only three moving parts (Total, Average, and Number of terms). The SAT has to give us two of the three parts; in order to solve the problem, we’ll need to use one of the following three equations to find the missing part:

\[
\text{Average} = \text{Total} / \text{Number of Terms} \quad (A = \frac{T}{N})
\]

\[
\text{Total} = \text{Average} \times \text{Number of Terms} \quad (T = A \times N)
\]

\[
\text{Number of Terms} = \text{Total} / \text{Average} \quad (N = \frac{T}{A})
\]

1) The average (arithmetic mean) of the weights of 9 boots is \( z \) pounds. In terms of \( z \), what is the total weight of the boots, in pounds?
   a) \( 9 + z \)  c) \( z/9 \)  e) \( 9z \)
   b) \( z - 9 \)  d) \( 9/z \)

2) [Grid In] Each of 5 people had a blank card on which he or she wrote a different positive two-digit integer. If the average (arithmetic mean) of these integers is 14, what is the greatest possible integer that could be on one of the cards?

3) The average (arithmetic mean) of \( a \), \( b \), \( s \), and \( t \) is 6 and the average of \( s \) and \( t \) is 3. What is the average of \( a \) and \( b \)?
   a) 3  c) 6  e) 12
   b) \( 9/2 \)  d) 9

**PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW**

4) If the average (arithmetic mean) of 5 consecutive multiples of 22 is \( s \), what is the median of these 5 integers?
   a) 0  c) \( s \)  e) \( 2s - 44 \)
   b) 22  d) \( s - 22 \)

5) The sum of four consecutive odd integers \( w \), \( x \), \( y \), and \( z \) is 24. What is the median of the set \( \{w, x, y, z, 24\} \)?
   a) 3  c) 7  e) 24
   b) 5  d) 9
6) In a set of 7 different numbers, which of the following CANNOT affect the value of the median?
   a) Doubling each number
   b) Increasing each number by 10
   c) Increasing the smallest number only
   d) Decreasing the largest number only
   e) Increasing the largest number only

7) [Grid In] Ten consecutive integers are arranged in order from least to greatest. If the sum of the first five integers is 100, what is the sum of the last five integers?

8) When the sum of a list of students' walking distances to school is divided by the average (arithmetic mean) of the distances, the result is q. What does q represent?
   a) The sum of the distances
   b) Half of the sum of the distances
   c) The average driving distance
   d) The number of students
   e) Twice of the number of students

9) A different integer from 2 through 8 is written on each of 7 cards. One of these cards is removed at random. If the integers on the remaining cards are added together, the units (ones) digit of the result is 7. What is the integer on the card that was removed?
   a) 8
   b) 6
   c) 5
   d) 4
   e) 3

10) [Grid In] The average (arithmetic mean) of 5 positive integers is 130. Two of the integers are 97 and 105 and the other integers are greater than 105. If all 5 integers are different, what is the greatest possible value for any of the 5 integers?
AVERAGE AND TOTAL B

Rule 1 for Average problems: If you’re told the Average, find the Total. Immediately.

The SAT loves to define the average as the (arithmetic mean). They’re the same thing! So ignore the words in the parentheses, OK?

1) E. As stated in Rule 1, to get any total, multiply the average (9) by the number of terms (z).

2) 24. When the SAT gives us a total or an average and then asks what the largest number in that set can be, isn’t the size of the largest term dependent upon how small the other numbers in the set can be?

(Think about a similar problem that better fits our imagination: A township is splitting up a 500-acre piece of real estate into ten smaller units. If no plot in this subdivision can be smaller than 30 acres, what’s the largest plot the township can carve out? Well, if the town carves out 9 plots of 30 acres each, what’s left?)

I hope that at this point when you’re given an average you automatically calculate the total (see Rule 1, above). Doing so, we find that the numbers on the five cards add up to 70, and we read that each card contains a different two-digit number. The smallest two-digit number is 10, which means that the other three different “smallest” numbers must be 11, 12, and 13. So, to calculate the (unknown as yet) big number, we should add our “smallest” numbers (10 + 11 + 12 + 13 = 46) and see what’s left of our total of 70.

3) D. If \(a + b + s + t = 24\) and \(s + t = 6\), can’t we sub in 6 for \((s + t)\) giving us \(a + b + 6 = 24\); or \(a + b = 18\)? Note that if you didn’t “automatically” figure the total here you were in deep water.

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) C. In any set of consecutive numbers, the average always equals the median! If you list this set the “math class” way, wouldn’t it be \((s - 44), (s - 22), s, (s + 22), and (s + 44)\)?

5) C. The four unknown odd numbers add up to 24, so their average must be 6, which means that two of the odd numbers have to be less than 6 and two more than 6—must be 3, 5, 7, and 9. So, when we include 24 in this set \(\{3, 5, 7, 9, 24\}\), the middle number is ...

6) E. We’re asked which choice will not change the value of the median (don’t mistake this for the position of the median, OK?). Let’s write out a set of seven numbers—how about 1, 2, 3, 4, 5, 6, and 7? What’s the value of the median? 4, right? Let’s test the choices, and see which one will never change our median’s value.

Don’t be fooled by (a): Although the position of the median remains the same, the value changes. If we increase each number by 10 (b), once again the median’s position remains constant but our median’s value now has been raised to 14. Increasing the smallest number only (c) only matters if we increase it enough so that it becomes larger than 4, which would make 4 no longer the median. Decreasing the largest number only
(d) creates the same problem. However, when we look at choice (e), it’s clear that no matter how much we increase 7 in this set, 4 will remain the median (middle number).

7) 125. Let’s find the average of the first integer set; it’s 20. So, the consecutive integers involved are 18, 19, 20, 21, and 22. The next 5 will be 23, 24, 25, 26, and 27, right? Add ‘em up! Alternatively, could you have figured that the average of the next five consecutive integers would each be 5 greater (for a total of 25 greater)?

8) D. Here is the third variation on the Average equation (Number of Terms = Total/Average) that we discussed on page 1 of this TEN FOR TEN®. The sum of the distances is the total. When you divide the total by the average, you get the number of terms (or, in this case, students).

9) A. Let’s compute the total. Here, it’s 35. If we remove a card, the problem tells us, we’ll end up with a units (ones) digit of 7. Method 1: Since the card we’re removing is 8 or lower, the tens digit of the result must be 2 (so the entire number is 27), which makes the card we’ve removed 8. Method 2: Let’s guess and check. Removing 4 gives us 31 (units digit of 1, right?); removing 6 gives us 29 (units digit of 9); removing 8 gives us 27 (bingo!).

10) 235. If we want one of the unknowns to be as large as possible, don’t we want all the others to be as small as possible? (See problem 2.) So, our total is 130 times 5 (or 650) and two of the numbers are 97 and 105. Since the other three numbers must be larger than 105, how about we add 106 and 107 and see how much of the 650 we have left?

97 + 105 + 106 + 107 = 415; 650 – 415 = 235.
CHARTS AND TABLES

1) TRACK MEET AMONG SCHOOLS X, Y, AND Z

<table>
<thead>
<tr>
<th>Race I</th>
<th>Race II</th>
<th>Race III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z</td>
<td>Y</td>
<td>X</td>
</tr>
</tbody>
</table>

A partially completed scorecard for a track meet is shown above. Schools X, Y, and Z each entered one person in each of the three events and there were no ties. Which answer choice below shows the highest cumulative scores that could be achieved by teams X and Y?

a) 4, 7  c) 7, 13  e) 10, 18
b) 7, 10  d) 10, 13

2) The amount that an electrician charges for a service call that is y hours long is shown in the graph to the left. The charges for a service call consist of an initial amount plus a charge for each hour of work. According to the graph, which would most likely be the charge for 11 hours of work?

a) $525  c) $575  e) $675
b) $550  d) $625
3) The incomplete table above categorizes the members of a backgammon club according to their age and status. During a tournament, each member of the club plays exactly three games against each of the other club members. How many games of backgammon are played between amateurs 30 years or older and professionals under 30 years old during the tournament?

\[
\begin{array}{|c|c|c|}
\hline
\text{Under 30 years old} & \text{30 years or older} & \text{Total} \\
\hline
\text{# of Amateurs} & & 13 \\
\text{# of Professionals} & 6 & \\
\text{Total} & 10 & 22 \\
\hline
\end{array}
\]

a) 42 

b) 54 

c) 57 

d) 63 

e) 81 

4) According to the chart to the left, which of the following is the closest approximation to the decrease per year in the price (in thousands of dollars) of new homes sold in the Salinas area between 1996 and 1999?

\[
\begin{array}{|c|c|c|c|c|}
\hline
\text{price (in thousands)} & \text{1996} & \text{1997} & \text{1998} & \text{1999} \\
\hline
\text{\$50} & & & & \\
\text{\$75} & & & & \\
\text{\$100} & & & & \\
\text{\$125} & & & & \\
\text{\$150} & & & & \\
\text{\$175} & & & & \\
\text{\$200} & & & & \\
\text{\$225} & & & & \\
\hline
\end{array}
\]

a) 4 

b) 10 

c) 18 

d) 24 

e) 30.2
## EAST LYME ACADEMY OCTOBER SOCCER RESULTS

<table>
<thead>
<tr>
<th>Goals For</th>
<th>Opponent</th>
<th>Goals Against</th>
<th>Margin of Victory</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Lyme Academy</td>
<td>Piscataway Prep</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>East Lyme Academy</td>
<td>Crawford Day</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>East Lyme Academy</td>
<td>Paso Robles</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>East Lyme Academy</td>
<td>Utica Catholic</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>East Lyme Academy</td>
<td>Mount Blue</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

5) East Lyme Academy’s soccer team was undefeated in October, as shown in the table above. A team’s margin of victory for a single game is defined as the number of “goals for” minus the number of “goals against.” What was the median number of goals scored by East Lyme Academy during its games in October?

   a) 2  
   b) 4  
   c) 5  
   d) 6  
   e) 8

6) Which of the following equations describes the relationship between \( x \) and \( y \) in the table above?

   a) \( y = \frac{2x - 2}{x - 2} \)  
   b) \( y = \frac{2x - 1}{x + 3} \)  
   c) \( y = (x - 1)(x + 1) \)  
   d) \( y = (x - 1)(2x - 2) \)  
   e) \( y = \frac{2x}{2x + 1} \)

## NED’S MONTHLY BUDGET

7) [Grid In] On the basis of the information in the graph to the left, if Ned’s monthly car budget is $480, what is the dollar amount of his total monthly budget? (Disregard the $ sign when gridding your answer.)
Questions 8 to 10 refer to the following information.

Molly makes a number wheel to represent the integers from 0 to 99, inclusive. The short hand points to the tens digit, and the long hand points to the units digit.

For example, the number wheel to the left shows 07, which we would write as 7.

8) Which of the following represents the sum of the two integers represented on the two number wheels to the left?

(a) 09  
(b) 09  
(c) 09  
(d) 09  
(e) 09

9) Which of the following is the next greater prime number after the prime number represented to the left?

a) 17  
b) 29  
c) 37  
d) 41  
e) 43

10) [Grid In] Exactly how many integers can be represented on this number wheel?
1) **E**. When a problem features a table that includes empty cells, you will need to fill in as many of those cells as you can before answering the question. As you see below, the best team X can do is two seconds (4 each) and a third (2 points), while Y can win two races (7 each) and finish second in the other race (4 points).

<table>
<thead>
<tr>
<th>Race</th>
<th>Z</th>
<th>X or Y</th>
<th>X or Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>Y</td>
<td>Z</td>
<td>X</td>
</tr>
<tr>
<td>III</td>
<td>Y or Z</td>
<td>X</td>
<td>Y or Z</td>
</tr>
</tbody>
</table>

2) **C**. The y-intercept is where we can determine the initial charge of $25 (because the number of hours at that point is zero). Then, we can calculate the hourly rate by comparing the prices of 1 hour ($75) and 2 hours ($125). Once we know that the per-hour price is $50, we can determine that 11 hours of this electrician’s time will cost $575.

3) **B**. As we did in problem 1, we need to fill in the table. We can fill in the middle cell in the bottom row (12). That information lets us fill in the middle cell in the top row (6), which gives us the left-hand cell in the first row (7), then the left-hand cell in the second row (3). Alternatively, we could have put (9) into the right-hand cell in the middle row and gone from there, right? So, we have 6 x 3 = 18. However, because each player plays three games against every other player, we multiply the number of possible match-ups by 3.

### PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) **B**. Note that we’re computing the prices in 1996 ($150K) and 1999 ($120K). While doing so, we need to ignore what happened in between 1996 and 1999 (in other words, the 1997 price is irrelevant). Then, we must divide the net change of $30,000 by the number of years (three).

5) **B**. As we did in problem 1, here we have to fill in some empty cells (the “Goals For” column). When we do so, we get (from top to bottom) 4, 8, 7, 3, and 3. If you mistook “median” for “mean (average),” you picked (c).

6) **C**. At first glance, this problem appears to make no sense. Then we realize that it’s a function table that relates the x-value in the top row to a calculation of the y-value in the bottom row. Now we notice the answer choices, which express y in terms of x. OK. So, we plug x in and see what sort of numbers each expression produces. When we get to (c), plugging in, say, 2 for x gives us (1)(3) in the numerator and (5) in the denominator. Let’s try plugging in 4: We get (3)(5) in the numerator and (9) in the denominator.
7) **1920.** We’re used to being asked to find 25% of a value; here, we’re told what 25% of the amount is and asked to figure what 100% might be. So, multiply by 4 (four quarters in a dollar) or divide by .25.

8) **A.** First, note that although the circle chart looks like a clock, it has only ten numbers. We’re asked to add 39 and 15, which gives us 54, right? Now we have to be careful not to pick (b), which (according to the rules of this problem) represents “45.”

9) **C.** A little extra time spent determining that the short hand represents the tens digit and the long hand the ones digit might have sped us through this problem. We need the next prime number after 31. Well, we know that, except for 2, all prime numbers are odd. So, the next odd number above 31 is 33; however, 33 is a multiple of 3, right? Next is 35, which is a multiple of 5. Next is 37. Bingo.

10) **100.** Although we normal human beings like to count starting at “1,” the SAT likes to see what happens when it asks us to count starting at “0.” So, if 1-99 includes 99 numbers, then how many are in 0-99?
SHORT PREVIEW--DO THE NEXT RIGHT THING

Repeat this winning Math Mantra: **Read every problem twice—the first time for the story, the second time for the numbers.** In order to help you to do so, here are five problems with their numbers removed—please outline a general plan for each problem before you turn the page and work on the same problems complete with their numbers.

1) If there is no waste, how many square yards of linoleum are needed to cover a kitchen floor that is ____ feet by ____ feet? (1 yard = 3 feet)

   My math plan: ________________________________________________________________
   ________________________________________________________________

2) What is the volume of a cube with a surface area _____?

   My math plan: ________________________________________________________________
   ________________________________________________________________

3) If a square region has area ____, what is the length of its diagonal?

   My math plan: ________________________________________________________________
   ________________________________________________________________

4) How many cubical chips, each with edges of length __ centimeters, are needed to fill a rectangular case that has inside dimensions ____ centimeters by ____ centimeters by ____ centimeters?

   My math plan: ________________________________________________________________
   ________________________________________________________________

5) The lengths of the sides of a right triangle are consecutive even integers, and the length of the longer leg is $k$. Which of the following equations could be used to find $k$?

   My math plan: ________________________________________________________________
   ________________________________________________________________
DO THE NEXT RIGHT THING

Rushing doesn’t make you faster. It just makes it more likely you’ll make “dumb” mistakes.

1) If there is no waste, how many square yards of linoleum are needed to cover a kitchen floor that is 9 feet by 18 feet? (1 yard = 3 feet)
   - a) 8
   - b) 18
   - c) 24
   - d) 30
   - e) 48

2) What is the volume of a cube with a surface area $24z^2$?
   - a) $2z^3$
   - b) $8z^2$
   - c) $8z^3$
   - d) $81z^3$
   - e) $144z^2$

3) If a square region has area $w$, what is the length of its diagonal in terms of $w$?*
   - a) $\sqrt{2w}$
   - b) $(2w)\sqrt{w}$
   - c) $2\sqrt{w}$
   - d) $w\sqrt{(2w)}$
   - e) $w\sqrt{2}$

4) If $2w – 3v = 8$, what is the value of $6(2w - 3v)$?
   - a) 8
   - b) 24
   - c) 36
   - d) 48
   - e) 88

5) If a line $l$ is perpendicular to a segment DE at point F and $DF = EF$, how many points on line $l$ are the same distance from point D as from point E?
   - a) None
   - b) One
   - c) Two
   - d) Nine
   - e) All points

6) How many cubical chips, each with edges of length 4 centimeters, are needed to fill a rectangular case that has inside dimensions 20 centimeters by 28 centimeters by 36 centimeters?
   - a) 28
   - b) 84
   - c) 175
   - d) 315
   - e) 2028

* $\sqrt{}$ represents “square root of.”
7) In the figure to the left, a small square is inside a larger square. What is the area, in terms of $x$, of the shaded region?

a) $2x - 10$

b) $10 - 2x$

c) $25 - 2x$

d) $x^2 - 25$

e) $25 - x^2$

8) If the average (arithmetic mean) of $y$ and $z$ is $w$, which of the following is the average of $x$, $y$, and $z$?

a) $\frac{2w + x}{3}$

b) $\frac{2w + x}{2}$

c) $\frac{w + x}{3}$

d) $\frac{w + x}{2}$

e) $\frac{2(w + x)}{3}$

9) If the length and width of rectangle $A$ are 10 percent less and 30 percent less, respectively, than the length and width of rectangle $B$, the area of $A$ is equal to what percent of the area of $B$?

a) 63%

b) 60%

c) 54%

d) 46%

e) 43%

10) The lengths of the sides of a right triangle are consecutive even integers, and the length of the longer leg is $k$. Which of the following equations could be used to find $k$?

a) $(k - 2)^2 + k^2 = (k + 2)^2$

b) $(k - 1)^2 + k^2 = (k + 1)^2$

c) $(k - 1)^2 + k^2 = (k + 1)^2$

d) $(k - 2)^2 + k^2 = (k + 1)^2$

e) $(k - 1) + k = k + 2$
DO THE NEXT RIGHT THING

1) B. The question asks about square yards, so the first Right Thing is to translate feet into yards. Knowing that 3 feet = 1 yard, we calculate that the floor is 3 yards by 6 yards, or 18 square yards.

2) C. The first Right Thing is to draw the cube. Now it’s good to ask, “What numbers punched into my calculator would give me the volume of this cube?” To get the volume of any rectangular solid we need to multiply its length times width times height, right? In a cube, the length, width, and height are all the same, so don’t we just have to find one of them and then cube it?

Now that we know what we need (the length of a side), how do we find that from the surface area? We can start by dividing the surface area by the number of faces, 6, to get the area of a single face of the cube. Once we have that area (4z²), we can take its square root to find the length of the cube’s side (2z). Now comes the final task—do we cube z and then multiply by 2 or do we cube 2z²? If you cubed z and then multiplied by 2, you got (a). Next time, cube the entire side.

3) A. The first Right Thing is to draw the square and mark its area. Here’s another problem in which the SAT uses an operation you can do in your sleep (calculating a square’s area from its side length) and requires you to do the operation in reverse! Well, if we square the length of a square’s side to get the square’s area, wouldn’t we take the square root of the square’s area to get the length of one of its sides? Therefore, the length of each side is √w.

Now, what’s the relationship between a square’s side and its diagonal? Wouldn’t it be the same as that among a 45:45:90 triangle’s sides and its hypotenuse? (You can find that ratio on the far right of the geometric formulas listed at the beginning of every SAT math section!) So, the ratio is 1:1: √2. So, to get the diagonal we multiply any side by √2.

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) D. For many test-takers, seeing the 6 outside the parentheses triggers the response, “Distribute the 6!” If you do so (you did?), this problem becomes much more difficult. So, what’s the first Right Thing we can do to solve this problem? We should read it twice—when we do, we notice that 2w – 3v equals 8. So, subbing in 8 for 2w – 3v gives us 6(8).*

5) E. What’s the first Right Thing when we’re solving any geometry problem that has no diagram? Draw! Once we draw line ℓ and the perpendicular line segment DE, it becomes clear that every point on ℓ will be equidistant from D and E. (Imagine that DF and EF are the bases of two right triangles; now pick any point on line ℓ; we can define the distance

* Why would the SAT tell us the value of 2w – 3v unless we needed to know? Some math teachers try to “help” their students by describing SAT math problems as “tricky and full of unnecessary information.” After receiving such advice, test takers often will ignore vital instructions like 2w – 3v = 8.
from that point to F as the triangle’s height. If two right triangles have bases of the same length and share a height, won’t they also have equal-length hypotenuses?

6) **D.** What’s the first Right Thing? Let’s draw a box and a little chip. Can we calculate the volume of the box? Sure, by multiplying its dimensions, 20 times 28 times 36. What about the volume of each chip? Sure, 4 times 4 times 4. We now know how much room each chip takes up, and we know how much room there is in the box. So, if we divide the volume of the box by that of a single chip, won’t that tell us how many chips will fit into the box?

7) **E.** What’s the first Right Thing we can do here? Well, we can recognize that on the SAT, whenever we’re asked about the area of a shaded region, we need to figure out the area of the entire figure and then subtract the area of the unshaded region! So, the entire figure is 25 and the square is $x^2$, right?

8) **A.** Get $\text{Rd Of D}e\text{nominators. } GROD. \text{ When? } \text{Immediately.}$ If you do so, you will get more problems right much more quickly. If the average of y and z is w, then, multiplying both sides by 2, we get $y + z = 2w$. The problem asks us for the average of $x, y,$ and $z$, which would be the three added up and divided by 3, right? However, since the answer choices are all in terms of $w$ and $x$, we get the idea that we should plug that $2w$ in for $y + z$. When we do so, we get the right answer.

9) **A.** We are all comfortable with the idea of 100%. We aren’t given area or side lengths for the original rectangle, so how about we pick 100 for the large rectangle’s area and, while we’re at it, why don’t we make that rectangle a square? (A square is a kind of rectangle, and this problem is supposed to work no matter what rectangle we begin with.) The square’s sides are 10. Now, drawing and labeling our second rectangle: 10% less than one side length of 10 is 9, and 30% less than 10 is 7. Our new 9 x 7 rectangle has an area of 63. Note that because we started by picking 100, we merely have to compare 63 to 100 to get our percentage.

10) **A.** The first Right Thing is to notice that the sides are consecutive even integers, which means that the smaller leg will be 2 less than $k$ and the hypotenuse will be 2 more than $k$. If you chose (b), you need to slow down when you’re reading SAT math problems. Next, we put our sides into the Pythagorean Theorem. (Wouldn’t it have been nice had Pythagoras’ name been Sam?)
**DRAW IT!**

1) In the standard (x, y) coordinate plane, 3 corners of a rectangle are (1, -1), (-4, -1), and (1, 4). Where is the rectangle’s fourth corner?

   a) (1, 4)  
   b) (-1, 4)  
   c) (-1, 1)  
   d) (-1, -4)  
   e) (-4, 4)

2) A certain circle has an area of $25\pi$ square inches. How many inches long is its circumference?

   a) $5\pi$  
   b) $10\pi$  
   c) $15\pi$  
   d) $20\pi$  
   e) $25\pi$

3) Points A (-3, -4) and B (7, -2) determine line segment AB in the standard (x, y) coordinate plane. If the midpoint of AB is (a, -3), what is the value of a?

   a) 2  
   b) -4  
   c) 4  
   d) -5  
   e) 5

**PLEASE CHECK THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1-3 NOW**

4) An object detected on radar is 5 miles to the east, 4 miles to the north, and 1 mile above the tracking station. Among the following, which is the closest approximation to the distance, in miles, that the object is from the tracking station?

   a) 6  
   b) $\sqrt{42}$  
   c) $\sqrt{47}$  
   d) 9  
   e) $\sqrt{92}$

5) In the standard (x,y) plane, the triangle with vertices at (0,0), (0,$k$), and (2,$m$), where $m$ is a constant, changes shape as $k$ changes. What happens to the triangle’s area, expressed in square coordinate units, as $k$ decreases starting from 2?

   a) The area increases as $k$ increases  
   b) The area decreases as $k$ decreases  
   c) The area always equals 2.  
   d) The area always equals $m$  
   e) The area decreases and then increases as $k$ decreases

6) If the length of a square is increased by 2 inches and the width is increased by 3 inches, a rectangle is formed. If each side of the original square is $x$ inches long, what is the area of the new rectangle, in square inches?

   a) $x + 5$  
   b) $2x + 6$  
   c) $x^2 + 6$  
   d) $x^2 + 5x + 6$  
   e) $x^2 + 6x + 5$

7) The length of a rectangle is $(x + 5)$ units and its width is $(x + 9)$ units. Which of the following expresses the remaining area of the rectangle, in square units, if a square $(x - 1)$ units in length is removed from the interior of the rectangle?

   a) 13  
   b) 44  
   c) $2x + 13$  
   d) $12x + 44$  
   e) $16x + 44$
8) The lengths of the sides of a triangle are 3, 8, and 9 inches. How many inches long is the longest side of a similar triangle that has a perimeter of 60 inches?
   a) 9  c) 20  e) 27
   b) 11  d) 24

9) The measure of the vertex angle of an isosceles triangle is $(x – 20)^\circ$. The base angles each measure $(2x + 30)^\circ$. What is the measure in degrees of one of the base angles?
   a) 8°  c) 42.5°  e) 86°
   b) 28°  d) 47.5°

10) A circle with center $(-3,4)$ is tangent to the x-axis in the standard (x,y) coordinate plane. What is the radius of this circle?
    a) 3  c) 5  e) 16
    b) 4  d) 9
DRAW IT!

1) Once you've drawn the grid and put in the given three points, it's pretty simple to see where the fourth one needs to be. If you tried to get this right (and didn’t) without drawing, make “drawing it” part of your technique for solving these problems, because rushing will never make you faster. (Note that the upper left-hand point is red.)

2) \[ A = 25 \pi \]
\[ r = 5, \text{ so} \]
\[ d = 10; \text{ which means} \]
\[ C = 10 \pi \]

3) Here, note that the y-value of the unknown point is -3, which is halfway between the y-values of the known points. Since that’s the case, won’t the x-value of the unknown point also be halfway between the known x-values? If logic has anything to do with math, it will.

PLEASE RETURN TO WORK ON PROBLEMS 4-10 NOW
4) In order to solve this one, we need to draw a three-dimensional figure in a two-dimensional space. There are many ways to do so, but let me explain the drawing to the left. There is a right angle between the “5” and “4” sides (imagine “east” and “north”); also, there is a right angle between the “4” and “1” side (which is “up”). So, to find the distance (purple dashed line) between the object and the station, we first have to find out how far a spot on the ground directly under the object would be from the station. We can do so by using the Pythagorean Theorem \(5^2 + 4^2 = c^2\), making that distance \(\sqrt{41}\); now, let’s use the Theorem again with sides \(\sqrt{41}\) and 1; the result is \(\sqrt{42}\).

5) Once you’ve put (0,0) and (0,k) into the grid (remember, the question asks what happens as k decreases starting from 2), you realize that the third point (2,m) can go anywhere along the line \(x = 2\). I have chosen (2, 0)—but this will work just as well if you chose another y-value for m. Note that as k decreases, the triangle becomes smaller at first (as k approaches zero) and then bigger (as k moves away from zero down the y-axis). If you chose (b), you probably didn’t draw it. If you chose (a), you missed “k decreases” in the problem.
6) You probably could have solved this without drawing it. But drawing puts all the information you need right in front of you, making it much less likely that you’ll make a “dumb” mistake.

7) The big rectangle measures $x^2 + 14x + 45$, right? The small square measures $x^2 - 2x + 1$. So, subtracting the second from the first gives us ... [what happens when we subtract a negative number?].

ALTERNATIVELY, how about we sub in 3 for $x$, which makes the big rectangle 12 by 8, or 96 square inches, and the small square, which we must subtract, 2 by 2, or 4 square inches. So, the rectangle minus the square is 92 square inches. Sub in 3 for $x$ in the answer choices.

8) Drawing this triangle can lead to the next logical step, which is adding the sides to get a perimeter of 20. How does this relate to a similar triangle with a perimeter of 60? Wouldn’t we just need to multiply each side by 3?Yep.
E. Again, you could have imagined the whole thing, added up the x’s and numbers, come up with $5x + 40 = 180$; or $x = 28$. Then, without any visual aid, you could have multiplied x by 2 and added 30 to get the answer. Is that the way it worked out?

B. People who get problems like this wrong “imagine” which coordinate measures the distance from, in this case, the x-axis. Why imagine when you can draw?
EXPOENT A

Exponents are shorthand. Can’t \(x^3\) be expressed “longhand” as \(x \times x \times x\)?

When we are asked to multiply the same base raised to powers (like \(x^3 \times x^2\)), can we “longhand” this as \((x \times x \times x) \times (x \times x)\)? Take away the parentheses and we have \(x \times x \times x \times x \times x \times x\), or \(x^6\). That’s why to multiply the same base raised to exponents we keep the base and add the exponents.

Similarly, when we raise a base to a power and then raise that result to another power, like \((y^3)^2\), we can “longhand” the inside of the parentheses \((y \times y \times y)\). Now, squaring a number is merely multiplying it times itself; doing so here will give us \((y \times y \times y \times y) \times (y \times y \times y \times y)\), right? That’s why in this case we multiply the exponents.

1) If \(z = y^4 – 11.5\), for what value of \(z\) is \(y = -2\)?
   a) -6.7  c) 3.4  e) 5.6
   b) -2.3  d) 4.5

2) [Grid In] If \(9^4 = 3^w\), what is the value of \(w\)?

3) If \(0 < d < 1\), which of the following statements must be true?
   I. \(d^2 > d^3\)
   II. \(d > 0.5d\)
   III. \(d > d^3\)
   a) I only  c) I and II only  e) I, II, and III
   b) II only  d) I and III only

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) If \(m^2 – 9 = 9 – m^2\), what are all possible values of \(m\)?
   a) 0 only  c) 9 only  e) -3, 0, and 3
   b) 3 only  d) -3 and 3 only

5) [Grid In] If \(g^3 = -729\), what is the value of \(4g^2\)?

6) If \(0 < \sqrt{v} < 1\), which of the following gives the correct ordering of \(\sqrt{v}, v, \text{ and } v^2\)?
   a) \(\sqrt{v} < v < v^2\)
   b) \(\sqrt{v} < v^2 < v\)
   c) \(v < \sqrt{v} < v^2\)
   d) \(v < v^2 < \sqrt{v}\)
   e) \(v^2 < v < \sqrt{v}\)

7) If \(d\) and \(e\) are consecutive odd integers and \(d > e\), which expression is equal to \(d^2 – e^2\)?
   a) \(2e + 1\)
   b) \(4e – 2\)
   c) \(2e + 2\)
   d) \(4e + 4\)
   e) \(4e + 6\)
8) If e = \(5d^3\), what is the value of e when both d and g are doubled?

- a) e is not changed
- b) e is halved
- c) e is doubled
- d) e is tripled
- e) e is multiplied by 4

9) For what value of v is the statement above false?

- a) -5
- b) 0
- c) 1/5
- d) 1
- e) For no value of v

10) If \(d^v \times d^9 = d^{18}\) and \((d^3)^w = d^{18}\), what is the value of v times w?

- a) 12
- b) 24
- c) 54
- d) 84
- e) 91
EXPONENTS A

Remember SADMEP. When we’re isolating a variable, we need to move all the numbers to the other side of the equation (or inequality—sometimes a little trickier). The most efficient way to do so is to employ SADMEP (PEMDAS backwards). First, we Subtract or Add; next, we Divide or Multiply; finally, we deal with Exponents and only then remove any Parentheses.

1) D. When we raise (-2) to the fourth power (or multiply it by itself four times), do we end up with a negative or a positive number? Right, positive … 16. So, 16 – 11.5 = 4.5. Remember, even exponents always result in non-negative numbers.

2) 8. If we had no other plan, couldn’t we multiply 9 by itself four times (and get 6561) and then see how many 3’s we have to multiply together to get the same number? Remember, there’s no partial credit on the SAT, and nobody checks your work. If we’d like to solve this mathematically, however, we can first notice that 9 = 3^2, and so substitute 3^2 for 9: (3^2)^4 = 3^{2\times4} = 3^8!

3) E. For many of us, the most mysterious part of the number line is located between 0 and 1. Pick a number for d (let’s say 0.5) and use it to test the three Roman numerals. Like all other values between 0 and 1, 0.5 gets smaller the more you multiply it by itself (so I works); next, every positive number gets smaller when you multiply it by 0.5 (so II works); and III, which also works, is a replay of I.

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) D. Can we use SADMEP (see above) to combine like terms on the same side of the equation? Adding m^2 + 9 to both sides, we get 2m^2 = 18, which means that m^2 = 9, so m = 3 or -3. Alternatively, we can sub in the answer choices. When we sub in zero, we get -9 = 9, which is not true.

5) 324. The cube root of -729 is -9. When we square any negative number, however, it becomes positive (so (-9)^2 = 81). Multiplied by 4 ... If you answered 5184, you multiplied -9 by 4 before you squared it. Remember PEMDAS—exponents before multiplication. If the test maker wanted you to multiply before applying the exponent, the expression would have looked like this: (4g)^2.

6) E. As we raise positive values that are less than 1 to higher and higher powers (or multiply them by themselves more and more times), they get smaller and smaller! (In case you think that numbers between negative 1 and zero follow the same pattern, remember that whenever they’re raised to even powers they become positive.) By that logic, mustn’t any value that gets smaller when we raise it to a power get larger when we find its root? Try taking the square root of ¼ (0.25): bigger, eh?
7) **D.** It’s hard to think that you would want to do this problem without Picking Numbers. How about 3 for e and 5 for d? So, $5^2 - 3^2 = 25 - 9 = 16$, which is 4 times 3 plus 4. Try it again using other odd numbers. If you chose (a), which means you chose consecutive integers, you really must slow down when you’re reading SAT problems.

8) **E.** First, put $d$ and $g$ in parentheses. When you double each of them, does the “2” go inside or outside the parentheses? Right, inside. Therefore, if we cube $(2d)$, we’ll have to cube the 2 along with the $d$, right? Doing so, we end up with $8d^3$. Doubling $g$ gives us $2g$. When the numerator is multiplied by 8 and the denominator is multiplied by 2, essentially, the expression gets multiplied by $8/2$, or 4.

9) **B.** Answer choice (e) is very tempting until you ask one question: What’s 0 times anything?

10) **C.** Please review the notes at the beginning of the problem set that explain when to add and when to multiply exponents. When we multiply the same base raised to powers, we add the exponents. When we raise a base to a power and then raise the entire expression to another power (by using parentheses), we multiply the power inside the parentheses by the power outside the parentheses! So, $v + 9 = 18$ and $3w = 18$. 


**EXponents B**

**First, this:** What can we do to both sides of any equation? Anything we want!*

1) Positive integers c and g satisfy the equations c^{-1/3} = 1/2 and g^2 = 25. What is the value of c + g^2?
   - a) 3
   - b) 7
   - c) 11
   - d) 13
   - e) 15

2) If 3^{2z} = 27^{z-1}, what is the value of z^2?
   - a) 2
   - b) 3
   - c) 4
   - d) 5
   - e) 6

3) If c and g are positive integers and 4(2^c) = 2^g, what is c in terms of g?
   - a) g - 2
   - b) g - 1
   - c) g
   - d) g + 1
   - e) g + 2

**Please read the answers and explanations for problems 1 through 3 now**

4) If m^3 = k^6, what is m in terms of k?
   - a) root k
   - b) k^2
   - c) k^3
   - d) k^6
   - e) k^{12}

5) [Grid In] If 2^z + 2^z + 2^z + 2^z = 2^7, what is the value of z?

6) If 28^k = 4^6 \times 7^6, what is the value of k?
   - a) 2
   - b) 3
   - c) 4
   - d) 5
   - e) 6

7) If c and g are positive integers and \(c^{1/2} g^{1/2})^4 = 900\), what is the value of cg?
   - a) 30
   - b) 120
   - c) 180
   - d) 200
   - e) 300

8) If \(9 \sqrt{32} = j \sqrt{m}\), where j and m are positive integers and j > m, which of the following could be the value of jm?
   - a) 18
   - b) 72
   - c) 108
   - d) 162
   - e) 324

* Except to divide by zero or any expression that equals zero.
9) [Grid In] If x, y, and z are three different prime numbers, and \( w = x \times y \times z \), how many positive factors, including 1 and \( w \), does \( w \) have?

10) If \((k + m)^{1/2} = (k - m)^{-1/2}\), which of the following must be true?

   a) \( mk = 0 \)  
   b) \( k^2 - m^2 = 1 \)  
   c) \( k - m = 0 \)  
   d) \( k^2 + m^2 = 1 \)  
   e) \( k + m = 1 \)
EXPOENTS B

1) D. We should remove the negative exponent by flipping one side of the equation: So, \( c^{1/3} = 2/1 \). Now, we need to raise the entire equation (we can do anything we want to an equation as long as we do it equally to both sides) to the 3rd power: \((c^{1/3} = 2)^3\), giving us \( c^1 = 2^3 \).

2) B. We can solve this by guess-and-check using the calculator (did you?). But let’s look at the underlying math. Whenever the SAT equates different bases raised to powers, one of the bases can always be expressed as the other base raised to a power (so here, we see that 27 can be converted to 3^3). Subbing in 3^3 for 27, \( 3^{2z} = 3^{3(z-1)} \). Distributing the powers on the right side: \( 3^{2z} = 3^{3z-3} \). Well, since now we’re equating the same base raised to different exponents, the exponents themselves must be equal to each other, no? \( 2z = 3z – 3 \) simplifies to \( 3 = z \).

3) A. If you have not already done so, please read the explanation to question 2. Here, we can express 4 as 2^2. So, \( 2^2 \times 2^c = 2^g \). Next, we keep the base and add the exponents. So, \( 2^2 \times c = 2^g \).

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) B. Because we want to solve for \( m \), wouldn’t it be great to raise this whole expression to an exponent that would leave us with \( m^1 \)? What power should we use? Right, the power of \( \frac{1}{3} \) (the reciprocal of the power of 3). Do you have to be entirely comfortable with fractional exponents to make use of them? No. So, \( (m^3 = k^6)^{1/3} \); because the parentheses tell us to multiply the exponents, we end up with \( m^1 = k^2 \).

5) 5. If you answered 7/4, look at the problem again. We add exponents when the bases raised to those exponents are multiplied, not added. If the problem stated that \( x + x + x + x = 2^2 \), which would be \( 4x = 2^2 \), or \( 4x = 128 \) (you do have a calculator, right?), you would know that \( x \) would be equal to 32. Here, if \( 2^z = 32 \), we need to find out how many times we need to multiply 2 by itself to get 32.

6) E. Because exponents are shorthand, can we rewrite the right side of the equation as \( 4 \times 4 \times 4 \times 4 \times 4 \times 4 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7 \)? (I know you’d prefer not to.) Well, when we do so, don’t we now have six factors of 4 and six factors of 7? If we multiply each factor of 4 by one factor of 7, we end up with six factors of 28 (28 \times 28 \times 28 \times 28 \times 28 \times 28), right? Or 28^6.

7) A. If we remove these parentheses by multiplying the “outside” exponent by each “inside” exponent, we find that each variable ends up squared. So, to get the value of \( c^g \), don’t we have to get rid of the squares? How can we do so? Right, by raising the entire expression to the reciprocal exponent: \( (c^2g^2 = 900)^{1/2} \) equals \( c^1g^1 = 30 \) (always use your calculator unless you’re sure).
8) **B.** This question tests your ability to simplify roots by factoring out any perfect square. Let’s examine $\sqrt{32}$: Here, the largest perfect square that’s a factor of 32 is 16. So, let’s first break $\sqrt{32}$ down into its factors $\sqrt{16 \times 2}$, and then separate the roots: $\sqrt{16} \times \sqrt{2}$, which simplifies to $4\sqrt{2}$. So, we end up with $9 \times 4\sqrt{2}$, or $36\sqrt{2}$. Next, looking back, what was the original value of $m$? 32 or $\sqrt{32}$? Since $m$ was the value under the radical sign, $m$ equaled 32. So, $36 \times 2 = 72$.

9) **B.** When you’re working with exponents, it’s good to think about factors occasionally, since exponents are shorthand for identical factors. I can’t imagine doing this problem without coming up with “real life” prime numbers (how about 3, 5, and 7?). When we multiply these numbers, we get 105. Technique: Draw a vertical straight line. Now, put “paired” factors (factors that multiply to 105) to the left and right of the line. So, we get pairs of 1 and 105; 3 and 35; 5 and 21; and 7 and 15.

10) **B.** If you’re uncomfortable with negative exponents, review the explanation to problem 1. Let’s square both sides, giving us $(k + m) = \frac{1}{(k - m)}$. Multiplying by the denominator gives us $(k + m)(k - m) = 1$. Now, these roots, when multiplied together, give us the difference of perfect squares (truly, the most famous quadratic of them all!), or $k^2 - m^2$. 
EXPOENTS C

1) If \( c^2 + b^2 = 38 \) and \( cb = 17 \), what is the value of \((c + b)^2\)?
   a) 72  c) 99  e) 138
   b) 97  d) 121

2) If \( r \) is a positive integer, then \((5 \times 8^r) + (2 \times 8^r)\) must equal
   a) \( \frac{7}{8^r} \)  c) \( \frac{7}{8^{2r}} \)  e) \( \frac{7}{10^{2r}} \)
   b) \( \frac{7}{8^r} \)  d) \( \frac{10}{8^{2r}} \)

3) If \( k(2c + 3)(c - 1) = 0 \) and \( c > 1 \), what is the value of \( k \)?
   a) \(-4/3\)  c) \(2/3\)  e) 2
   b) 0  d) 1

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) If \((2c - 2)(2 - c) = 0\), what are all the possible values of \( c \)?
   a) 0 only  c) 2 only  e) 0, 1, and 2
   b) 1 only  d) 1 and 2 only

5) \([\text{Grid In}]\) If \( c^2 - b^2 = 14 \) and \( c + b = 7 \), what is the value of \( c - b \)?

6) \([\text{Grid In}]\) If \( c^2 - b^2 = 88 \) and \( c + b = 11 \), what is the value of \( c \)?

\[ \text{The square root of } (a + 4) \text{ is equal to } (a - 2) \]

7) For some values of \( a \) greater than 3, the statement above is equivalent to which of the following?
   a) \( a = a^2 \)  c) \( a = a^2 - 4a \)  e) \( a = a^2 - 4a + 8 \)
   b) \( a = a^2 + 8 \)  d) \( a = a^2 - 4a + 4 \)

8) If \( b \neq 0, \ cb = b \) and \( c - b = 7 \), then \( c^2b - cb^2 = \)
   a) \(-42\)  c) \(-7\)  e) 30
   b) \(-24\)  d) 0
9) Let $\heartsuit g$ be defined as $\heartsuit g = g^2 - g$ for all values of $g$. If $\heartsuit x = \heartsuit (x - 3)$, what is the value of $x$?
   a) 1  
   b) $\frac{1}{2}$  
   c) 2  
   d) 2.5  
   e) 3

10) $K$ and $h$ are constants; $c^2 + kc + 9$ is equivalent to $(c + 1)(c + h)$. What is the value of $k$?
   a) 1  
   b) 7  
   c) 9  
   d) 10  
   e) It cannot be determined from the information given
EXONENTS C

1)  A. Any time you’re given a quadratic (like \((c + b)^2\) here) and you don’t know what to do, write it out \((c + b)(c + b)\) and then FOIL it!* When we do here, we get \(c^2 + 2cb + b^2\). Plugging in what we’re given, \(38 + 2(17) = 72\).

2)  A. As we reviewed in the Exponents B TEN FOR TEN, to remove the negative sign from an exponent, we need to flip the expression that contains that exponent. So, \(x^{-2}\) becomes \(1/x^2\). Here, the first expression becomes \(5 \times 1/8^r\), which can be simplified as \(5/8^r\). The second expression becomes \(2 \times 1/8^r\), which can be simplified as \(2/8^r\). When we are asked to add two fractions with identical denominators, we keep the denominator and add the numerators (imagine \(1/5 + 2/5\); it’s not \(3/10\), right?).

3)  B. The SAT loves problems that include zero. If we multiplied 1,000 non-zero values, could our product ever be zero? Nope. But then, if we multiplied this product by zero, what would our new product be? So, our product here is zero, which means that at least one of the binomial expressions must be zero! We also know that \(c > 1\), which means that neither of the binomial expressions can equal zero. So, what’s left?

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4)  D. Please read the explanation for problem 3, above. Here, either \(2c – 2 = 0\), which makes \(c = 1\), or \(2 – c = 0\), which makes \(c = 2\).

5)  2. If there’s one quadratic expression that you should take the time to memorize, it’s “the difference of two perfect squares.” Furthermore, when you see a “different of squares” expression, such as \(c^2 – b^2\), you should immediately break it down into binomials—here, our rewritten expression is \((c + b)(c – b) = 14\). So, if \(c + b = 7\), then \(c – b\) must equal 2.

6)  9.5. Please read the explanation for problem 5, above. Here, if \(c + b = 11\), then \(c – b = 8\), since \((11)(8) = 88\). Now, let’s combine the equations to eliminate one of the variables:

Add the equations to eliminate \(b\):

| \(c + b = 11\) | \(c + b = 11\) |
| \(c - b = 8\) | If the signs in front of the variable we want to eliminate are both plus or minus, we subtract the second equation; if they’re different, we subtract! |
| \(2c = 19; so c = 9.5\) |

7)  C. Square roots are a bother. But here’s some good news. All we ever have to do to get rid of square roots is to square both sides! So, we get \(a + 4 = a^2 – 4a + 4\); simplifying, we get \(a = a^2 – 4a\). If you pay attention to the answer choices, you’ll find that sometimes you’re done before it looks like you’re done. Did you solve for \(a\)?

8)  A. Since \(b\) cannot equal zero, if \(cb = b\), then \(c\) must equal 1, which means that \(b\) has to equal -6. (Why can’t \(c\) be zero?)* Substituting our values: \((1^2)(-6) – (1)(-6^2)\) or \((1)(-6) – (1)(36)\) gives us -6 – 36 or -42.

* If you didn’t rewrite the expression as two binomials, I’ll bet you ended up with \(c^2 + b^2\).

* Because that would make \(b\) zero, and we’re told that \(b\) cannot equal zero.
9) **C.** Whenever you run into symbols you’ve never seen before, disregard the anxiety and follow the given directions to the letter:

<table>
<thead>
<tr>
<th>Substitute</th>
<th>Did you distribute the minus sign?</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x^2 - x = (x - 3)^2 - (x - 3)$ or $x^2 - x = x^2 - 6x + 9 - x + 3$</td>
<td></td>
</tr>
<tr>
<td>Removing common terms</td>
<td></td>
</tr>
<tr>
<td>$x^2 - x = x^2 - 6x + 9 - x + 3$</td>
<td>$0 = -6x + 12$ or $6x = 12; x = 2$</td>
</tr>
</tbody>
</table>

10) **D.** This is a guarantee: Whenever you work on a problem that contains two unknowns (like $k$ and $h$, here), if you’re asked to solve for one of them you will have to solve for the other one first. So, let’s forget about $k$ for a minute and solve for $h$. Using FOIL, isn’t the last term in any quadratic expression the product of the “last” terms in the two binomials? So, $9 = 1 \times h$. Now that we know that $h = 9$, can we figure out the middle term (or the “OI” in FOIL)?
Here’s function \( f \). Although it can be scary looking, function \( f \) is just an equation.

What kind of equation?

One that defines something two-dimensional, such as a line or curve. Think of a function as a machine that, when you feed it an \( x \)-value, always spits out the corresponding \( y \)-value.

What’s so great about that?

It’s an equation that includes two variables. What have we learned about two variables in one equation?

You can’t solve because the value of each variable depends on the value of the other variable.

Right! However, a function equation is designed to give us specific answers depending on the specific information we provide. In this way, it lets us define each variable in terms of the other variable. When you plug an \( x \) value into an equation like \( y = 3x \), the formula spits out the \( y \) value, right?

Yeah.

OK. Let’s back up a step or two. How would you define a line on a plane?

Easy. \( y = mx + b \)

Great. No function needed, eh?

Right.

I hate to break it to you, but \( y = mx + b \) is a function.

No.

Sure. It’s one equation with two variables; so, it’s the exactly the same as \( f(x) = mx + b \).

Really?

Yep. Let me show you. First, how would you draw the line \( y = 2 \)?

Would it be a horizontal line that passes through \( y = 2 \)?

It would. How about \( f(x) = 2 \)?
Would that be the same line?

Yes. How about lines that aren’t horizontal? \( y = 7x + 4 \). Can you tell me what this line looks like?

Sure. The slope is 7 and the y intercept is 4.

OK. Try this one: \( f(x) = 7x + 4 \).

Same thing again, right? Are you telling me that \( f \) of \( x \) equals \( y \)?

Yep. Why do you think one expression looks so easy and the other looks so hard?

The \( f \)’s, I guess. At first glance, it looks like \( f \) times \( x \).

It does. Let’s review:

Let me say it. A function is an equation that defines something two-dimensional like a line. We plug in an \( x \)-value (where a certain point can be found on the horizontal axis) and the function equation tells us the \( y \)-value (where that point can be found on the \( y \)-axis). Have I got it so far?

I couldn’t have said it better. OK, let’s try a real SAT problem.

If we must.

“If the graph of function \( f \) is a line with a slope of negative 2, which of the following could be the equation of \( f \)?”

\[
\begin{align*}
a) \ f(x) &= -4x - 2 \\
b) \ f(x) &= 2x + 4 \\
c) \ f(x) &= -2x + 2 \\
d) \ f(x) &= \frac{1}{2}x + 2 \\
e) \ f(x) &= \frac{1}{2}x + \frac{1}{2}
\end{align*}
\]

That’s easy. Since the slope is minus 2 and \( f(x) = mx + b \), the answer’s gotta be (c). The \( y \)-intercept’s 2.1

OK. Now you explain this function to me: \( f(x) = 3.5x + 13 \).

To get the \( y \) value we multiply the \( x \) value by 3.5 and then add 13.

What if the \( x \) value is, say, 7?

Then we’d end up with 24.5 + 13 or 37.5. The coordinate point would be \((7, 37.5)\)

1 At this point, we really don’t care what the \( y \)-intercept is. The student is, sadly, showing off.
Showoff. Now, since a function can define a line, can a line define a function?

Of course.

How about a really jagged line?

I guess. What would the equation for this line look like?

It would be something scary calculus students call a “piecewise function.” Do we really want to get into it?

I don’t think so. Can we just deal with the line?

Yes. On the SAT, we never have to come up with an equation for this sort of monstrosity. Almost always, the accompanying question will be a variation on, “Which one of the following is the $f(x)$ when $x$ is 3?”

Really? That’s all? The $f(x)$ is always the $y$ value, right?

Yep.

So I look at the part of the weird line where $x$ equals 3 and report what the $y$ value is.

Yep.

Here, it’s 0?

It is.

That’s the answer? And all this time I thought functions were really complex.

Like all math, functions can be used to solve simple or complex problems.

In school, when we learned about functions there was a whole lot of stuff going on. We mostly used our calculators to plot them. Something about …
Well, for SAT purposes, how about you put all that complexity aside and start fresh with a limited number of things you need to know?

OK.

Let’s plot a function.

Now?

\[ f(x) = 3x - 6 \]

What’s \( f(5) \)?

Can’t I just plug in 5 for \( x \) and get 9?

Meaning what?

Meaning that when \( x \) is 5, \( y \) is 9, so the when \( x \) is 5 the whole coordinate is (5, 9).

Great. Now, because this function defines a line, let’s plot this function for the \( x \) coordinates 3, 4, and 6.

(3, 3), (4, 6), and (6, 12)

Can you draw a line that connects the points?

Done.

Is it likely that the same straight line you just plotted will go on to infinity in both directions? That if you plugged in, say, -127 for \( x \), the function would spit out a \( y \) value that would be on the straight line you just plotted?

Yes. So, each function describes a unique line.

Right. Would you like to learn a simple but valuable technique?

Sure.

Sometimes the \( x \) value in the \( f(x) \) is not so simple. Let’s see what kind of technique we can use that will make our lives easier.

Great.

From now on, let’s get used to putting whatever \( x \) value is in the parentheses on the left of the equation into parentheses on the right of the equation. You’ll see why in a minute. Here’s a
function. What should we do first?

\[
f(x) = \frac{x + 7}{2}
\]

Put parentheses around the \( x \) on the right?

Yes.

\[
f(x) = \frac{(x) + 7}{2}
\]

And this is going to help how?

It removes anxiety. Think of the parentheses around both the \( x \)-values as shipping containers that contain the same thing. Whatever the container on the left holds, the container on the right has to hold. So, when we change the \( x \)-value on the left, we change it the same way on the right. If I asked you to solve for the \( f(3) \),

I would put the 3 into both the left and right containers to get

\[
f(3) = \frac{(3) + 7}{2}
\]

OK, good work. Now let’s try \( f(3m) = \)

This is the part where I really get confused.

How about you try what we just discussed even though you’re not sure how it works right now?

OK. Like this?

\[
f(3m) = \frac{(3m) + 7}{2}
\]

Exactly.

OK. I did my part. Why did I do that? Where does it get me?

Short answer: \( 3m \) is the value of the \( x \) coordinate; \( f(3m) \) tells us how to find ...

So, our \( y \) coordinate is \( \frac{(3m) + 7}{2} \)? That’s \( 1.5m + 3.5? \)

Yes.
What does that mean? How do I plot the point (3m, [1.5m + 3.5]) on the grid?

I don’t think you can, since you don’t know the value of m, right?

Yeah.

However, you do know the line it’s on, don’t you?

Sure, the line defined by the function

\[ f(x) = \frac{(x) + 7}{2} \]

Yes. I think you’ve got it now. Let’s check. What is \( f(7t - p^3) \)?

Could it be

\[ f(7 - 3p^3) = \frac{(7t - p^3) + 7}{2} \]

It could, and it is!

OK, I can do that, but sometimes I see \( g \) and \( h \) used. Are they functions too?

Yes, \( f, g, \) and \( h \) are the letters usually used. Let’s try using one of them right now.

\[ h(t) = 2(t) - 3 \]

What is \( t \)?

What do you think?

Well, up until now, whatever was in the parentheses was the \( x \)-coordinate.

And that’s not going to change now.

So should I put the \( t \) on the right into parentheses?

Sure. Now try plotting \( t \) values of 0, 2, and 4.

Give me a second. OK, now what?

Plot this: \( f(x) = 2(x) - 3 \)
Isn’t that the same as \( h(t) = 2t - 3 \)?

Yes.

They’re identical?

Yep. How about \( g(v) = 2v - 3 \)?

So the letter used to name the function isn’t important?

It’s only important because it tells you that you’re dealing with a function.

They’re all the same thing?!

Right! So, getting back to solving these things, you can call a function anything you want as long as you take whatever is in parentheses on the left side and substitute it into the parentheses that you added to the right side.

That I’ve got. From the left parentheses to the right parentheses.

Great. Now let’s try something a little more complex.

Am I ready for this?

Sure. \( g(z) = 2z - 1 \)

That’s new? Lemme add the parentheses: \( g(z) = 2(z) - 1 \)

Now try this: \( g(4z) = 12z \)

What do I do?

Well, can you convert what’s on the left?

I guess. But what do I do with the 12z on the right?

How about we put it on the shelf for now?

OK. So, if \( g(z) = 2z - 1 \), then \( g(4z) = 2(4z) - 1 \) or \( 8z - 1 \), right?

Right. Now what?

Should I bring back the part we put on the shelf?

Yes.
\( g(4z) = 8z - 1 \) and \( g(4z) = 12z \); that means \( 8z - 1 = 12z \), which means that \( -1 = 4z \), or \( z = -\frac{1}{4} \). Is that the answer?

It is. One more:

\[ h(w) = \frac{w^2 - w}{4} \text{; if } h(6z) = 9z \ldots \]

I can't do this. The function is defined for \( w \) and you're asking me about \( z \).

OK. Two lessons. First, how about putting parentheses around the \( x \)-values?

Like this?

\[ h(w) = \left( \frac{w^2 - w}{4} \right) \]

Yep. Now, if I told you that \( h(6w) = 9w \), would you have a problem solving for \( w \)?

No, I'd just sub in 6w for \( w \), getting

\[ h(6w) = \left( \frac{(6w)^2 - (6w)}{4} \right) = 9w \]

If you can sub in 6w, why not 6z? Sub it in and solve for \( z \), OK?

I can do that?

Sure. What's the \( x \) value?

6z. OK. I get it. Whatever the \( x \) value is, even if it's \( 33\pi k \), I'll just plug it in!

Good! Go ahead.

\[ h(6z) = \left( \frac{(6z)^2 - (6z)}{4} \right) = \frac{36z^2 - 6z}{4} = 9z \]

Keep going.

If I multiply both sides by 4, I get \( 36z^2 - 6z = 36z \). Subtracting \( 36z \) from both sides gives me \( 36z^2 - 42z = 0 \).
Factoring, out $6z$, we get $6z(6z - 7) = 0$. So, either $6z = 0$ or $6z = 7$, which makes $z$ either $0$ or $7/6$. Is that right?

It sure is.

Is this all there is to functions?


Sweet.
GUESS 'N' CHECK

The question format: “Which one of these numerical answer choices will solve this problem?”
The winning technique: “Guess and Check.”

Sure, right, plug in five choices. This is a timed test! What a lousy strategy. But wait! The test maker almost always orders the answer choices from smallest to largest. Since that’s so, plugging in the middle choice, (c), will take us a long way toward the right answer. How?

Well, if (c) is right, we’re done. If (c) is wrong, it’ll either be TOO BIG (in which case (d) and (e) are also TOO BIG) or TOO SMALL (in which case (a) and (b) are also TOO SMALL)— so, when (c) is wrong we can usually eliminate 3 choices. Then, we need to try only one of the two remaining choices—whether or not that choice proves to be right, we’ll know the right answer!

1) Excluding rest stops, it took Yolanda a total of 10 hours to hike from the edge of a canyon to the base and back up again by the same path. If while hiking she averaged 3 kilometers per hour going down and 2 kilometers per hour coming back up, how many kilometers was it from the base to the edge of the canyon?
   a) 8  c) 12  e) 24
   b) 10  d) 20

2) The length of a rectangle is 7 times the width. If the perimeter of the rectangle is 144, what is the width?
   a) 6.5  c) 11  e) 16.2
   b) 9  d) 13

3) The total weight of Kathleen and her son Liam is 250 pounds. If Kathleen’s weight is 10 pounds more than 3 times Liam’s, what is Liam’s weight, in pounds?
   a) 40  c) 70  e) 90
   b) 60  d) 80

4) A manager estimates that if the company charges $q$ dollars for its new product, where $0 \leq q \leq 200$, then the revenue from the product will be $r(q) = 2000q - 10q^2$ dollars each week. According to this model, for which of the following values of $q$ would the company’s weekly revenue for the product be greatest?
   a) 10  c) 50  e) 200
   b) 20  d) 100
5) What is the least integer for which 30 percent of that integer is greater than 2.5?
   a) 6  c) 8  e) 10
   b) 7  d) 9

6) The sum of the integers $m$ and $n$ is 605. The units digit of $m$ is 0. If $m$ is divided by 10, the result is equal to $n$. What is the value of $m$?
   a) 30  c) 350  e) 590
   b) 35  d) 515

7) If $(x - 1)^2 = 2x + 1$ and $x \neq 0$, what is the value of $x$?
   a) 1  c) 3  e) 5
   b) 2  d) 4

8) The scenic route to Sunil's office is 9 kilometers longer than the direct route. When he goes by the scenic route and returns by the direct route, the round trip is 51 kilometers. How many kilometers is the direct route?
   a) 17.5  c) 24.5  e) 44
   b) 21  d) 26

9) When a number $p$ is subtracted from 36 and the difference is divided by $p$, the result is $\frac{1}{2}$. What is the value of $p$?
   a) 10  c) 18  e) 24
   b) 12  d) 21

10) If Damon were twice as old as he is, he would be 40 years older than Lisa. If Lisa is 10 years younger than Damon, how old is Damon?
    a) 20  c) 40  e) 60
     b) 30  d) 50
GUESS 'N' CHECK

1) **C.** Always start with (c). If the trip was 12 kilometers one way, Yolanda’s hike down at 3 kph took 4 hours. Her hike up at 2 kph, took 6 hours. No trick. This is a real SAT problem, and getting it right is really that easy.

2) **B.** Always start with (c). If the rectangle’s width is 11 and its length is seven times as long, or 77, then its perimeter \[2(l + w)\] is 176. Since (c) is TOO BIG, (d) and (e) must be TOO BIG too. Here’s the cool part. Since we are down to 2 answer choices, and one must be right, which one should we try? How about the easier one (the one without a decimal), (b)? If the rectangle’s width is 9 and its length is 63, then its perimeter is 144!

3) **B.** Always start with (c). If Liam weighs 70 pounds, Kathleen must weigh 220 pounds (3 times Liam’s weight plus 10). Added up, that’s 290. TOO BIG. Good-bye (c), (d), and (e). Say we try (a): Liam is 40, Kathleen is 130. Only one left... If you set this up algebraically, you probably picked (d). Why? Because you multiplied 80 by 3 and added 10.

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) **D.** Do we always have to understand the math? Sometimes, good technique is all we need. How about we plug in numbers starting with (c)? We get 100,000 – 25,000 = 75,000. So, now we can choose to go in either direction. How about down? Plugging in (b), we get 40,000 (already we can see that we’re heading lower, which eliminates (a)). So, let’s try (d): 200,000 – 100,000 = 100,000. Now (e): 400,000 – 400,000 = 0.

5) **D.** Using our method, we first multiply the (c) choice, 8, by .3 (same as 30%, right?). Too small, as must be (a) and (b). Let’s go on to the (d) choice, 9. Multiplied by .3, we get 2.7. Just right.

6) **E.** Here’s another interesting variation on our theme. Since \(m\) has a units digit (ones digit—you knew units digit was the same as ones digit, right?) of 0, we can eliminate (b) and (d). Now, let’s try the middle number, 350. Divide it by 10 to get 35. Add them together to get 385. Well, if (c) is too small and (d) has been eliminated, what’s left? It’s a timed test. Pick the correct choice and move on ... right?

7) **D.** We could FOIL this one out and do a lot of algebra (and maybe make a mistake by ending up with \(x^2 - 1 = 2x + 1\)*. However, there’s an easier method ... guess ‘n’ check! Although we will have to plug in until we have a match, since we can’t eliminate any choices we haven’t tried, each “plug-in” takes no more than five to ten seconds. When we try (d), we get 3² = 9.

8) **B.** Always start with (c). 24.5 (direct) and 33.5 (direct + 9 kilometers) results in a round trip of 58. Too big. Eliminate (d) and (e). Trying (b), 21 and 30 gets us to 51. Yes, you can do this problem algebraically. \(D + (D + 9) = 51\). Would that be wrong? No. However, it is best

---

*FOILing \((x - 1)^2\), which is shorthand for \((x - 1)(x - 1)\), gives us \(x^2 - 2x + 1 = 2x + 1\), so \(x^2 = 4x\). But why not just plug 4 into the equation? \((4 - 1)^2 = 2(4) + 1\) easy, right?*
to have several methods, so that you can choose the one that will yield the correct answer the most comfortably.

9) **E.** Starting with (c), we subtract 18 from 36 (to get 18) and divide that by 18 to arrive at an answer of 1. Since we’re subtracting and dividing, making the unknown value smaller would produce a larger result (and vice versa—try it!). So, we’re down to (d) and (e). OK, let’s try (d). 36 – 21 = 15; 15/21 = something between ½ and 1. Do we really have to try the last answer if we have eliminated all the others?

10) **B.** Sure, we could express this problem algebraically—and you should in math class. However, whenever SAT answer choices are simple numbers and can be plugged in, why bother doing the algebra? When we plug in 30 for Damon, we find that if he were twice as old (60), he would be 40 years older than 20. Since 20 is 10 years younger than 30 (Damon’s present age), we have a winner. However, you did start with (c), right?
GEOMETRY: CIRCLES AND TRIANGLES A

First, this: Circle problems are all about conversion. Study the table below:

<table>
<thead>
<tr>
<th>C</th>
<th>To get C from d, just tack on pi</th>
</tr>
</thead>
<tbody>
<tr>
<td>d</td>
<td>C = πd; to get d from C, drop the pi</td>
</tr>
<tr>
<td>r</td>
<td>Divide d by 2</td>
</tr>
<tr>
<td>A</td>
<td>A = πr²</td>
</tr>
</tbody>
</table>

Please assume that none of the figures in this TEN FOR TEN® are drawn to scale.* If what you see differs from what you read, believe what you read.

1) What is the area of a circle that has a circumference of $12\pi$?
   a) $9\pi$  b) $12\pi$  c) $27\pi$  d) $36\pi$  e) $144\pi$

2) In the triangles to the left, $5(c - a) = ?$
   (Ignore degrees when gridding your answer.)

3) A triangle is inscribed inside a circle. One vertex of the triangle is at the center of the circle, and the other two vertices are on the circle. If the angle at the center of the circle measures 80°, what is the measurement in degrees of one of the other angles?

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) Which of the following CANNOT be the lengths of the sides of a triangle?
   a) 1, 1, 1  b) 2, 3, 5  c) 2, 85, 85  d) 3, 4, 6  e) 5, 7, 8

5) What is the area of a right triangle whose perimeter is 36 and whose sides are $d$, $d + 3$, and $d + 6$?
   a) 54  b) 72  c) 88  d) 92  e) 115

* On the actual SAT, all figures are drawn to scale unless accompanied by the note: “Figure not drawn to scale.”
6) Five spheres, each of radius 3.5 inches, are placed side by side in a straight row with adjacent spheres touching. What is the distance, in inches, between the center of the first sphere and the center of the last sphere?

a) 14  
 b) 17½  
 c) 20  
 d) 28  
 e) 35

7) In the figure to the left, triangle EDC is similar to right triangle FGH. What is the length of the side FG?

8) In the figure to the left, B is the center of the larger circle. The smaller circle is tangent to the larger circle at D and contains point B. If the circumference of the larger circle is 20 π, what is the area of the smaller circle?

a) 10 π  
 b) 20 π  
 c) 25 π  
 d) 36 π  
 e) 81 π

9) In the triangle to the left, AB = BC. If q = 60°, then AB = ?

10) One circle has a radius of ½ and another circle has a radius of 1. What is the ratio of the area of the larger circle to the area of the smaller circle?

a) 4:1  
 b) 6:1  
 c) 8:1  
 d) 16:1  
 e) 64:1
GEOMETRY: CIRCLES AND TRIANGLES A

1) D. If we know one thing about a circle, we know everything about the circle. Here, we
our circle has a circumference $12\pi$. Let’s use the CdrA table to get from C to A:

<table>
<thead>
<tr>
<th>C</th>
<th>$12\pi$</th>
<th>C = \pi d; to get C from d, just tack on pi</th>
</tr>
</thead>
<tbody>
<tr>
<td>d</td>
<td>12</td>
<td>To get d from C, just drop the pi</td>
</tr>
<tr>
<td>r</td>
<td>6</td>
<td>Divide d by 2</td>
</tr>
<tr>
<td>A</td>
<td>36\pi</td>
<td>A = \pi r^2</td>
</tr>
</tbody>
</table>

2) 75. A triangle’s interior angles always add up to 180°. The triangle on the left is an
isosceles (the sides opposite both angles are equal and so must be 45°) right (90°)
triangle. Because the triangle on the right is equilateral*, all three angles (c) must be the
same, or 60°. So, when we subtract 45 from 60, we get 15. Multiplying that by 5 ...

3) 50. Did you draw the circle and inscribed triangle? If so, you found that each angle at
the circle’s circumference was opposite a side that also served as the circle’s radius.
Since all radii of any particular circle must be of equal length, those sides must be equal;
next, equal angles opposite equal sides, right? After we take the central 80° angle out of
the 180° total, we have 100° left to divide between our two equal angles.

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) B. Just remember this: The three sides of any triangle must be long enough to meet (and
create a triangle—not two flat lines). This is another way of saying that the longest side
must be shorter than the other two sides combined. So, with sides of 2, 3, and 5, won’t we
have one straight line (2 + 3) lying flat on top of another (5)?

5) A. The perimeter is the sum of the sides. Adding up the sides we get $3d + 9 = 36$, which
means that $d = 9$, making the sides 9, 12, and 15. Notice that we’re told that this is a right
triangle (if it weren’t, wouldn’t it be a lot tougher to identify the base and height?), so let’s
draw it and label the sides. Doing so, we note that in a right triangle, the short sides are
always the base and height!! $A = bh/2$, so $9 \times 12 = 108; 108/2 = 54$.

6) D. Please draw the five touching spheres (use circles—like many three-dimensional
problems, this can be solved as a two-dimensional problem) in a row. Since the radius of
each sphere is 3.5 inches, wouldn’t the distance from the first to the second, say, be 3.5

* We know this because all of the angles are labeled c. While a variable, such as x in the inequality $x < 4$,
can have a range of values, within a problem a single variable will never represent different values.
plus 3.5, or 7 inches? So, the distance from the first to the last (one sphere at a time) must be 4 times that.

7) **21/5 or 4.2.** Similar triangles have angles that are exactly the same, which means that their corresponding sides must be proportional. Thinking “real life,” couldn’t we make our own similar triangles by photocopying any triangle at, say, 80% or 150%? We’re told that FGH is a right triangle, so EDC must also be a right triangle. (Did you mark the right angles in both triangles?) Since all we know about FGH is its hypotenuse (which is 7), to compare the triangles we’ll need to calculate the hypotenuse of EDC (using the Pythagorean Theorem, $3^2 + 4^2 = 5^2$), which is 5. OK, now we have two “same” sides to compare; if one is 7 and the other is 5, isn’t their ratio 7 to 5 (or 7/5)? So, the unknown side $x$ can be found using the equation $x/3 = 7/5$ and then cross-multiplying.

8) **C.** Here, since we have two circles, we’ve added a column to our CdrA table. Note that because the smaller circle touches the edge and center of the larger circle, it must have a diameter half as long as that of the larger circle. Using our table, the rest is easy.

<table>
<thead>
<tr>
<th></th>
<th>Large</th>
<th>Small</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>20 $\pi$</td>
<td></td>
</tr>
<tr>
<td>d</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>r</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>25 $\pi$</td>
<td>$\pi$</td>
</tr>
</tbody>
</table>

To get d from C, drop the pi.

Divide d by 2

9) **8.** One of the rules SAT winners know by heart is that, in a triangle, “equal sides opposite equal angles.” If the sides AB and BC are equal, then the angles opposite them are equal, too. If $q = 60^\circ$, that leaves 120$^\circ$ for the other two angles (which are equal).

10) **A.** To calculate the area we must square the radius, so the ratio of the areas of two circles will equal the ratio of the squares of their radii. How many fourths are there in 1?

<table>
<thead>
<tr>
<th></th>
<th>Large</th>
<th>Small</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d</td>
<td></td>
<td></td>
</tr>
<tr>
<td>r</td>
<td>$\frac{1}{4}$</td>
<td>1</td>
</tr>
<tr>
<td>A</td>
<td>$\frac{1}{4} \pi$</td>
<td>$\pi$</td>
</tr>
</tbody>
</table>

Divide d by 2

$A = \pi r^2$
GEOMETRY: CIRCLES AND TRIANGLES B

Please assume that none of the figures in this TEN FOR TEN® are drawn to scale.* If what you see differs from what you read, believe what you read.

1) If the diameter of Jimmy’s bicycle wheel is 0.75 meter, how many meters has a point on the edge of the tire traveled when the wheel has made five complete revolutions along a straight road?
   a) $3\pi$ 
   b) $3.75\pi$ 
   c) $10\pi$ 
   d) $12.5\pi$ 
   e) $15\pi$

2) The hypotenuse of a right triangle has length 10 and the legs have lengths $x$ and $y$. If $x < 6$, which of the following describes all possible values of $y$?
   a) $0 < y < 4$ 
   b) $4 < y < 6$ 
   c) $6 < y < 8$ 
   d) $8 < y < 10$ 
   e) $10 < y < 16$

3) [Grid In] A triangle has a base of length 23 and the other two sides are equal in length. If the lengths of the sides of the triangle are integers, what is the shortest possible length of a side?

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) The coordinates of points D, E, and F in the xy-plane are given to the left. What is the perimeter of ΔDEF?
   a) 6 
   b) 9 
   c) $6 + \sqrt{45}$ 
   d) $9 + \sqrt{45}$ 
   e) $\sqrt{164}$

5) In the right triangle to the left, what is the value of $g$?
   a) 45 
   b) 48 
   c) 54 
   d) 60 
   e) 72

* On the actual SAT, all figures are drawn to scale unless accompanied by the note: “Figure not drawn to scale.”
In the figure to the left, △MNP is equilateral and RS || TV || MN. What is the perimeter of the shaded region?

a) 6  b) 9  c) 10  d) 12  e) 15

If the area of the right triangle in the figure to the left is 100, what is the length of side CE?

a) 10√3  b) 10√5  c) 20  d) 24  e) 25

[Grid In] The figure to the left consists of two circles that have the same center. If the shaded area is 51π square inches and the smaller circle has a radius of 7 inches, what is the radius, in inches, of the larger circle?
9) One side of a triangle has length 8 and a second side has length 9. Which of the following could be the area of this triangle?

I. 16  
II. 35  
III. 38

a) I only  
b) II only  
c) III only  
d) I and II only  
e) II and III only

10) In the triangle to the left, \( j = 25^\circ \), \( k = 35^\circ \), and \( h = 135^\circ \). What is the degree measure of \( t \)?

a) 60  
b) 65  
c) 70  
d) 75  
e) 85
GEOMETRY: CIRCLES AND TRIANGLES B

1) **B.** Any “tire” problem will involve circumference, since the tread of a tire defines the tire’s circumference. If the diameter is 0.75 meters, the circumference is \(0.75\pi\) meters (since \(C = \pi d\)), right? So, after the tire revolves five times, at a distance of \(0.75\pi\) per revolution, the edge of the tire has traveled \(3.75\pi\) meters.

2) **D.** In order to make inequality problems a little less tricky, temporarily substitute an equal sign for the inequality sign. Here, using the Pythagorean Theorem, we can say that if \(x\) were equal to 6, then \(y\) would be equal to 8. Now, since \(x\) is actually shorter than 6, in order for the sides’ squares to still add up to 100, \(y\) must have to be longer than 8? Also, what’s the longest \(y\) can be? Can a leg of a triangle ever be as long as that triangle’s hypotenuse?

3) **12.** The three sides of any triangle must be long enough to meet (and create a triangle—not two flat lines lying on top of each other). This is another way of saying that the longest side must be shorter than the other two sides combined. Here, since we’re looking to make the two shorter sides as short as possible, but knowing that their sum must be greater than 23, making them each 12 will add up to 24, which is just long enough.

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) **D.** Did you draw this grid and triangle? If not (and you got the problem wrong), go back and do so now before you finish reading this explanation. Really. The horizontal line from D to E measures 6. The vertical line from E to F measures 3. So, this triangle’s hypotenuse must be \(\sqrt{45}\). Add ‘em up to get the perimeter.

5) **C.** Whenever you’re asked to solve for one of two unknowns, you’ll need to solve for the other one first! Here, since we’re asked to solve for \(g\), we’d better concentrate first on solving for \(f\). When a straight line (like the base of this triangle) is cut by a transversal (a fancy name for an intersecting straight line), the resulting angles add up to 180°. So, \(3f° + 2f° = 180°\), which means that \(f° = 36°\). Now, let’s look at the larger triangle; since M is a right angle (90°), then \(f° + g° = 90°\); so, \(g°\) must equal 54°.

6) **E.** We have three similar triangles (PRS, PTV, and PMN). On the SAT, if two triangles share one angle and the sides of the two triangles facing that angle are, you’re looking at similar triangles. RS is part of the smallest triangle, so must equal 3. We know that SV is 3, so RT must also be 3. Last, since we know that PT and PV are both 6, mustn’t TV also be 6?

7) **B.** First, we have to find side DE. Using \(\frac{1}{2}bh = 100\), we can see that DE must be 10. Next, using the Pythagorean Theorem, we get \(20^2 + 10^2 = c^2\), or \(500 = c^2\). To reduce a root like \(\sqrt{500} = c\), we need to factor the root; here, we can break \(\sqrt{500}\) into \(\sqrt{100}\) times \(\sqrt{5}\). Since \(\sqrt{100} = 10\), we end up with 10 times \(\sqrt{5}\), or 10\(\sqrt{5}\). Alternatively, you could put \(\sqrt{500}\) into your calculator along with choices (a) and (b).
8) **10.** Anytime you see a “donut” problem such as this one, you’ll need to combine areas. The blue donut is the large circle minus the small circle. So, if we figure out the area of the small circle ($49\pi$) and then add that to the area of the donut ($51\pi$), we will have the area of the large circle ($100\pi$). And from that, we can get the radius.

9) **D.** In order for us to make this triangle as big as it can be, shouldn’t the base and height be at right angles to each other? When we put 8 and 9 at right angles, we find the maximum area ($\frac{1}{2}bh$) of the resulting right triangle is 36. Try putting the 8 and 9 at different angles to see what happens.

10) **D.** How many degrees are there inside a quadrilateral? 360°. How many degrees surround any point in a plane? Again, 360°. Note that angle $h$ is 135°. Wouldn’t the (inside-out) angle on the other side of $h$ be 360° - 135°, or 225°? It would. So, adding 225° to the $j$ and $k$ angles (25° and 35°, respectively) gives us 285°. When we subtract that from 360°, we get …
GEOMETRY: CIRCLES AND TRIANGLES C

Please assume that none of the figures in this section are drawn to scale. If what you see differs from what you read, believe what you read.

The circle in the figure to the left has center O. Angle EOG is a right angle. Which of the following measures for the figure would be sufficient by itself to determine the radius of the circle?

1) The length of arc EFG
   II. The length of chord EG
   III. The perimeter of triangle OEG

   a) I only      c) III only    e) I, II, and III
   b) II only     d) I and III only

Coordinate P = (12, c)
Coordinate N = (c, 0)

[Grid-In] In the xy plane to the left, the area of triangle OPN is 18. What is the value of c?

In rectangle EFHG, point J is the midpoint of side GH. If the area of quadrilateral EFJG is 1/4, what is the area of rectangle EFHG?

a) 1/5      c) 3/11    e) 2/3
b) 2/9      d) 1/3

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW
4) In the figure to the left, inscribed triangle KLM is equilateral. If the radius of the circle is \( r \), then the length of arc LZM is?

a) \( \frac{2\pi r}{3} \)  
b) \( \frac{4\pi r}{3} \)  
c) \( \frac{3\pi r}{2} \)  
d) \( \frac{7\pi r}{3} \)  
e) \( \frac{3\pi r}{4} \)

5) [Grid In] The circle shown to the left has a center \( O \) and a radius of length 6. If the area of the portion of the circle that is outside the triangle is \( 30\pi \), what is the value of \( m \)? (Ignore degrees when gridding your answer.)

6) In the figure to the left, MN is the arc of a circle with center O. If the length of arc MN is \( 2\pi \), what is the area of sector OMN?

a) \( 6\pi \)  
b) \( 9\pi \)  
c) \( 16\pi \)  
d) \( 25\pi \)  
e) \( 36\pi \)
7) [Grid In] In a rectangular coordinate system, the center of a circle has coordinates \((6.5, 4.5)\), and the circle touches the x-axis at one point only. What is the radius of the circle?

8) In the figure to the left, if the legs of triangle ABC are parallel to the axes, and the diagonal line passes through the origin and \((4, 10)\), which of the following could be the lengths of sides of triangle ABC?

\[
\begin{align*}
\text{a)} & \quad 2, 5, \text{and } \sqrt{29} \\
\text{b)} & \quad 2, 5, \text{and } 7 \\
\text{c)} & \quad 3, 3, \text{and } 3\sqrt{2} \\
\text{d)} & \quad 3, 4, \text{and } 5 \\
\text{e)} & \quad 4, 5, \text{and } \sqrt{41}
\end{align*}
\]

9) The figure to the left is a right triangle. What is the value of \(48 + x^2\)?

\[
\begin{align*}
\text{a)} & \quad 48 \\
\text{b)} & \quad 49 \\
\text{c)} & \quad 52 \\
\text{d)} & \quad 57 \\
\text{e)} & \quad 64
\end{align*}
\]

10) When a certain rectangle is divided in half, two squares are formed. When each of these squares is divided diagonally, two isosceles right triangles are formed. If each of these isosceles right triangles has a perimeter of \(8 + 4\sqrt{2}\), what is the perimeter of the original rectangle?

\[
\begin{align*}
\text{a)} & \quad 12 \\
\text{b)} & \quad 24 \\
\text{c)} & \quad 42 \\
\text{d)} & \quad 46 \\
\text{e)} & \quad 48
\end{align*}
\]
GEOMETRY: CIRCLES AND TRIANGLES C

1)  E. First, the radius of the circle is represented by OE and OG, right? So, since the legs are equal and EOG is a right angle, triangle EOG is 45-45-90.

Roman I is 

sufficient because arc EFG is ¼ of the circumference—using CdrA (see problem 6), if we know the circumference we can calculate the radius.

Roman II is sufficient because EOG is isosceles, and the sides of such triangles have defined relationships (see the triangle at the far right of the geometric diagrams strip at the beginning of any SAT math section. So, chord EG, because it is the hypotenuse of the triangle, will give us the radius (divide by root 2).

Roman III is sufficient for the same reason: Because we know the ratio that relates the triangle’s legs to its hypotenuse, we can use that ratio to apportion the perimeter among the three sides.

2)  6. First, did you insert the coordinates into the diagram? If not, please do so now. Next, is the area of OPN likely to be useful? To answer that question in the future, ask yourself, “What is the formula for a triangle’s area?” A = ½bh. So, 18 = ½bh, which means that 36 = bh. Coordinate N tells us that the length of the base is c; coordinate P tells us that the height is c. So, c times c = 36!

3)  D. First, let’s draw the rectangle (did you?) and quadrilateral. Now, how can we make this resulting quadrilateral easier to work with? How about splitting it down the middle? When we do so, it’s clear that the left side of the center line is half of the rectangle, and on the right side our quadrilateral takes up one-quarter of the rectangle, meaning the quadrilateral is ⅓ the size of the rectangle. Well, if ⅔x = ¼, then multiplying both sides by ⅔ (we do want x’s coefficient to be 1, don’t we?) gives us x = 1/3.

4)  A. An arc is part of the circle’s circumference. So, using CdrA (see problem 6), we first determine that the circumference is 2πr. Now, an equilateral triangle’s vertices must split the circle three ways, so …

* Any coordinate point’s x-value measures the distance from the y-axis (here, the length of the triangle’s base), while its y-value measures the distance from the x-axis (here, the length of the triangle’s height).
5) **30.** Using CdrA (see problem 6), we can convert radius 6 into area $36\pi$. Since the portion of the circle’s area that’s outside the triangle is $30\pi$, then the portion of the area inside the triangle must be $6\pi$, or $1/6$ of the circle’s total area. So, angle O has to carve out $1/6$ of the area of the circle, which means that angle O must have a degree measurement that’s $1/6$ of the entire $360^\circ$ measurement of the circle, or $60^\circ$. That leaves $30^\circ$ for $m$ (warned you that nothing here is drawn to scale).

6) **B.** This is a great problem for a CdrA table (fully explained in Circles and Triangles A):

<table>
<thead>
<tr>
<th>Slice</th>
<th>Pizza</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>$2\pi$</td>
</tr>
<tr>
<td>d</td>
<td>$C = rd$; to get d from C, drop the pi</td>
</tr>
<tr>
<td>r</td>
<td>Divide d by 2</td>
</tr>
<tr>
<td>A</td>
<td>$?\pi^2$</td>
</tr>
</tbody>
</table>

We’re given the length of an arc (part of the circumference) and asked to find the area of the slice. An angle of $40^\circ$ describes $1/9$ of a circle. Multiplying the arc measurement by 9, we find that the entire circumference is $2\pi$ times 9, or $18\pi$. Drop that $\pi$ and you’re left with the diameter, 18.

<table>
<thead>
<tr>
<th>Slice</th>
<th>Pizza</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>$2\pi$</td>
</tr>
<tr>
<td>d</td>
<td>$18$</td>
</tr>
<tr>
<td>r</td>
<td>$9$</td>
</tr>
<tr>
<td>A</td>
<td>$?\pi^2$</td>
</tr>
</tbody>
</table>

That translates to a radius of 9, $A = \pi r^2$, so the area of the entire pizza is $81\pi$. Now, to find the area of one of nine slices shouldn’t we divide by 9?

7) **4.5.** Which coordinate (x or y) measures the distance from the x-axis? * This circle is described in one way: it touches the x-axis once. So, mustn’t the radius be exactly the length of the straight line directly down from the center of the circle (which is 4.5 units away) to the x-axis?

8) **A.** Draw a line straight down from (4, 10). Why should that help? Well, after doing so you know three things: (1) The right triangle you just created (vertical line meets x axis—right angle, correct?) is 4 wide by 10 high; (2) the slope of the line that makes up that triangle’s hypotenuse is $10/4$ (or $5/2$); and (3) the smaller triangle is similar to the triangle you just drew. How do we know this? Because any time triangles share all three angles (each has a right angle at the lower right; each has a hypotenuse that’s described by the same line), they’re similar. If the ratio of the legs of the bigger triangle is $5:2$, mustn’t the ratio of the ABC triangle also be $5:2$? Note that choice (b) isn’t a triangle.

* The y-coordinate. Doesn’t the x-coordinate measure the distance from the y-axis?
9) **B.** First, wouldn’t this problem get a lot less scary if you subtracted 48 from all your answer choices (which would take what, 30 seconds?). When you do so (please), you’ll notice that the choices are 0, 1, 4, 9, and 16, which are the squares of 0, 1, 2, 3, and 4. Next, what’s the longest side of any right triangle? The hypotenuse? What’s the hypotenuse of this triangle? 10. Since one of the legs is \(7 + x\), \(x\) must be less than 3, which leaves 0, 1, and 2. How about we try 2, and then 1? Trying \(x = 1\) gives us a 6-8-10 triangle. Alternatively, because this is a right triangle, we could use the trusty formula \((a^2 + b^2 = c^2)\), which in this case would give us \((7 + x)^2 + (7 – x)^2 = 10^2\). That works too.

10) **B.** Did you draw the rectangle? If not, please do so now. Okay, now that you can refer to a drawing, if the perimeter of one isosceles right triangle is \(8 + 4\sqrt{2}\), wouldn’t 4 be the length of each leg of that triangle and so the side of each of the two squares? When we put those squares together we get a rectangle that has a width of 4 and a length of 8. If you answered 12, you have to add the length and width and then multiply by 2.
GEOMETRY WORKSHOP

First, this: Although we have attempted to draw the following diagrams to scale, please use your brain rather than your eye when solving.

1) Through how many degrees does the minute hand of a clock turn from 4:25 p.m. to 4:30 p.m.?
   a) 18
   b) 23
e) 32
c) 24
d) 30

2) A rectangle with length 14 and width 5 has an area that is 7 times the area of a triangle with base 4. What is the height of the triangle?
   a) 2.5
   b) 4
e) 7
c) 5
d) 5.5

3) [Grid In] In the triangle to the left, x and y are integers. If 30 < y < 35, what is one possible value for x?

4) In the figure to the left, if the only marked angle is 95°, what is the value of a° + b° + c°?
   a) 95
e) 295
   b) 105
c) 115
d) 265

5) J is the midpoint of line segment GH, and K and L are the midpoints of line segments GJ and JH, respectively. If the length of KL is 7, what is the length of GH?
   a) 4
e) 14
   b) 7
c) 9
d) 11
6) The distance from College M to College N is 5 miles and the distance from College N to College P is 8 miles. Which of the following could NOT be the distance, in miles, from College M to College P?

a) 4  b) 7  c) 10  d) 13  e) 14

7) Three lines intersect in the figure to the left. What is the value of \( r + s \)?

a) 55  b) 65  c) 135  d) 145  e) 155

8) [Grid In] Four lines intersect in one point, forming 8 equal angles that are non-overlapping. What is the measure, in degrees, of one of these angles? (Disregard degree sign when gridding your answer.)

9) Which of the following is equal to the perimeter of the figure to the left?

a) \( a + b + r + s \)  b) \( 2a + b + (r + s) \)  c) \( 2(a + b) - (r + s) \)  d) \( 2(a + b) + (r + s) \)  e) \( 2(a + b) \)

10) Points A, B, C, D, E, and F are all different points lying in the same plane. Points A, B, and F lie on the same line. The line through points A and B is perpendicular to the line through points C and D. The line through points C and D is perpendicular to the line through points E and F. Which of the following sets contains points that must lie on the same line?

a) \{A, B, C\}  b) \{B, C, D\}  c) \{B, C, E\}  d) \{B, E, F\}  e) \{C, E, F\}
11) [Grid In] In the triangle to the left, what is the value of \( m + n + p + q \)?

12) In the figure to the left, SRU and STU are isosceles right triangles and SR has a length of 4. What is the length of ST?

   a) 4\( \sqrt{2} \)
   b) 8
   c) 8\( \sqrt{2} \)
   d) 16
   e) 16\( \sqrt{2} \)

13) In a rectangular solid, the length is 3 and the width is 4. The height is half the width. What is the volume of the solid?

   a) 9
   b) 10
   c) 14
   d) 18
   e) 24

14) What is the perimeter of the triangle to the left?

   a) 30
   b) 42
   c) 45
   d) 112.5
   e) 225
15) In the figure to the left, line \( l \) is parallel to line \( m \). Which of the following pairs of angles have equal measures?

I. 3 and 9  
II. 1 and 8  
III. 4 and 6

a) I only  
b) I and II only  
c) I and III only  
d) II and III only  
e) I, II, and III

16) In rectangle RSTU shown to the left, sides RS and TU pass through the centers of the two circles. If SU = 16 and TU = 12, what is the area of the shaded region?

a) 120  
b) 156  
c) 192  
d) 192 – 36\pi  
e) 192 – 72\pi

17) [Grid In] In the figure to the left, point R is in the interior of \( \angle QPS \) and the measure of \( \angle QPR \) is \( \frac{3}{5} \) the measure of \( \angle QPS \). If \( x = 20 \), then \( y = \)?

a) 30  
b) 35  
c) 40  
d) 45  
e) 50
18) In \( \triangle RST \) above, if \( c > d \), which of the following must be true?

- a) \( RS > ST \)
- b) \( ST > RS \)
- c) \( RT > ST \)
- d) \( RS = ST \)
- e) \( RS > RT \)

19) In the figure to the left, the large square is divided into two smaller squares and two shaded rectangles. If the perimeters of the two smaller squares are 12 and 28, what is the sum of the perimeters of the two shaded rectangles?

- a) 20
- b) 21
- c) 28
- d) 40
- e) 42

20) In the figure to the left, line \( l \) passes through the origin. What is the value of \( p/w \)?

- a) 2/5
- b) 5/2
- c) 1
- d) 3
- e) 5
GEOMETRY WORKSHOP

First, this: On the actual SAT, if a diagram isn’t labeled “not drawn to scale,” it’s drawn to scale!

1) **D**. How many degrees are there in a circle? 360°, right? So, we’re looking for what portion of that 360° the minute hand sweeps in any five-minute period. Let’s set it up: 5/60 = x/360 (sixty minutes completes the circle). Alternatively, you could figure that five minutes is 1/12 of an hour. Then you could multiply 360° by 1/12.

2) **C**. To calculate the area of a rectangle we multiply the base times the height. Here, it’s 14 x 5 = 70. So, the triangle’s area must be 70/7 or 10. Trot out the triangle formula: Area equals base times height divided by 2: 4 x [height]/2 = 10. Multiply both sides by 2 to get 4 x [height] = 20; now divide by 4 to get [height] = 5.

3) **112, 114, 116, or 118**. In an “inequality” grid-in problem any relevant answer (such as even numbers here) within a range is credited correct. The easiest way to go after this problem is to pretend that the “less than” signs are actually equal signs. Well, if both y angles were 30°, then x would be 120°, and if both y angles were 35°, then x would be 110°. Since the measure of y is, rather, within that range, mustn’t the measure of x be within a corresponding range?

4) **D**. How many degrees are there around any point in a plane? Stand up. Turn around once completely. When you finish turning in a circle, through how many degrees have you passed? 360°, right. So, the SAT loves to figure out whether you know about 360° (and 180°, which is the measure of a straight angle since it’s half a full circle—get it?).

5) **E**. (Note diagram above.) Did you draw the line? If not, start drawing anytime you run into a geometry problem that doesn’t include a diagram. Here, we know that the points are spaced equally, so K to J must be 3.5. If that’s the case (since K is the midpoint of GJ), then GK must also be 3.5, which makes GJ equal to 7. Since J is the midpoint of GH, we know that the entire line must be 14.

6) **E**. Two points: (1) In any geometry problem, if you’re asked which of a range of choices DOESN’T work, wouldn’t the right answer have to be either the smallest or the largest number in the range? (Imagine what kind of problem in which all of the choices except 7 could work—no, really, try to imagine it—I can’t!) (2) Here, since nothing in this problem precludes the distance between M and P from being a straight line, we can just add 5 to 8 and get 13. 5 and 8, no matter how you stretch them, just won’t add to 14.

7) **D**. As we discussed in problem 4, the SAT loves to test whether you know that any point in a plane is surrounded by 360° and, since a straight line (think about the diameter of a
circle) breaks that 360° measurement in two, its measure is half of 360°, or 180°. (If you’d like proof, turn the page upside down! You’ll note that the unmarked angles emanating from the bottom of the line also add up to 180°.) So, we know that \( r^\circ + s^\circ + 35^\circ = 180^\circ \).

8) **45.** Did you draw your own diagram? If not, go ahead and do so now. Just draw a big “plus” and then a big “X” on top of it. Doing so, you’ve made 8 angles, and because you know those angles will divide up 360°, you can divide 360° into eight equal portions.

9) **E.** It’s easy to get confused by this sort of problem, since if we wanted to measure the area of the figure we would multiply \( a \) times \( b \) and then take out \( r \) times \( s \). However, here we’re asked for perimeter, not area. Note in the slightly altered figure below that \( r \) is merely a portion of \( a \), and that \( s \) is merely a portion of \( b \). It’s the same distance if we go across \( s \) and then down \( r \) or if we go down \( r \) and then across \( s \), right?

10) **D.** Did you draw it? If so, you put A, B, and F on the same line. Then you drew a perpendicular line that included C and D. Then came the payoff: you were told that the line containing C and D was perpendicular to the line containing E and F. Wait a minute! That means that E and F must be on the same line—along with A and B.

11) **230.** Because the top angle (65°) is part of a triangle with \( m \) \& \( n \) and another with \( p \) \& \( q \), both \( m + n \) and \( p + q \) must equal 115° (or 180° – 65°). Add ‘em up.

12) **B.** What does isosceles mean? Right, two sides are the same length. Did you know that the strip of math formulas at the beginning of each SAT math section includes the Pythagorean Theorem \( (a^2 + b^2 = c^2) \)? The diagram at the right end of the strip pertains to side lengths in isosceles right triangles. Get familiar with the “math strip.” OK, since the “legs” have the same length, we multiply that length by \( \sqrt{2} \) (square root of 2) to get the length of the hypotenuse.

Half our job is done. We now know that the legs of the big triangle (SUT) measure \( 4\sqrt{2} \). How do we multiply that measurement by \( \sqrt{2} \)? Let’s figure it out. What’s \( \sqrt{2} \) times \( \sqrt{2} \)? Right, it’s 2. So, 4 times \( \sqrt{2} \) times \( \sqrt{2} \) = 8.

---

6/15/09
13)  **E.** What’s the height? If you started calculating before you knew the height, you need to rethink this whole rushing business. So, the height is 2. \(3 \times 4 \times 2 = 24\).

14)  **C.** We were taught in geometry, “Equal sides opposite equal angles.” So, if the marked angle of 60° faces a side of 15, then the unmarked angle to the right, which faces a side of 15, must also be 60°. If that’s the case, we have two 60° angles and so are left with 60° for our third angle, which also must face a side of length 15.

15)  **E.** Because lines \(l\) and \(m\) are parallel, any straight line that crosses one at any certain angle crosses the other at the same angle! So, for example, angles 1 and 8 (Roman II) must be the same, since each is in the same position (above and to the left) relative to the intersection of lines. This makes them corresponding angles.

Angles 4 and 6 are vertical angles. Draw two straight lines that cross. Look at the diagram closely. Now flip it upside down. It’s the same diagram, right? So, angles that are across crossing lines are always equal—which means Roman III works.

Roman I is a little tougher. For now, though, do you see that angle 5 is vertical (and so identical in measurement) to angle 3? Great. Now look at angles 5 and 9. They’re corresponding in the same way angles 1 and 8 are, right? So, Roman I works too.

16)  **D.** The SAT loves to ask us about the area of what remains of a shape after another shape has been cut out of it. Let’s approach this on two levels. First, let’s try to solve. Then, we’ll discuss how to guess on this sort of problem.

We know that the entire rectangle measures 192 (16 times 12), right? OK, now let’s look at the circles. We’re cutting out a semicircle on the left and another semicircle with the same diameter on the right. What do two identical semicircles add up to? Right, a circle. So, if we can find the area of one of the circles, we can subtract that area from 192. What’s the formula for the area of a circle? (It can be found on the left-hand side of the formula strip at the top of every SAT math section—if you don’t know the formula, go look now). We need to square the radius and then multiply by \(\pi\). Radius, which is half the diameter (12), is 6. Square 6 to get 36, then multiply by \(\pi\) to get \(36\pi\). Note that you will never have to convert \(\pi\) into 3.14159 ... on the SAT.

Alternatively, if you had to guess on this problem, wouldn’t it make sense to choose between the two choices that include \(\pi\), since circles tend to be measured using \(\pi\)? Yes.

17)  **A.** If \(\angle QPR\) is 3/5 the measure of \(\angle QPS\), then \(\angle QRS\) must be 2/5 (what’s left). So, if 2/5 of the entire angle is 20°, then the entire angle must be 50°, and \(\angle QPR\) must be 30°. To put it another way, if you have 3/5 of the marbles and I have 2/5 of the marbles, the ratio of your marbles to my marbles must be 3:2 (the numerators).

18)  **B.** As we saw in triangle problem 14, equal angles face equal sides. So, what does that mean if, within a triangle, one angle is larger than another? It means that the side opposite the larger angle must be larger than the side opposite the smaller angle! So, side \(ST\), which is opposite angle \(c\), must be larger than side \(RS\), which is opposite angle \(d\).
If you chose an answer that included RT, note that the problem asked you what must be true, not what could be true.

19) D. The perimeter of the smallest square is 12, so each side is 3; a perimeter of 28 for the larger square means sides of 7. So, the shaded rectangles are 3 x 7, which means that each has a perimeter of 20. Did you solve for area? If so, consider circling the word “perimeter” whenever you see it in an SAT math problem.

20) B. To solve, let’s just look at the part of the slope in the first quadrant (upper right). From (0, 0), the line passes through (5, 2). So, the line goes across 5 on the x scale as it goes up 2 on the y scale. Is there any reason to think that the slope will change in the third quadrant (lower left)? Nope. So, the relationship between p and w will be reflected in the slope of the line (w/p). If w/p is 2/5, by flipping it we find the p/w relationship.
LOGIC PROBLEMS

A “good test taker” is always eager to think through any word problem in practical terms before attempting the math.

READ THIS FIRST: The SAT never uses capital letters as algebraic variables. A capital letter can show a point on a geometric figure or a digit in a number—for instance, R8 might be any two-digit number whose ones digit is 8. Therefore, the one thing 7P will never be is “7 times P.”

SLANG     GNARL

1) A letter will be chosen at random from each of the two words above. What is the probability that the two letters chosen will be the same?
   a) 4/50         c) 1/5
   b) 4/25         d) 1/4
   e) 4/5

2) The tens digit of a two-digit number is 3 and the units’ digit is M. If the two-digit number is divisible by M, which of the following CANNOT be the value of M?
   a) 2
   b) 3
   c) 4
   d) 5
   e) 6

3) There are 5 employees who work at the ice cream stand during August. The employees are always assigned to work in pairs. How many different pairs of these 5 employees can be assigned?
   a) 5
   b) 7
   c) 8
   d) 10
   e) 20

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

CECELIA’S VEHICLE WASH AND DETAILING

<table>
<thead>
<tr>
<th>Number of Vehicles</th>
<th>Detailing Time per Vehicle</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>20 minutes</td>
</tr>
<tr>
<td>8</td>
<td>40 minutes</td>
</tr>
<tr>
<td>10</td>
<td>80 minutes</td>
</tr>
<tr>
<td>15</td>
<td>100 minutes</td>
</tr>
</tbody>
</table>

4) [Grid In] How many hours will it take to detail all 40 vehicles listed in the table above?

* Ones.
5) The total cost of a taxicab ride is the sum of

(1) a basic fixed charge for using the taxicab, and

(2) an additional charge for each 1/3 of a mile that is traveled.

If the total cost to ride 2/3 miles is $5.20 and the total cost to ride 8/3 miles is $10.90, what is the total cost, in dollars, of an eight-mile ride?

a) $21.40  
   b) $24.20  
   c) $24.90  
   d) $25.50  
   e) $26.10

6) Segments RT, RW, SW, and VT intersect at the labeled points as shown in the figure above. Define two points in this figure as “independent” if they do not lie on the same line segment. Of the labeled points in the figure, how many pairs of independent points are there?

a) None  
   b) One  
   c) Two  
   d) Three  
   e) Four

In the correctly solved addition problem above, C and G represent digits. If C is not equal to G, how many different digits from 0 through 9 could C represent?

a) One  
   b) Two  
   c) Three  
   d) Five  
   e) Nine

8) How many distinct sums can be obtained by adding any two different numbers shown above?

a) 10  
   b) 11  
   c) 14  
   d) 21  
   e) 49
The table above shows the results of a survey of 140 people in which each person preferred exactly 1 of 5 cars. If \( w \) and \( z \) are positive integers, what is the greatest possible value of \( z \)?

- a) 32
- b) 33
- c) 34
- d) 36
- e) 37

After Mark gave $10 to Zeke and Zeke gave $6 to Grace, Mark had $10 more than Zeke and $20 more than Grace. Originally, how much more did Mark have than Zeke and Grace?

- a) $14 more than Zeke and $16 more than Grace
- b) $18 more than Zeke and $24 more than Grace
- c) $18 more than Zeke and $26 more than Grace
- d) $24 more than Zeke and $26 more than Grace
- e) $24 more than Zeke and $36 more than Grace


LOGIC PROBLEMS

1) B. OK, there’s a little bit of probability in this one, but the major hurdle to get over is being offended that there are no numbers in a math problem.

Probability can always be expressed as a fraction. If it’s certain that something won’t happen, the probability of that thing happening is 0. If it’s certain that something will happen, the probability of that thing happening is 1.

Every other probability can be expressed using a fraction between 0 and 1. The denominator of such a fraction is the number of total possibilities. Here, how do we figure out how many two-letter combinations we can make using one letter from each word? Let’s get practical: The “S” from SLANG can combine with the “G,” the “N,” the “A,” the “R,” and the “L” from GNARL. So, five combinations will contain the “S.” Shall we assume that the “L” from SLANG will also combine with each of the five letters from GNARL? Yes. Five letters in SLANG each combine with the five letters in GNARL to produce 25 possibilities.

The numerator of the probability fraction is the number of desired possibilities. Let’s find the “matching” combinations: “LL,” “AA,” “NN,” and “GG,” right? So, four out of 25, or 4/25.

2) C. What better way to solve other than plug in the answer choices? The two-digit number we’re creating can be expressed as “3M,” where M is a digit. So, if we try 2 for M, we get 32/2; then, trying 3 for M, we get 33/3; however, when we try 4 for M, we get 34/4, which is not an integer. Go ahead and try 5 and 6.

3) D. Again, logic rules here. Let’s refer to our employees by the letters A to E. So, A can work with B, C, D, or E (4 combinations), B can work with C, D, or E (3), C can work with D or E (2), and D can work with E (1). (Note that A working with B is the same as B working with A—so that combination is counted only once.)

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) 46. This is all about (a) reading the problem carefully and (b) being willing to do the necessary work to complete the problem. Let’s start: 7 vehicles at 20 minutes per = 140 minutes; 8 at 40 = 320; 10 at 80 = 800; and 15 at 100 = 1500. Add ‘em all up to get 2760; divide by minutes in an hour (60), and you get 46. I hope you didn’t solve for minutes.

5) E. To solve SAT math problems, you often have to combine two pieces of given information to infer another piece of information without which you just can’t solve. Here, the data we need to generate is the per-mile charge.

What do we know? The difference in the two rides’ distances is 8/3 – 2/3 = 6/3, or 2 miles; the difference in the respective charges, $10.90 – $5.20 = $5.70. So, the cab’s per mile charge is $2.85, meaning that the mileage charge for the first 2/3 of a mile is $1.90 (2/3 x $2.85).

When we subtract that mileage-only charge of $1.90 from $5.20, we learn that the basic
fixed charge is $3.30. So, $2.85 per mile x 8 miles = $22.80; now add the fixed charge of $3.30 to get $26.10.

6) **D.** Instructions such as “define two points as…” are made up! What does “independent” mean? In this figure, “independent” [of each other] are any two points that aren’t currently connected by a line segment. Now things become a bit easier. Which points aren’t connected by a line? Well, S and V, along with R and U, and T and W.

7) **D.** Note that when the addition has been completed, the tens digit will change from 3 to 4. So, that means that C must be 5 or above, right? If C is 5, then the result is 40 (so that works); if C is 6, we get 42 (ditto); if C is 7, we get 44; if C is 8, we get 46; and if C is 9, we get 48. I hope you didn’t read the problem too quickly and think it was asking for the value of the C digit, because if so you might have picked (e).

8) **B.** If you enjoy shortcuts, the fact that these numbers are consecutive should give you an idea. How about calculating the smallest (–7) and biggest (3) sums we can get by adding two different members in this set? Is there any doubt that we can get results that match all the numbers in between? At this point, you can either write out the numbers from –7 to 3 (which takes about ten seconds), or you can count 7 negative, 3 positive, and zero!

9) **A.** Well, for z to be as big as possible, wouldn’t w have to be ... as small as possible? We’re told that w and z are positive integers; so, what’s the smallest possible value for w? Right, 1. So, plugging in 1 for w, we get ...

10) **E.** Here’s a problem that’s easier to solve if you’re willing to run the transactions backwards. We know what the final score was—Mark had $10 more than Zeke and $20 more than Grace. So, how about we give Mark $30, Zeke $20, and Grace $10 (that would fit the “after” conditions, right?). Now, let’s run the movie backwards, starting with Grace returning the $6 to Zeke: Now it’s M $30, Z $26, and G $4. Now Zeke returns the $10 to Mark, leaving M $40, Z $16, and G $4.
SAT MATH PRACTICE

1) Add 8z to 2z and then subtract 5 from the sum. If z is a positive integer, the result must be an integer multiple of
   a) 5  c) 7  e) 0
   b) 6  d) 8

2) [Grid In] On a certain map, a distance of 35 kilometers is represented by 1.0 centimeter. How many kilometers are represented by 3.2 centimeters on the map?

3) A florist buys tulips at $0.60 each and sells them for $1.50 each. If there are no other expenses, how many tulips must be sold in order to make a profit of $180?
   a) 100  c) 180  e) 300
   b) 150  d) 200

4) If 27 · 4 · y = 54, then y =
   a) 1/9  c) 1/2  e) 7
   b) 1/7  d) 3

5) If x + y = 2 and x - y = 7, then x^2 - y^2 =
   a) 2  c) 9  e) 27
   b) 7  d) 14

6) A surgeon can transplant 3 kidneys every 4 hours. At that rate and with no breaks, how long will it take the surgeon to transplant 5 kidneys?
   a) 6 hr. 20 min.  c) 7 hr. 15 min.  e) 7 hr. 45 min.
   b) 6 hr. 40 min.  d) 7 hr. 30 min.

7) If x^3 = 27, what is the value of x^2?
   a) 1/27  c) 1  e) 9
   b) 1/9  d) 3

8) If x^{1/2} = y^3, which of the following must be equivalent to x?
   a) y^{1/6}  c) y^{3/2}  e) y^6
   b) y^{1/3}  d) y^2

9) A fuel tank on a certain tractor holds 14 gallons of ethanol. If the tractor consumes 3.5 gallons when plowing 6 acres, how many acres can the tractor plow with a tankful of ethanol?
   a) 12  c) 18  e) 24
   b) 15  d) 21
10) Cider costs \( y \) cents per quart and \( z \) cents per gallon. If a gallon of cider costs \( x \) cents less than 4 quarts, which of the following must equal zero?

- a) \( z - 4y + x \)
- b) \( 2z - y + x \)
- c) \( z + y - x \)
- d) \( 2z - y - x \)
- e) \( z + 4y - x \)

11) In the xy-plane, line \( m \) is perpendicular to the graph of the function \( g(t) = 4t - 7 \). Line \( m \) could be defined by which of the following functions?

- a) \( h(x) = -\frac{1}{4}x + 2 \)
- b) \( h(x) = 6x - 7 \)
- c) \( h(x) = 4x + 3 \)
- d) \( h(x) = -4x - 7 \)
- e) \( h(x) = -4x + 7 \)

12) In the figure to the left, four lines intersect at a point. What is the value of \( x \)?

- a) 61
- b) 62
- c) 90
- d) 135
- e) 241

13) In the figure to the left, the length of CD is \( 3t \) and the length of DE is \( 4t \). If a point is chosen at random from line CE, what is the probability that the point will lie on segment DE?

- a) \( \frac{3}{7} \)
- b) \( \frac{4}{7} \)
- c) \( \frac{3}{4} \)
- d) \( \frac{4}{3} \)
- e) \( \frac{7}{4} \)

14) If \( m - n = n - 4 = 10 \), what is the value of \( m \)?

- a) -2
- b) 0
- c) 4
- d) 10
- e) 24
15) Each of 4 juniors played a game of checkers with each of 6 sophomores and then each sophomore played a game of checkers with each of the other sophomores. How many games of checkers were played?
   a) 24         c) 34         e) 44
   b) 29         d) 39

16) [Grid In] What is the greatest of 5 consecutive integers if the sum of these integers equals 100?

17) If Country X’s imports increased 15 percent and exports decreased 5 percent during a certain year, the ratio of imports to exports at the end of the year was how many times the ratio at the beginning of the year?
   a) 17/20       c) 23/19       e) 27/17
   b) 5/7         d) 26/23

18) [Grid In] The sides of the rectangle in the figure to the left have the lengths shown. What is the area of the rectangle?

19) The stopping distance of a train is the number of feet that the train travels after the engineer starts applying the brakes. The stopping distance of a certain train is directly proportional to the square of the speed of the train, in miles per hour, at the time the brakes are first applied. If the train’s stopping distance for an initial speed of 20 miles per hour is 40 feet, what is its stopping distance (in feet) for an initial speed of 30 miles per hour?
   a) 30         c) 60         e) 90
   b) 45         d) 75

20) The figure to the left represents a storage shed with dimensions given in feet. The shed has a square floor, sides that are perpendicular to the floor, and a rectangular roof. What is the total area, in square feet, of the part of the floor over which the roof is at least 8 feet high?
   a) 220         c) 230         e) 240
   b) 225         d) 235

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 11 THROUGH 20 NOW
21) P, Q, R, and S are points on a line. The lengths of segments PQ, QR, and PR are 10, 3, and 13, respectively, and S the midpoint of segment QR. What is the length of segment PS?
   a) 2.5    c) 6.5    e) 11.5
   b) 4.5    d) 8.5

22) There are 5 wheelbarrow engineers who work in shifts at a phosphate plant. The engineers are always assigned to work in pairs. How many different pairs of these 5 wheelbarrow engineers can be assigned?
   a) 10    c) 14    e) 25
   b) 12    d) 16

23) If \( z > 0 \) and \( x \) is 8 less than the product of \( y \) and \( z \), which of the following is an expression for \( z \) in terms of \( x \) and \( y \)?
   a) \( \frac{x + 8}{y} \)    c) \( \frac{x - 8}{y} \)
   b) \( \frac{x - 8}{y} \)    d) \( xy + 8 \)
   e) \( 8x - y \)

24) In the figure to the left, TVWX is a square. TY = TX, and the measure of angle \( TXZ \) is 20°. What is the value of \( a^\circ \)?
   a) 20    c) 30    e) 40
   b) 25    d) 35

25) A stack of notepads is \( a \) centimeters high, and each notepad in the stack is \( b \) centimeters thick. In terms of \( a \) and \( b \), how many notepads are in the stack?
   a) \( a - b \)    c) \( \frac{1}{ab} \)    e) \( \frac{a}{b} \)
   b) \( ab \)    d) \( \frac{b}{a} \)
26) In triangle XYZ to the left, segments XA, YA, and ZA bisect angles YXZ, XYZ, and YZX, respectively. What is the value of \(x^\circ + y^\circ + z^\circ\)?

- a) 50°
- b) 90°
- c) 135°
- d) 180°
- e) 270°

27) **Grid In** Each of 100 soccer players worked out on at least one of two days, Wednesday or Thursday. A total of 72 soccer players worked out on Wednesday and a total of 66 soccer players worked out on Thursday. How many soccer players worked out on both Wednesday and Thursday?

28) Bobbi purchased a new car 6 years ago and the average (arithmetic mean) number of miles she drove was 7,000 miles per year for the first two years. For the next four years, after joining a new health club, she drove an average of 10,000 miles per year. What was the average number of miles (in thousands) she drove per year for the six years?

- a) 7
- b) 9
- c) 10
- d) 27
- e) 54

29) Four distinct lines lie in a plane, and exactly two of them are parallel. Which of the following could be the number of points where at least two of the lines intersect?

- (I) 3
- (II) 4
- (III) 5

- a) I only
- b) III only
- c) I and II only
- d) I and III only
- e) I, II, and III

30) What is the smallest positive integer \(m\) for which \(3^2 \cdot 5^1 \cdot 7^2 \cdot m\) is the square of an integer?

- a) 3
- b) 5
- c) 15
- d) 21
- e) 105

**PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 21 THROUGH 30 NOW**

31) If \(-1 < a < 0\), which of the following statements must be true?

- a) \(a < a^2 < a^3\)
- b) \(a < a^3 < a^2\)
- c) \(a^2 < a < a^3\)
- d) \(a^3 < a < a^2\)
- e) \(a^2 < a^3 < a\)
32) [Grid In] Three lines intersect in the figure to the left. What is the degree measure of angles m + n?

33) Which of the following operations has the same effect as dividing by $4/3$ and then multiplying by $2/3$?
   a) Multiplying by $1/2$
   b) Multiplying by 2
   c) Dividing by $1/2$
   d) Dividing by 3
   e) Dividing by 4

34) If the vertices of a square are at (-3, -2), (3, -2), (3, 4), and (-3, 4), what is the area of the square?
   a) 24
   b) 26
   c) 32
   d) 36
   e) 49

35) Which of the following sets of numbers has the property that the product of any two numbers in the set is also a member of the set?
   (I) The set of prime numbers
   (II) The set of odd numbers
   (III) The set of even numbers
   a) I only
   b) III only
   c) I and II only
   d) II and III only
   e) I, II, and III

36) If $a = bc$, which of the following must be equal to $ab$?
   a) $ab^2$
   b) $b^2c$
   c) $a^2b$
   d) $a/c$
   e) $c/a$

37) Of the students in a certain class, 7 are in the choral group, 12 are in the school play, and 17 are in the orchestra. If 3 students participate in exactly 2 of the 3 activities and 2 students participate in all 3 activities, how many students are in the class?
   a) 26
   b) 27
   c) 28
   d) 29
   e) 36
38) Through how many degrees does the minute hand of a clock turn from 4:25 p.m. to 4:30 p.m.?
   a) 18  c) 30  e) 36
   b) 24  d) 32

39) In the figure to the left, A is the center of the circle of radius 12. What is the area of triangle NAM?
   a) 36  c) 68  e) 144
   b) 48  d) 72

40) A typist typed 55 words per minute. After practice, the typist’s speed increased to 66 words per minute. By what percent did the typist’s speed increase?
   a) 10%  c) 16.6%  e) 25%
   b) 11%  d) 20%

**PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 31 THROUGH 40 NOW**

41) If \( y < z \), which of the following must be true?
   a) \( y^2 < z^2 \)  c) \( y^2 < yz \)  e) \( 2y < z \)
   b) \( -z < -y \)  d) \( yz < y^2 \)

42) If \( z > 0 \) and \( 4y^2 + my + 9 = (2y + z)^2 \) for all values of \( y \), what is the value of \( m - z \)?
   a) 3  c) 15  e) 24
   b) 9  d) 21

43) If \( m = av^3 \) and \( v = bw^4 \), which of the following is a correct expression for \( m \) in terms of \( a \), \( b \), and \( w \)?
   a) \( abw^{12} \)  c) \( abw^7 \)  e) \( ab^3w^{12} \)
   b) \( ab^3w^7 \)  d) \( a^3b^3w^7 \)
44) According to the data in the table to the left, the purchasing power of the 1950 Canadian dollar was approximately what multiple, rounded to the nearest integer, of the purchasing power of the 1990 Canadian dollar?

<table>
<thead>
<tr>
<th>Year</th>
<th>Purchasing Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>2.44</td>
</tr>
<tr>
<td>1960</td>
<td>1.88</td>
</tr>
<tr>
<td>1970</td>
<td>1.47</td>
</tr>
<tr>
<td>1980</td>
<td>1.15</td>
</tr>
<tr>
<td>1990</td>
<td>0.83</td>
</tr>
</tbody>
</table>

45) A, B, C, and D are four colleges. A is farther east than B and C; D is farther west than A; and B is farther west than C. Which college is the farthest west?

a) A  
 b) B  
 c) C  
 d) D  
 e) It cannot be determined from the information given

46) Sid wants to arrange 3 of his 4 plants in a row in front of the window. If each of the plants is in a different-sized container, in how many different ways can he arrange the each group of three different-sized containers in front of the window?

a) 7  
 b) 12  
 c) 24  
 d) 28  
 e) 36

47) In the figure to the left, the radius of the circle with center U is twice the radius of the circle with center A and the measure of angle VUX is twice that of angle BAC. If the area of the BAC region is 5, what is the area of the VUX region?

a) 40  
 b) 32  
 c) 20  
 d) 16  
 e) 10

48) If $n > 1$ and each of three integers, $n$, $n + 2$, and $n + 4$, is a prime number, then the set of three such numbers is called a “prime triple.” There are how many prime triples?

a) None  
 b) One  
 c) Two  
 d) Three  
 e) Four
49) **[Grid In]** In square ACEF to the left, AF = 2, AB = BC, and CD = DE. What is the area of the shaded region?

50) If a and b are different positive integers and 5a + b = 36, what is the sum of all positive values of a?
   a) 7  
   b) 11  
   c) 15  
   d) 18  
   e) 22  

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 41 THROUGH 50 NOW

51) **[Grid In]** The integer m is between 40 and 100. When m is divided by 3, the remainder is 2. When m is divided by 7, the remainder is 1. What is one possible value of m?

52) Points X and Y are the endpoints of a line segment, and the length of the segment is less than 25. There are five other points on the line segment, R, S, T, U, and V, which are located at distances of 1, 3, 6, 10, and 13, respectively, from point X. Which of the points could be the midpoint of XY?
   a) R  
   b) S  
   c) T  
   d) U  
   e) V  

53) In pentagon VWXYZ to the left, how many diagonals with negative slope can be drawn?
   a) None  
   b) One  
   c) Two  
   d) Three  
   e) Four
54) It takes Grace 5 hours, reading at a constant rate, to read a certain book containing 200 pages of reading material. If Caroline reads at twice this rate, how many minutes would it take her to read a book containing 100 pages of reading material?
   a) 75  c) 90  e) 150
   b) 85  d) 120

55) [Grid In] In a group study on nutrition, the average daily intake of calories per person was 8 percent higher in August than it was in June. If this average was 3,200 calories in June, what was the average daily intake of calories per person in August?

56) If \( x^2 + y^2 = 2xy \), then \( x \) must equal
   a) -1  c) 1  e) \( y \)
   b) 0  d) -\( y \)

57) [Grid In] What is the least positive integer \( n \) for which \( 12^n \) is the cube of an integer?

Questions 58-60 refer to the following definition:

Let \( Θ \) be defined for any positive integer \( n \) as the number obtained by writing the digits of \( n \) in reverse order, dropping any leading zeros that result.

For example, \( Θ5 = 5; Θ30 = 3; \) and \( Θ123 = 321. \)

58) \( Θ45,000 - Θ43,000? \)
   a) 2  c) 200  e) 20,000
   b) 20  d) 2,000

59) Which of the following is equal to \( Θ601 + Θ73? \)
   a) \( Θ53 \)  c) \( Θ43 \)  e) \( Θ638 \)
   b) \( Θ134 \)  d) \( Θ341 \)

60) Which of the following must be true for all positive integers \( n? \)
   (I) \( Θ(Θn) = n \)
   (II) \( Θ(10 \cdot n) < 10 \cdot n \)
   (III) \( Θ(1+n) = 1+Θn \)
   a) None  c) II only  e) I, II, and III
   b) I only  d) I and II

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 51 THROUGH 60 NOW
1) A. As we will see in the Picking Numbers TEN FOR TEN, picking a number for \(z\) can make this problem a lot more manageable. First, pick a number for \(z\); it doesn’t matter what number you pick. Now, multiply your number by 8; then multiply the same number by 2. Add those sums. Now, subtract 5. You’ve got a number that ends in 5, don’t you? As we know, all numbers that end in 5 are multiples of 5. Go ahead, try another number ...

2) 112. If 1 cm = (1)(35 km), wouldn’t 3.2 cm = (3.2)(35 km)?

3) D. The florist’s profit on each tulip is 90 cents (or $0.90). We need to divide $180 (the desired profit) by $0.90 (profit per flower).

4) C. Any time you solve for a variable, you need to get that variable by itself on one side of the equation. So here, let’s first divide both sides by 27, OK? That gives us \(4y = 2\). Now we can divide by 4 ... Alternatively, we could have multiplied 4 times 27 to get 108, and then divided both sides by that number.

5) D. Do you ever wonder why math problems provide certain information? Do you need to know what \(x + y\) equals and what \(x - y\) equals? You do, but that was the wrong question to ask. From now on, ask this one: “How can I use this [apparently useless] information to help solve this problem?”

We’ll look at quadratic equations and their binomials in the Exponents C TEN FOR TEN, but for now it might be good to learn the SAT folks’ favorite quadratic: It’s called “the difference of squares,” and looks like \(x^2 - y^2\), which can also be expressed using the binomials \((x + y)(x - y)\). So, subbing in what we were told earlier, \((7)(2) = 14\).

6) B. Hours: You can translate 3 kidneys every 4 hours to a kidney every 4/3 hours. To transplant 5 kidneys the surgeon would need 20/3 hours. So, 6 and 2/3 hours (what’s 2/3 of an hour?). Minutes: The surgeon can transplant 3 kidneys in 240 minutes, which means that each kidney takes 80 minutes. So, 5 take 400 minutes. Divide 400 minutes by 60 to express the measurement in hours.

7) B. As we will explore in the Exponents B TEN FOR TEN, all a negative exponent tells us is to flip the numerator and denominator on one side of the equation! The problem appears more difficult when you don’t see any denominators. However, doesn’t every value (number or variable) that has no visible denominator actually have a denominator of 1? Here, let’s put both sides over 1, then flip one of them while removing the negative exponent. When we flip the right side (Did you really want to end up with \(1/x^3\)? I didn’t think so.), we find that \(x^3 = 1/27\). Taking the cube root of both sides, \(x = 1/3\), which means that \(x^2\) is 1/9.

8) E. When we put parentheses around a base raised to an exponent [such as \((z^2)^4\), which equals \(z^{2^2}\)], we keep the base and multiply the exponents together. Here, if we’re solving for \(x\), wouldn’t we like \(x\)'s exponent, which is currently \(1/2\), to be 1? By what must we multiply \(1/2\) to get 1? Right, 2. So, let’s put parentheses around \((x^{1/2} = y^{3/2})^2\) and square the whole thing. Can we do that? Of course! We can do anything we want to both sides of any equation.

9) E. Nice that 3.5 divides evenly into 14, right? Since 3.5 is 1/4 of the size of the tank, 6 acres must be 1/4 the size of the biggest field the tractor can plow with a full tank.
10) A. Let’s Pick Numbers and simplify this problem. For now, let’s pick a number for y: how about 37? Now, since a quart costs 3 cents, 4 quarts (a gallon) would cost 12 cents. We’re told that a gallon costs less than 4 quarts, so let’s pick 11 for z. That would mean that x would equal 1. Let’s plug in our numbers. One of the choices equals zero.

PLEASE CONTINUE WITH PROBLEM 11

11) A. As we will see in the Slope and Angles TEN FOR TEN, the product of the slopes of perpendicular lines is -1. As for the function notation, it’s easier if you remember this: In the coordinate plane, where each coordinate point is represented by an x and a y value, whatever isn’t x must be y! So, here, both h(x) and g(t) represent y.

12) A. Draw two lines that cross. The angles formed by the lines you just drew are either supplementary (when they’re next to each other they add up to 180°) or vertical (when they’re across from each other they’re equal to each other). So, in our diagram the “empty” angle across from x also measures x! Since the SAT loves to test whether we know that a “straight angle,” or straight line, measures 180°, we can add up the other marked angles and then subtract from 180°.

13) B. OK, so CD is 3 times something and DE is 4 times something. Does it really matter what that something is? Will the ratio always be 3 to 4? Yep. So, let’s say that CD is 3 and DE is 4, which makes the length of the entire line 7. As we will see in the Probability A TEN FOR TEN, probability can be expressed as a fraction: The numerator is the number of “desired” outcomes; the denominator is the number of total outcomes. Since DE takes up 4/7 of the line...

14) E. Let’s solve for n first. So, put your finger over the m – n. What do you see? n – 4 = 10, right? So, n must be 14. Now plug 14 in for n in the m – n equation, and then you’re left with m – 14 = 10.

15) D. As we will see in the Probability A TEN FOR TEN, the SAT tests three basic flavors of probability, two of which are on display in this problem: (1) Combination of sets, in which we multiply the number of members of one combining set times the number of members of any other combining set; here, if 4 juniors play 6 sophomores, 24 games in total will be played; (2) Combinations within a set, in which we combine elements of a single set; here, let’s call the sophomores A, B, C, D, E, and F. In this problem, we need to first determine how many games A must play. Because A must play each of the other sophomores, A must play five games; next, B must play all the sophomores, but since her game against A is already counted, B must play only four additional games. Then C must play three additional games, D two additional games, and E one additional game. Another way to look at this is that if we determined that each sophomore would play five games (which is true), then the total number of games would be 30. However, such a reckoning would include one game in which A played B, and another in which B played A. Because we
would end up with a “double count” of the games, we would need to divide by two to get the right answer of 15.*

16) **22.** One “trick of the trade” that we’ll discuss in the Average and Total A TEN FOR TEN is that when we’re asked about consecutive numbers of any kind (consecutive fives, nines, or square roots of 7), the average, or mean, always equals the middle number, or median. So, to determine the middle number all we have to do is find the average! Dividing the total, 100, by the number of terms, 5, we get the average (and median) of 20. Since the numbers are consecutive, if 20 is in the middle, mustn’t 22 be the biggest of the group?

17) **C.** We’re dealing with percents. So, let’s start both imports and exports at 100 (the “before” percent). Next, it’s easiest to compare using a fraction of exports/imports (100/100). Next, we want to increase imports 15%, which means we change the numerator to 115; decreasing the exports by 5 percent changes the denominator to 95. So, now the ratio of imports/exports is 115/95. SIDE NOTE: When you end up with a fraction that seems difficult to reduce, plug it into your calculator to get its decimal equivalent. 115/95 = 1.21. Now, plug the choices into your calculator. The right one will also equal 1.21.

18) **90.** I imagine your first reaction to this problem was, “How the heck should I know?” That was mine, too. Then—hmmm, since we’re dealing with a rectangle, the vertical sides must be equal, right? So, 2x + 1 = 3x - 1; simplifying, we get 2 = x. Similarly, 5y - 2 = 4y + 2; or 4 = y. So, the vertical side measures 5, and the horizontal side measures 18.

19) **E.** The direct proportion here is between the square of the speed (s^2) and the stopping distance (d). The original proportion is 20^2 to 40, or 400:40, so the first term is 10 times the second term, right? The second proportion is 30^2:d, or 900:d. Now, to get the same proportion shouldn’t we divide by 10?

20) **E.** The floor is 20 x 20, or 400 square feet. Since the roof is 6 feet high on one end and 11 on the other, and the roof slopes at a constant rate from one side to the other (we know this because the roof is a rectangle, which exists only in a two-dimensional plane), the rise from 6 to 11 feet must be steady. A height of 8 feet is 40% of the way from 6 to 11, so 60% of the floor must be under a portion of the roof that is at least 8 feet high. 60% of 400 is 240.

**PLEASE CONTINUE WITH PROBLEM 21**

21) **E.** Did you draw the line and plot the order of the points? P----------Q---R. If we make the left-hand end of the line zero (the point P), then Q is at 10 and R is at 13. Since S is the midpoint of QR, it must be halfway (11.5) between Q (10) and R (13).

22) **A.** Here’s another “grouping” problem (see the explanation for problem 15). Let’s call the engineers A, B, C, D, and E. We can pair A with four other engineers (B through E); we can pair B with three engineers other than A (they’ve already been paired, right?); then we can pair C with two engineers other than A or B, and D with one (E). Note that by the time...
we consider pairing E with the other engineers, she’s already been paired with everyone! Alternatively, consider each of the five engineers can work with four colleagues and thus create 20 pairings; however, because pairing A with B is the same thing as pairing B with A, half of those pairings are duplicates. To eliminate the duplicates, we need to divide by two. Same answer, different method. A third way: You can just write them all out, right? AB, AC, AD, AE; BC, BD, BE; CD, CE; DE.

23) A. We need to translate the English into math: “The product of y and z” is $yz$; “8 less than $yz$” can be expressed as $yz - 8$. When we say that “$x$ is,” we’re saying, “$x$ equals.” So, $x = yz - 8$. Now, we’re asked to express $z$ (which means isolate $z$) in terms of $x$ and $y$. How do we isolate any variable? We use SADMEP (PEMDAS backwards); first we’ll add 8, leaving $x + 8 = yz$. Next, we’ll divide by $y$: $(x + 8)/y = z$. Solved.

24) D. Note how all of the information you’re given in this problem is necessary. Why should we care that $TY = TX$? Because $TX$ is one side of the square, and since all sides of any square are equal ($TX = TV$), we know that $TY = TV$. Then, we can use that information in the triangle (equal sides opposite equal angles) to determine that the angle at $V$ is equal to the angle at $Y$ ($a°$). So, if we can figure out the angle at point $T$, we should be able to subtract that sum from 180° and then what’s left divide by 2 to find out what $a°$ is. How do we figure out the angle of point $T$?

Any point in a plane is surrounded by 360° (imagine two crossed lines forming four 90° angles; how many degrees surround the point where those lines cross?). So, the sum of angle $T$, the angle just below $T$ (which we know is 90°), and the angle to the right of $T$ (which, because TVWX is a square, we know is also 90°), and the angle below and to the right of $T$ (which we can calculate to be 70° because it’s part of a right triangle that has angles of 90° and 20°) must be 360°. That means that the degree measurement of $T$ must be 110°. Subtract that 110° from 180°, leaving 70°, and divide by two!

25) E. Picking Numbers is the most powerful alternative strategy you can use in standardized test math. Let’s Pick a Number for the height ($a$): How about 17? Now, let’s make the thickness of each notepad ($b$) 6 centimeters. (I know, I know, we’ll end up with a decimal, but who cares? ...) So, the 17/6 = 2.8333, right? Now, plugging in 17 for $a$ and 6 for $b$, which answer choice gives us 2.8333?

26) B. This sort of problem is pretty easy the second time you run into it. Because we know that angles $X + Y + Z = 180°$, and each of those angles are bisected, then $x° + y° + z° = 90°$.

27) 38. Whenever you see that a problem involves overlapping groups, there’s a great diagram that is as visually helpful as it is technically accurate: the Venn Diagram. Let’s draw one. Note that two-circle Venn Diagram defines four sub-groups of any Total, those who are (a) exclusive to the left-hand circle; (b) exclusive to the right-hand circle; (c) shared by both circles; and (d) outside both circles. In this problem, we’ll deal only with (a), (b), and (c).

We know that 72 players are in the Wednesday group (label the outside of the left-hand circle “72”), and that 66 are in the Thursday group (label the outside of the right-hand circle “66”). Please the “Total” of “100” below and to the right of the circles. Now, to figure out how many players need to belong to the “sharing” portion of both circles, the “shared players,” we need only to add the circle labels “72 + 66” and then subtract the
Total of “100.” We’re left with 38; if we place that number in (c), we find that the left-hand circle needs 34 more players in (a), and that the right-hand circle needs 28 more players in (b). Now add the three numbers across the two circles: 100, right?

28) B. To calculate this “weighted average,” we need to multiply each mileage number by the respective number of years, add the totals, and then divide by the total number of years. So, 7,000 x 2 = 14,000; 10,000 x 4 = 40,000. Now add the totals (54,000), and divide by the total number of years (6).

29) D. If you did anything but draw these lines, it’s time to think about the difference between behaviors that seem fast and methods that really are fast. Start out by drawing two parallel lines. Now draw two lines that intersect those parallel lines and each other. Where do the new lines cross each other? If they cross at a point that isn’t common to the two parallel lines, we have 5 points of intersection (did you draw it?); if the new lines cross at a point that is common to one of the parallel lines, we have not 4 but 3 points of intersection (one at the parallel line where the new lines cross; two at the other parallel line). Interesting that there’s no way to come up with exactly 4 intersections.

30) C. The square of any integer must have as factors the squares of all the prime factors of the original integer. Let’s think about a square such as 36, which is $6^2$. Since 6 has prime factors 2 and 3, 36 must be $2^2$ times $3^2$. Try it out. Now, considering the present problem: The square we’re trying to create already has an even number of factors of 7; however, it has an odd number of factors of 3 and an odd number of factors of 5 (so we need one more factor of 3 and one more factor of 5).

**PLEASE CONTINUE WITH PROBLEM 31**

31) B. The SAT loves to test whether you can deal with fractions and negative numbers (and sometimes, both at once!). First, draw all your SAT number lines vertically. Doing so will be especially helpful when you’re working with negative numbers. Next, as we will discuss in the Picking Numbers TEN FOR TEN, picking a number (how about –0.5?) can help here because we can square and cube a number; it’s a lot harder to square and cube an idea. So, $a = -0.5$; $a^2 = 0.25$; $a^3 = -0.125$. This number goes positive when it’s squared! So, although $a^3$ is bigger than $a$, it’s not bigger than $a^2$!

32) 140. Repeat after me, “A straight line measures 180°.” Do you know why? Look at the diagram. Note that the straight line has a “top” side (where $n°$, $m°$, and 40°) are and a “bottom” side (where we see three more angles). The bottom side measures 180° too. If it’s not clear why, draw a circle that intersects the lines. How many degrees in a circle? Right, 360°. So, how many degrees in half a circle? Note that the “top” of the horizontal line is half the circle you just drew; the “bottom” is the other half.

33) A. There are (at least) two ways to go at this problem. You might remember that dividing by a fraction is the same as multiplying by the reciprocal of that fraction. So, in effect we’re multiplying 3/4 by 2/3. Doing so gives us 6/12, or 1/2. The other way would be to pick a simple number like 1, divide it by 4/3 and then multiply it by 2/3. Same result.

34) D. Did you draw the axis and the square? If so, you noticed that the sides are 6. If not, it was probably a lot tougher.
35) **D.** The big question here is whether or not you know what makes a number prime. As we will see in the Number Properties A TEN FOR TEN, the definition of a prime number is “one that has exactly two different factors, itself and 1.” So, 1 isn’t prime. However, 2 is. And, as we know, any time we multiply an integer by an even number, we get ... an even number (none of which except 2 is prime). Pretty easy to see that if we multiply two odd numbers we get another odd number; the same goes for even numbers.

36) **B.** The quick way to work through this is to Pick Numbers. Let’s make \(b = 3\) and \(c = 5\) (as is suggested in the Picking Numbers A TEN FOR TEN). That makes \(a = 15\). So, \(ab = 45\). Plugging in 15 for \(a\), 3 for \(b\), and 5 for \(c\), which choice gives us 45? Feel free to try this problem using other numbers.

37) **D.** If you’ll look back at problem 27, you’ll see how using a Venn Diagram can help you resolve “overlapping sets” problems. So, feel free to draw, but let’s also look at an alternative way to solve: Here, if 3 students participate in two of the three activities, then those 3 students are each counted in two groups (which makes the 3 students appear to be 6), right? In order not to double-count those students, we subtract 3 from the Total. Again, if 2 students participate in all three activities, then each of them is counted in three groups (so 2 people become what looks like 6). In order not to triple-count those students, we subtract 4 from the Total. Our Total was originally 36; when we make our subtractions, we end up with 36 – 3 – 4 = 29.

38) **C.** Five minutes is 1/12 of an hour. What’s 1/12 of a circle?

39) **D.** First, draw the line from M to N (I know you don’t have to, but every time you do something minor to make yourself more comfortable, you increase your chances of getting current and future problems right) and mark the radii as 12 (yes, both of them). Next, is there any law you can’t turn your book upside down? OK, so do so. What’s the base? Must be the radius, 12. How about the height? Same thing. What’s the formula for the area of a triangle? Right. (Base times height)/2.

40) **D.** Percent increase is the increase divided by the original amount (so, \(11/55\)) multiplied by 100%.

41) **B.** Did you assume that \(y\) and \(z\) were positive? One of the SAT’s primary “tricks” is allowing you to assume that a problem is simpler than it actually is. So, unless you’re told that an unknown number is positive, always be willing to assume that it might be zero or negative! How would that help here? Well, if both \(y\) and \(z\) are negative, then \(y^2\) is bigger than \(z^2\). (Go ahead, try it—but draw a vertical number line first.) Choice (c) also works only if we decide that both \(y\) and \(z\) are positive, and choice (d) only works if \(y\) (at least) is negative! However, try whatever numbers you like for \(y\) and \(z\), and you’ll find that you can’t make choice (b) not work! (The math principle is that whenever we multiply both sides of an inequality by a negative number (like -1), each number’s absolute value remains constant, so the inequality sign has to flip: \(3 < 5\) but \(-3 > -5\).)
Did you write out the right side of the equation as \((2y + z)(2y + z)\)? If so, you noticed that using FOIL, we need to multiply \(z\) times \(z\) ("Last") in order to get the product of 9. So, that makes \(z = 3\) (we’re told that \(z\) is positive). Let’s rewrite our binomials: \((2y + 3)(2y + 3)\) and FOIL again. We get \(4y^2 + 3(2y) + 3(2y) + 9\). Combining the middle terms we get \(4y^2 + 12y + 9\). So, what’s \(m\)? Must be 12. What’s \(z\)? We already know it’s 3. 12 - 3 =

As we will see in the Exponents A TEN FOR TEN, we need to plug in \(bw^4\) for \(v\), which results in \(m = a(bw^4)^3\), right? The cube (3) tells us that what we need to do is multiply \((bw^4)\) times itself three times, like this: \((bw^4) (bw^4) (bw^4)\). Then, because we can only multiply like terms, \((b)(b)(b)(w^4)(w^4)(w^4)\), we end up with \((b^3)(w^{12})\).

Although this sort of problem usually asks for a percent difference, here it’s just asking for a multiple. So, let’s divide 2.44 by 0.83. The nearest integer (whole number) is 3.

"It cannot be determined" will rarely be the right answer on the SAT, but it has to be in this problem because we really don’t know whether \(B\) or \(D\) is the farthest west. We know that \(A\) is the farthest east; also we know that \(C\) is east of \(B\).

Let’s call the plants \(A, B, C,\) and \(D\). Sid can group \(A, B,\) and \(C\); \(A, B,\) and \(D\); \(A, C,\) and \(D\); and \(B, C,\) and \(D\). That’s it. There are four groups. However, we’re also asked about how many ways he can arrange each group. Let’s take the \(ABC\) group: He can group them \(ABC, ACB, BCA, BAC, CBA,\) and \(CAB\). So, each of the four groups can be arranged six different ways. So, 6 times 4 is...

Did you put a "5" inside the pie shape in the smaller circle? It’s always a good idea to put information where it makes sense. Next, as we will discuss in the Geometry: Circles and Triangles A TEN FOR TEN, to calculate the area of any circle, we need to square the radius. Our larger circle, with twice the radius, is four times the size the smaller circle, which means that an identical pie-shaped angle cut from the larger circle would be four times the area of \(ABC\), or 20. However, because the \(VUX\) angle is twice the \(ABC\) angle, we need to double that 20 to get the new area.

Let’s try a few of the smaller primes as \(n\): 2, 3, and 5. When we try 2, we get 2, 4, and 6; clearly, that doesn’t work (and since 2 is the only even prime, from now on we’ll need to consider only odd numbers); next, how about 3, 5, and 7? Yes, they’re all prime. 5, 7, and 9? Well, 9 isn’t prime, which also knocks out 7, 9, and 11. How about starting with 11? We get 11, 13, and 15. Since 15 isn’t prime, something occurs to us: Any time we list three consecutive odd numbers, one of those numbers must be a multiple of 3 (try it with any three consecutive odd numbers); so, the only time three consecutive odd numbers can all be prime, as we saw earlier, is when one of them is 3.

As we will see in the Do The Next Right Thing TEN FOR TEN, whenever we’re asked to calculate the area of a “shaded” region, we will need to find the area of the entire figure and then subtract the area of the “non-shaded” region. Here, we know that the entire figure is 4; the portion of the figure bordered by the \(EFA\) triangle is half the figure, or 2; now, how about the \(BCD\) triangle? Well, we know that each side measures 2; \(B\) is the midpoint of \(AC\); so, \(BC\) must measure 1. Since \(CD = BC\), we multiply 1 x 1 and then divide by 2 to get 0.5. Adding the “non-shaded” regions (\(EFA\) is 2; \(BCD\) is 0.5) means that we have to subtract 2.5 from 4, giving us 1.5. Notice that we didn’t even pay attention to the region we were supposed to measure!
50) **E** Can \(a\) = 1? Sure, because \(b\) can be 31. Can \(a\) equal 2, 3, 4, or 5? Yep. Now comes the “tricky” one: Can \(a\) equal 6? Well 5 x 6 = 30, which means that \(b\) would also equal 6. Did you pay attention when we were told that \(a\) and \(b\) are different positive integers? So, they can’t both be 6, right? So, 6 is out. How about 7? Yes, \(b\) would be 1. So, \(a\) can be 1, 2, 3, 4, 5, or 7.

**PLEASE CONTINUE WITH PROBLEM 51**

51) **50, 71, or 92.** There are a lot more numbers that, when divided by 3, yield a remainder of 2 than there are numbers that, when divided by 7, yield a remainder of 1. So, wouldn’t it make sense for us to concentrate on those numbers that are 1 more than a multiple of 7? (If that didn’t make sense, for a number to yield a remainder of 1, it must be 1 more than a number that would yield a remainder of 0, right?) So, let’s look at multiples of 7 that lie between 40 and 100—42, 49, 56, 63, 70, 77, 84, 91, 98. What are the numbers that would yield a remainder of 1 when divided by 7—just add 1 to each of the multiples above—43, 50, 57, 64, 71, 78, 85, 92, 99. So, now we have a group of numbers we can test to see which will yield a remainder of 2 when divided by 3. The first to go are the multiples of 3 (in red)—50, 57, 64, 71, 78, 85, 92, 99.* Now, let’s subtract 2 from each of the remaining numbers and see whether we end up with a multiple of 3. 50 – 2 = 48; multiple of 3? Yes. 64 – 2 = 62. No. 71 – 2 = 69. Yes. 85 – 2 = 83. No. 92 – 2 = 90. Yes.

52) **D.** Inequalities make everyone nervous. So, try this Maine Prep method for working with inequalities: Temporarily change the inequality sign to an equal sign, which would make \(Y\) 25 away from \(X\). Next, we should draw a line (you did draw a line, right?) whose endpoints are marked \(X\) (0) and \(Y\) (25). We can then fill in the rest of the line with the tick marks at 1, 3, 6, 10, and 13. We know that 13 is too big to be the midpoint; 10 might work; 6 looks good at first, but then we realize that 6 isn’t even the midpoint of 0 and 13, so it certainly can’t be the midpoint of a longer line.

53) **D.** What does a negative slope look like? Imagine a graph on which you’re charting a stock. If the line goes up as you go to the right, is that positive? Yep. Next, diagonals can be drawn only inside a geometric figure. So, we could draw positive diagonals here from \(Z\) to \(X\) and from \(Z\) to \(W\). Before you read the rest of this explanation, see if you can find where you can draw the negative diagonals. Right, they’re from \(V\) to \(Y\), \(V\) to \(X\), and from \(W\) to \(Y\). As we discussed earlier, a line from, say, \(W\) to \(X\) or from \(V\) to \(Z\), would certainly be negative, but because those lines at the edge of the figure, they are not “diagonals.”

54) **A.** Since Grace reads 40 pages per hour, Caroline reads 80 pages per hour. So, she would read 80 pages in the first hour, and have 20 pages left over. \(20/80 = 1/4\) hour, or 15 minutes.

55) **3456.** We’re trying to find out what the average was in August, which was 8% more than in June. Can we just multiply the June total (3200) by 1.08?

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* You may remember that we can find out pretty quickly if any number is a multiple of 3. Just add the digits; if the addition produces a multiple of 3, the original number is a multiple of 3. If the sum is large, you can add its digits. Here’s a silly example: Is 2473298757 a multiple of 3? The digits add to 54. Now we can add 5 + 4 to get 9. Yep.
56) **E** This problem is tough because if you plug in an answer choice such as -1, 0, or 1, they all work! So, why aren’t (a), (b), and (c) credited as right answers? Because the problem asks what \( x \) must equal, not what \( x \) can equal. Interestingly, if you read and understood the must, you were able to eliminate (a), (b), and (c). Now what? Well, we can sub in \(-y\) to see whether (d) works or we can sub in \( y \) to see whether (e) works (one of them has to be right). I think subbing in a positive number is generally easier on the nervous system, so let’s try that. We get \( y^2 + y^2 = 2(y^2) \). So, \( 2y^2 = 2y^2 \), meaning that \( x = y \). Great.

Alternatively, you could have noted that this problem looks like a quadratic: What happens if we subtract \( 2xy \) from both sides? We get \( x^2 - 2xy + y^2 = 0 \). Now we break the quadratic down into binomials: \((x - y)(x - y) = 0\). Both binomials tell us that \( x - y \) must equal 0, which means that \( x \) must equal \( y \) (since everything minus itself equals zero!).

57) **18.** The cube of any integer contains three instances of each prime number factor of the integer (see problem 30). For instance, 8 is a cube; it contains three factors of 2. 27 is a cube; it contains three factors of 3. The smallest cube of a composite number is 216. It contains three factors of 2 and three factors of 3. The present question asks us about the smallest number we can multiply by 12 and get a cube of an integer. Let's find the prime factors of 12: It's 2 times 2 times 3, right? To end up with three factors of each prime, we need one more factor of 2 and two more factors of 3. So, 2 times 3 times 3, which equals 18.

Problems 58-60 are what I like to call a “3-fer.” A 3-fer can show up anywhere in a math section; when it does, know that the first question is pretty simple; the second will be moderately difficult; and the third one will usually be pretty tough.

58) **B.** Anytime you see the words “be defined,” you know you’re looking at a Symbols problem. We discuss this problem type more fully in the Symbols TEN FOR TEN, but for now, let’s just agree that \( \Theta \) means no more and no less than what the SAT tells us it means. Please read the definition again: \( \Theta 503 \text{ becomes } 305; \Theta 610 \text{ becomes } 061 \text{ (or } 61) \). So, when we reverse our digits in this problem we get 54 – 34.

59) **D.** Please refer to the explanation of problem 58. Here, we’re adding the reverse of these numbers—so, 106 + 37 = 143. Why isn’t choice (c) right? Because it isn’t 143, it’s \( \Theta 143 \), which means we have to reverse the digits!

60) **C.** Because numbers ending in zero seem to be most affected by the defined operation, let’s pick a number (like 50) that ends in zero and plug it in for \( n \). Let’s do the two operations in Roman I: \( \Theta 50 = 5; \Theta 5 = 5! \). In Roman II, we get \( \Theta 500 \) (or 5) on the left, which certainly is less than 500. In Roman III, we get \( \Theta 51 \) (or 15), which is not equal to 1 + \( \Theta 50 \) (or 5), which equals 6.
MATH REFERENCE

Order of math operations (**PEMDAS**):

1. **P** is anything inside parentheses
2. **E** xponents
3. **M** ultiplication and **D** ivision (in the order they occur left-to-right)
4. **A** ddition and **S** ubtraction (in the order they occur left-to-right)

**NUMBER PROPERTIES/ARITHMETIC**

**Integers**

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All of the above are integers. Integers can be positive or negative or even zero.

**Absolute value**

It's the distance from zero. Forget every other definition you've learned for it, OK?

**Prime numbers**

- A prime number has exactly two different factors, itself and 1.
- So, is 1 prime? No, because 1 has only one factor, itself.
- How about 9? Well, 9 has factors of 1, 3, and 9; check the definition—not prime.
- How many even prime numbers are there? Hmmm, every even number but 2 seems to have at least 3 factors (itself, 1, and 2).
- So, what are the first 10 prime numbers? Well, 2’s prime, and 3, and then 5, 7, 11, 13, 17, 19, 23, and 29. Why the gaps? Well, 15 has factors of 3 and 5; 21 has factors of 3 and 7; 25 has a factor of 5; and 27 has factors of 3 and 9.

**Zero**

Zero is the SAT’s favorite integer. Multiplication by zero always equals zero so when a product equals zero, zero must be a factor.

**Even and odd**

Adding two even numbers yields an even number. Adding two odd numbers yields an even number. Adding an even number and an odd number yields an odd number.

\[
\begin{align*}
2 + 6 &= 8 \\
3 + 5 &= 8 \\
2 + 7 &= 9
\end{align*}
\]

Multiplication of any integer by an even number always results in an even number. Odd products result when odd numbers are multiplied together.

\[
\begin{align*}
2 \times 12 &= 24 \\
2 \times 13 &= 26 \\
3 \times 13 &= 39
\end{align*}
\]
**Negative numbers**

Adding a negative number is equivalent to subtracting the absolute value of that number (see Absolute value on page 1). \(5 + (-4) = 5 - 4 = 1\)

Subtracting a negative number is the same as adding the absolute value of the number. \(5 - (-4) = 5 + 4 = 9\)

The product/quotient of two negatives is positive. \((-2)(-7) = 14\) and \((-14) ÷ (-2) = 7\)

The product/quotient of a negative and a positive is negative. \((-5)(7) = -35; \ (-35) ÷ 7 = (-5)\)

Just as multiplying two negative numbers results in a positive number, so raising a negative number to an even power also yields a positive result. \((-2)^4 = (-2)(-2)(-2)(-2) = 16\)

Raising a negative number to an odd power results in a negative number. \((-3)^3 = (-3)(-3)(-3) = -27\)

**Remainders**

Here’s an easy way to find a remainder using your calculator: Let’s figure the remainder if we divide 87 by 7. First, punch in 87/7. We get 12 and a decimal, right? OK, let’s now subtract the whole number (here, 12), leaving just the decimal. Now, multiply the remaining decimal by the number we originally divided by (7). Did you get a remainder of 3? Try this one: 94/11.

**Ratios and Direct Proportion**

A ratio of 1:3 means that for every one that I have, you have three. A Direct Proportion is a ratio. We usually have to figure out what it is.

**Fraction/Decimal/Percent Conversion Practice**

Convert these. Please put all fractions greater than 1 in the “improper” form that you must use when solving grid-ins.

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Decimal</th>
<th>Percent</th>
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<tbody>
<tr>
<td>1/2</td>
<td>0.5</td>
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<tr>
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<td></td>
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<tr>
<td>3/20</td>
<td>0.15</td>
<td>15%</td>
</tr>
<tr>
<td>10/3</td>
<td>3.333</td>
<td>333%</td>
</tr>
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**Average and Total**

- **Median** – the number in the middle
- **Average** or **mean** – the sum of all the numbers in the group divided by how many numbers we just added; so, \(3 + 7 + 17 = 27\); the average is \(27/3\), or 9. Consult the AVERAGE AND TOTAL TEN FOR TEN for more details.
For any sequence of consecutive numbers, the median is always equal to the mean. For example, in the consecutive sequence 6-12-18, both the median and the mean are 12.

**Exponents and Roots**

An **exponent** is shorthand that tells us how many times we need to multiply the base number by itself. When in doubt, write the operation out longhand. For example:

- **Situation A:** $2^5 \times 2^3 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$; when we multiply, we end up with 8 factors of 2, which can be expressed as $2^8$. Note that in this case you can add the exponents.

- **Situation B:** $(2^3)^3 = (2 \times 2 \times 2 \times 2) \times (2 \times 2 \times 2 \times 2) \times (2 \times 2 \times 2 \times 2)$, right? We multiply 2 by itself five times inside the parentheses, but then what’s in the parentheses is cubed (which means it has to be multiplied by itself three times). So, we end up with $= 2^{15}$. Note that in this case you can multiply the exponents.

- **Advanced stuff:** $(2^8)^{1/4}$; say it out loud: “Two to the eighth to the 1/4th power.” What do we do? If you don’t know, take a look at Situation B, where we multiplied the exponent **inside** the parentheses by the exponent **outside** the parentheses, as in $2^{(8 \times ¼)} = 2^2$?

**Roots** multiply and divide the same way rational numbers do:

- $5 \times 7 = 35$
- $\sqrt{5} \times \sqrt{7} = \sqrt{35}$
- $35 \div 7 = 5$
- $\sqrt{35} \div \sqrt{5} = \sqrt{7}$

**Advanced** fractional powers: A fractional exponent contains both a power (numerator) and a root (denominator). So, $8^{2/3}$ means that we need to raise 8 to the 2nd power (or square it) and then take the cube (3rd) root or we need to take the cube root of 8 and then raise that to the 2nd power.

**ALGEBRA**

Solve algebraic equations by isolating the variable on one side (using SADMEP, the reverse of PEMDAS—see page 1).

**In the following equation, solve for x:**

$$\frac{2}{3} x^4 + 27 = 81$$

Step 1: **Subtract** 27 from both sides of the equation:

$$\frac{2}{3} x^4 = 54$$

Step 2: **Multiply** both sides by $\frac{3}{2}$ (the reciprocal of the coefficient):

$$\left(\frac{3}{2}\right) \left(\frac{2}{3}\right) x^4 = 54 \left(\frac{3}{2}\right)$$

$$x^4 = 81$$

Step 3: Eliminate the Exponent by taking the fourth root of both sides:
Step 4: Solve:

\[ x = 3 \]

Cross multiplication is a quick and easy way to get rid of two denominators.

If \( \frac{a}{b} = \frac{c}{d} \) then \( ad = bc \)

**GEOMETRY**

**Perimeter/Area/Volume:** In a room with shag wall-to-wall carpeting, the perimeter is the total measurement of the edges of the carpet (2 lengths plus 2 widths), the area is the square measure of the carpet, and the volume is the cubic measure of the carpet, which we can calculate by multiplying the area by the height of the shag!

Since a cube has six sides, its surface area will be six times each side’s area.

**Properties of Lines/Degree Measurements of Angles**

Parallel lines cut by a transversal (any third line that isn’t parallel) form angles as shown above:

- **Supplementary:** The sum of the angles on one side of a line is 180°. So, angles that add up to form a straight line, such as a and b, or b and d, have a sum of 180°.
- **Vertical:** Angles opposite each other, such as a and d, or g and f, have equal degree measures.
- **Corresponding** angles, such as a and e, or b and f, have equal measures.
- **Alternate interior** angles, such as c and f, or d and e, have equal measures.
- **Supplementary Interior** angles on the same side of a transversal, such as c and e, add up to 180°.

To find out the sum of the interior angles of any polygon, break the figure up into the smallest possible number of triangles. Multiply the number of triangles times 180° to determine the total interior degree measure. For example, draw a pentagon—into how many triangles can you break it? (For those who like formulas, \((n - 2)180°\), where \(n\) represents the number of sides of the polygon.)
Triangles

Important things about triangles:

- The length of the longest side of a triangle is less than the sum of the two shorter sides. So, if we have sides of 4 and 7, our third side has to be less than 11.
- The three angles of a triangle add up to $180^\circ$.
- The hypotenuse is the longest side of a right triangle.
- The longest side of any triangle is opposite its largest angle, and its smallest side is opposite its smallest angle. Equal angles are opposite sides of equal length.

Popular SAT Triangles:

- **Similar triangles** have equal angle measures and thus sides in proportion.
- **Equilateral**: three equal angles of $60^\circ$ and three sides of equal length.
- **Isosceles**: two equal angles and two equal sides.
- **Right triangles** have one right angle. **Pythagoras’ theorem** says: $a^2 + b^2 = c^2$, where $a$ and $b$ are the legs of a right triangle and $c$ is the hypotenuse. Knowing any two side lengths of a right triangle allows us to compute the third.

Circles

You will always be given a value for the circumference, diameter, radius, or area; to solve, you’ll need to compute one or more of the others.

- To compute the **Circumference**, multiply the **Diameter** by pi ($\pi$). Do not ever convert $\pi$ to a decimal number unless the problem tells you to.
- To compute the **Area**, square the **Radius** and multiply it by pi ($\pi$).

Since a circle surrounds a point, and every point on a plane is surrounded by $360^\circ$, every circle contains $360^\circ$. So, $\frac{1}{4}$ of a circle contains $90^\circ$, $\frac{1}{2}$ of a circle contains $180^\circ$, etc. Circle problems often test your ability to combine your knowledge about angle (“pizza slice”) measurements within a circle with the circle’s overall CdrA measurements.

**For example**: For a circle of radius 4, how long an arc on that circle is created by a $45^\circ$ angle?

Answer: First, an arc is a portion of the circumference, so we have to move up from $r$ to $C$. If $r$ is 4, then $d$ is 8, which makes $C = 8\pi$. Since $45^\circ$ is $1/8$ of the angle measurement of the circle, the arc it describes is $1/8$ of the circle’s circumference. Its measurement is $\pi$.

Finally:

Q: What can we do to both sides of an equation?

A: *Anything we want!*
NUMBER PROPERTIES A

Try to reason these out before reaching for your calculator.

1) Of the following, which is least?
   a) \(-0.9^3\)  
   b) \(-|0.3|^2|\)  
   c) \(-|-0.13|\)  
   d) \(-0.45\)  
   e) \(-|0.9|\)

2) What is the least positive integer that is the product of 4 different prime numbers?
   a) 30  
   b) 120  
   c) 156  
   d) 210  
   e) 945

3) When 27 is divided by 6, the remainder is the same as when 48 is divided by which of the following numbers?
   a) 3  
   b) 4  
   c) 5  
   d) 6  
   e) 11

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) If two points C and D are to be placed on line \(m\) on opposite sides of point B so that \(2CB = BD\), what will be the value of \(CD/BD\)?
   a) \(2/1\)  
   b) \(3/2\)  
   c) \(2/3\)  
   d) \(1/2\)  
   e) \(1/3\)

5) At the deli today, the counterman waited on customers numbered 239 through 303. How many customers were waited on today?
   a) 53  
   b) 58  
   c) 64  
   d) 65  
   e) 66

6) A “simple square” is any integer greater than 1 that has only three positive integer factors—itself, its square root, and 1. Which of the following is a simple square?
   a) 81  
   b) 100  
   c) 144  
   d) 169  
   e) 225
7) If \( w = v + 6 \) and \( w \) is a real number, then \( v \) CANNOT equal which of the following?
   a) -7  
   c) 0  
   e) 7  
   b) -6  
   d) 6

8) Which of the following statements must be true concerning the result obtained by squaring a negative number that is greater than negative 1?
   a) It is less than the original fraction  
   d) It is greater than 1  
   b) It is less than zero  
   e) It is between 0 and \( \frac{1}{2} \)  
   c) It is greater than the original fraction

9) If \( c \) is an odd integer and \( d \) is an even integer, which of the following must be even?
   a) \( dc + 1 \)  
   c) \( d^2 + c^2 \)  
   e) \( c^2 + 3 \)  
   b) \( d^2 + 3 \)  
   d) \( d^2 c^2 + 1 \)

10) [Grid In] On a number line, point \( X \) has a coordinate -9 and point \( Z \) has a coordinate 9. Point \( Y \) is \( \frac{5}{9} \) of the way from \( X \) to \( Z \). What is the coordinate of point \( Y \)?
NUMBER PROPERTIES A

1) **E.** OK, the choices are all negative, which means what to you, the test taker? One of the SAT’s favorite ways to see whether you’re thinking is using numbers on the negative side of zero, where absolute value and real value go in opposite directions. Then, to make it worse, the SAT uses non-integers. The upshot is that often people have no idea what’s bigger, -0.4 or -0.3.

Now let’s look at this problem. In choice (a) we have a negative decimal between 0 and -1 multiplied by itself three times. Note that such decimals when multiplied by themselves get closer to 0 (which makes negative numbers bigger). If you thought that choice (b) was the same as choice (e), remember that when you multiply decimals you need to count the cumulative number of places to the right of the decimal in the numbers you’re multiplying and make sure that your product has the same number of decimal places! This means that 0.3 times 0.3 equals 0.09, not 0.9. Again, try the calculator. If you had any trouble with the absolute value portion of the problem, think about it this way: The absolute value symbol is a pair of windows through which you can see the number but not its sign.

2) **D.** What is the definition of a prime number?* What are the four smallest prime numbers? (2, 3, 5, 7)—multiply them.

3) **C.** How many groups of 6 can we take out of a group of 27 marbles? Four, right? So, that accounts for 24 of the 27 marbles; how about the other 3? That leftover partial set is the remainder! Now, which of the answer choices when divided into 48 will leave a remainder of 3? Hint—wouldn’t the right answer choice need to divide evenly into the number that’s 3 less than 48?

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) **B.** First off, what segment is longer, CB or BD? Try this: If x and y are positive and 3x = 2y, what’s bigger, x or y? If you haven’t thought this through before, try plugging in a value for x and see what y-value you come up with. Now which one’s bigger?

Next, did you draw a line? If not, please do so now. When we need to use a number line that has no numbers, we should always label the point at the far left of the line zero. So, here let’s label C zero and give B any value we want—how about 2? So, the distance from C to B is 2; now, we know that the distance between C and D is twice that from C to B, so its distance must be 4, which means that, on our number line, D must be 4 to the right of 2, or 6. Using our numbers, CD = 6; BD = 4, 6/4 = 3/2.

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*A prime number is a positive integer that has exactly 2 different integer factors, itself and 1. (So, 1, which has only one factor, itself, is not prime.) There are no negative prime numbers. Extra credit: How many prime numbers are even?
5) **D.** This is an old SAT “logic trap.” Try this: If customers numbered 1 through 5 were waited on, how many customers would that be? Let’s see: 1, 2, 3, 4, 5. So, five customers. When we subtract 1 from 5, however, we get 4. Try it again with 1 through 10. Ten numbers, but 10 – 1 = 9. So, when counting consecutive numbers, after you find the difference between the largest and smallest numbers, **always add 1**!

6) **D.** This is a prime number problem in disguise, since the square root of our “simple square” must be prime (with only two distinct factors, itself and 1). The square root of each of the other choices isn’t prime.

7) **E.** Every time the SAT presents you with a problem involving fractions, the test maker specifies that no denominator can equal zero. Why? What happens when a fraction’s denominator is zero? Right, the number becomes “undefined,” and so useless for math purposes. So, when you’re asked a question like this one, shouldn’t your attention turn first to the denominator? If it’s zero, does it matter what’s in the numerator?

8) **C.** What happens to all negative numbers when we square them? They become positive, right? Is there any positive number that’s not greater than **every** negative number? If you chose (d), remember that our number is greater than -1, and so somewhere between -1 and 0. # Also, if you decided to choose, say, -0.5 and square it, you found that (e) worked too. In cases like this, you need to pick another number (try doing the math again with -0.8, for example).

9) **E.** **Always** plug in numbers in odd/even problems. Let’s pick 3 for c and 4 for d. Only one choice works. (Now you try it using different numbers.)

10) **1.** Did you draw the number line? If you did, you knew not only that there were 18 units between 9 and -9, making 5/9 of that distance 10, but **also** that you had to start counting that distance from the beginning (or far left) of the line, which is -9.

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# Here’s where **always** drawing a **vertical** number line comes in handy.
NUMBER PROPERTIES B

Substitute numbers for variables, draw vertical number lines, and always be eager to answer this question: What is the dumbest way I can get this problem right?

1) One number is 6 times another, and their sum is -35. What is the lesser of the two numbers?
   a) -4  c) -9  e) -35
   b) -5  d) -30

2) [Grid In] How many of the first 99 positive integers contain the digit 7?

3) If -1 < \( c \) < \( d \) < 0, then of the following, which has the greatest value?
   a) \( d - c \)  c) \( c - d \)  e) \( 2d - c \)
   b) \( c + d \)  d) \( 2c - d \)

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) [Grid In] Ramiro wrote a ten-digit phone number on his lunch bag. None of the digits was a 9 (Ramiro’s favorite number). He later tore the bag accidentally and the last three digits were lost. What is the maximum number of possibilities Ramiro might have to try, using the digits 0 through 8, in order to come up with the correct three numbers?

5) [Grid In] X is the set of positive factors of 35 and Y is the set of positive factors of 17. If \( p \) is in set X and \( q \) is in set Y, what is the greatest possible value of \( p - q \)?

6) The product of two positive integers is less than or equal to 40, and the sum of the two integers is greater than or equal to 18. Which of the following could be one of the integers?
   a) 5  c) 15  e) 50
   b) 10  d) 23

7) If the ratio of two positive integers is 4 to 3, which of the following statements about these integers CANNOT be true?
   a) Their sum is an even integer.  d) Their product is an even integer.
   b) Their product is divisible by 10.  e) Their sum is an odd integer.
   c) Their product is an odd integer.

8) [Grid In] The points on the line below are identified by the letters nearby. If the entire segment (AF), which is broken up into AT (8q) and TF (10q), has length 12, what is the value of \( q \)?

| A | 8q | T | 10q | F |
9) If \( p \) and \( r \) are both negative numbers, \( p \) is less than -1, and \( r \) is greater than -1, which of the following gives all possible values of the product \( pr \)?

a) All negative numbers
b) All negative numbers less than -1
c) All negative numbers greater than -1

d) All positive numbers
e) All positive numbers less than 1

10) If \( s \) and \( v \) are integers, \( s \neq 0 \) and \( s = -v \), which of the following must be true?

a) \( s < v \)

b) \( s > v \)

c) \( s + v < 0 \)

d) \( s + v > 0 \)

e) \( sv < 0 \)
NUMBER PROPERTIES B

1)  **D.** Here, we have \( x + 6x = -35; 7x = -35; x = -5 \) and \( 6x = -30 \). If you did all that good work and then picked (b), start using a vertical number line, OK? No, really.

2)  **19.** You have more than one minute to solve each math problem, so you needn’t always search for the most efficient method. In fact, what you can’t do on a standardized test is look at the ceiling for two minutes trying to come up with a way to do the problem quickly. In this one, just write them all down: 7, 17, 27, 37, 47, 57, 67, 87, 97, and the ten numbers from 70 to 79. If you tried to “figure it out” and came up with an answer of 20, you counted 77 twice.

3)  **A.** Subtraction measures distance. (What’s 58 – 4? What’s 4 – 58? Both answers have the same absolute value, because absolute value is a measurement of distance.)

Here, did you sub in numbers? Did you draw a vertical number line? If not, why not? How about we say that \( d \) is -0.3 and \( c \) is -0.7. Adding them (b) produces a negative number; subtracting the larger (-0.3) from the smaller (-0.7), as in (c), produces a negative number; subtracting the larger (-0.3) from twice the smaller (-1.4), as in (d), again produces a negative number; doubling the larger (to -0.6) and then subtracting the smaller (-0.7), as in (e), produces a smaller positive number (0.1) than does (a), which entails subtracting the smaller from the larger (-0.3 – [-0.7] = 0.4, right?).

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4)  **729.** We know that Ramiro has nine choices for each digit (since “9” isn’t one of those choices), 0 through 8 (by the way, if you think that 0 through 8 is eight choices, count them—0, 1, 2, 3, 4, 5, 6, 7, 8).

   So, Ramiro will have 9 possibilities for each of his three blanks: 0-8 0-8 0-8

   In a probability problem, how do we combine independent sets? We multiply them: So, 9 x 9 x 9 = 729.

5)  **34.** Again, subtraction measures distance (see the explanation for problem 3). If we want to end up with the largest difference, shouldn’t we subtract the smallest possible number from the largest possible number? Since the largest factor of any positive integer (such as 35) is itself, and the smallest factor of any positive integer is 1, we come up with 35 – 1.

6)  **D.** If you got this problem wrong, you’re right to be frustrated. Let’s see whether we can use the experience to help you with future problems. There was no theoretical (math class) way of getting this right; you actually had to consider each choice in turn.

   Let’s try our choices: in (a) 5 x 8 = 40, but 5 + 8 is less than 18; in (b) 10 x 4 = 40, but 10 + 4 is less than 18; when we try (c), we see that 15 x 2 is less than 40, and 15 + 2 = 17; choice (e) is just too big, since we are dealing with the product and sum of integers; we’re left with (d): 23 x 1 is less than 40, and 23 + 1 is more than 18.
7) **C.** Note that if the numbers are integers, the first number must be a multiple of 4 and the second must be a multiple of 3. In cases like this one, using a ratio table is efficient. Let’s make one:

<table>
<thead>
<tr>
<th>Number A</th>
<th>Number B</th>
<th>Total (Sum of A + B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>

In any ratio problem, the part: part: whole relationship (ratio) will remain constant. If, we multiply any part or the total by 2, say, in order to keep the ratio constant we must multiply all the rest of the values in that row by two. Let’s expand our table to see what happens when we multiply by 2, 3, 4, and then 5:

<table>
<thead>
<tr>
<th>Number A</th>
<th>Number B</th>
<th>Total (Sum of A + B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>12</td>
<td>9</td>
<td>21</td>
</tr>
<tr>
<td>16</td>
<td>12</td>
<td>28</td>
</tr>
<tr>
<td>20</td>
<td>15</td>
<td>35</td>
</tr>
</tbody>
</table>

If we multiplied the total by 10, to get 70, what would be the “A” and “B” values? If we multiplied Number A by 7, and got 28, what would be the “B” and “Total” values?

Now let’s consider the question, which includes the word CANNOT in capital letters. Choice (a) can be true any time both numbers are even (like 8 and 6); choice (b) can be true anytime the multiplier is 5 (like 20 and 15); choice (d) is ALWAYS true since at least one of the numbers must always be even; and choice (e) can be true if Number B is odd. Choice (c) CANNOT ever be true because an odd number cannot have a factor of 2 (or any multiple of 2), and since any AB product must have a factor of 4 (the smallest “A” value)....

8) **2/3 or .667.** 18q = 12. Isolate the variable by dividing both sides by 18.

9) **D.** Quickly eliminate (a), (b), and (c), because when you multiply two negative numbers you get a positive number, right? At this point, if you were in a hurry, guessing between (d) and (e) could be profitable in the long run. However, upon closer inspection, choice (e) is not difficult to eliminate, because, for example, -4 times -0.5 is 2. So, even though (d) seems improbable (since multiplying infinity by ½ must get you infinity over two, wouldn’t you think?), it’s the only choice left standing.

10) **E.** First, how about we add v to both sides of our given equation (s = -v)? Doing so, we get s + v = 0, which eliminates (c) and (d). Now, can we determine which of s and v is positive? No, so goodbye (a) and (b). What we do know is that one of our unknowns is positive and the other is negative. What do we get when we multiply a negative number times a positive one?
NUMBER PATTERNS A

Slow down: SAT math is based on logic; logic depends on understanding directions.

1) In the repeating decimal 0.3957439574 ..., where the digits 39574 repeat, which digit is in the 4002nd place to the right of the decimal point?
   a) 3  
   b) 9  
   c) 4  
   d) 7  
   e) 5

2) Which of the following could be the remainders when four consecutive positive integers are each divided by 3?
   a) 1,2,3,1  
   b) 1,2,3,4  
   c) 0,1,2,0  
   d) 0,1,2,1  
   e) 0,2,3,0

3) The first term in the sequence of numbers shown above is 8. To calculate each subsequent term, multiply the previous term by -1 and then add 1. For example, the second term is (8 times -1) + 1. What is the 77th term of this sequence?
   a) -7  
   b) -3  
   c) -1  
   d) 4  
   e) 8

4) The first term of a sequence of integers is 140. Every term after the first is equal to exactly half of the immediately preceding term if that preceding term is even, or is equal to 0.5 more than exactly half of the immediately preceding term if that preceding term is odd. What is the fifth term of the sequence?
   a) 18  
   b) 9  
   c) 7  
   d) 5  
   e) 4

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW
5) If the sum of \( r \) consecutive integers is 0, which of the following must be true?

I. \( r \) is an even number
II. \( r \) is an odd number
III. The average (arithmetic mean) of the \( r \) integers is 0

a) I only c) III only e) II and III
b) II only d) I and III

6) The first term of the sequence above is 8. Which of the following could be the formula for finding the \( n^{th} \) term of this sequence for any positive integer \( n \)?

a) \( 2n + 6 \) c) \( 5n + 3 \) e) \( 6n + 5 \)
b) \( 3n + 5 \) d) \( 6n + 2 \)

7) A certain car increased its average speed by 8 miles per hour in each successive 5-minute interval after the first interval. If in the first 5-minute interval its average speed was 44 miles per hour, how many miles did the car travel in the third 5-minute interval?

a) 1 c) 3 e) 5
b) 2 d) 4

8) [Grid In] In the sequence above, each term after the first term is \( \frac{1}{5} \) of the term preceding it. What is the 6th term of this sequence?

9) [Grid In] On line segment PS above, the lengths of PQ, QR, and RS are in the ratio of 4:3:2, respectively. If the length of PS is an integer between 10 and 20, and the length of RS is an integer, what is the length of PR?

10) [Grid In] Starting with the third number in the sequence of numbers above, each number is 1 more than the sum of the two numbers just before it. For example, 19 = 1 + (8 + 10). Of the first 100 numbers in this sequence, how many are even numbers?
1) **B.** Repeating pattern problems test your ability to work with complete sets and remainders. This decimal repeats completely after each five numbers. To find the 4,002nd term, we need to remove all the complete 5-number sets from the total of 4,002 in order to find out how many terms we have left. After we remove 800 sets of five numbers each, we’re left with a remainder of two, which would be the first two terms in the next five-term set.

2) **C.** First, have we ever seen a remainder that was greater than or equal to the divisor (the number doing the dividing)? Nope. Can remainders ever skip a number (like 1 in (e))? Didn’t think so. If you’d rather be practical, why not pick four consecutive numbers (like, maybe, 4, 5, 6, and 7)? Divide each by 3. What are the remainders?

3) **E.** Often, the SAT lays down rules that govern how a set repeats. To ace this kind of problem, first use those rules to continue the set for at least two and no more than five more terms. At that point, you will know after how many terms the set has begun to repeat. To determine the 77th term here, we need to know how often the pattern repeats—this set repeats after every two terms (8, -7), which means that 8 is the 1st, 3rd, 5th, and all other odd-numbered terms within the pattern, and -7 is the 2nd, 4th, 6th, and all other even-numbered terms. Note that on the SAT even numbers often show up in odd-numbered term slots and vice versa.

### PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) **B.** When we divide an odd term by 2 (which will give us a decimal, we should add 0.5 to our result (thus assuring that the next term is an integer). So, 140, 70, 35, 18 (17.5 plus 0.5), 9.

5) **E.** First, never pass up a chance to draw a number line. If you haven’t done so, now’s your chance.

Next, Roman numeral problems are great for guessing; if you can decide whether or not even one of the Roman numeral statements is true, you can eliminate up to 3 answer choices!

Let’s look at our number line to generate some examples of consecutive integers that add to zero—no matter what we do it seems that zero has to be the middle integer. So, set $r$ might have one member (0), three members (-1, 0, 1), five members (-2, -1, 0, 1, 2), or another odd number of members, which means that II works; without doing any more work, we can eliminate (a), (c), and (d), right? In order to solve and not guess, though, we have to figure out whether the average of set $r$ is also zero. Well, if the sum is zero, how can the average be anything else?

6) **B.** Sometimes the SAT can use terminology that seems strange to you. Here, “the nth term” just means “the 1st term, the 2nd term, the 3rd term,” etc. So, we need to try the answer choice formulas to find out which formula predicts the number that will fill any given slot in
this sequence. In other words, which formula will give us 8 when we plug in “1” for “n,” 14 when we plug in “3” for “n,”, and 20 when we plug in “5” for “n”?

If you want to be more efficient, try this: In such problems, several expressions might seem to work when we plug in the smaller numbers, but only one will work when we plug in the larger numbers. If only one choice gives us 20 when we plug in 5 for \( n \), do we really need to plug in 1 and 3 as well? Didn’t think so. By the way, what’s the 19th term?*

7) **E.** In the first interval, the car is traveling 44 mph. In the second, 52 mph; in the third, the car is traveling 60 mph, which is 1 mile per minute, for 5 minutes.

8) **1/5 or 0.2.** We just multiply each succeeding term by 1/5 (or 0.2) until we have three more terms, which are 5, 1, and 1/5.

9) **14.** Whenever you’re given a number line that doesn’t contain numbers, make the left-hand value (here, P) zero. Next, if we label the ratio of the distances (here, 4-3-2), we can see that as in any ratio in which the components and the final total can only be integers, the total must be a multiple of the sum of the parts; since \( 4 + 3 + 2 = 9 \), this total must be a multiple of 9. Since the only multiple of 9 that lies between 10 and 20 is 18, the line must be 18 long, and the segments must be 8, 6, and 4.

10) **66.** First, the problem asks us about even numbers, so we should find an even/odd pattern. This pattern repeats every three numbers; each three-number set is made up of a pattern of **odd, even, even**. With that in mind, how many three-number sets can we take from a group of 100 terms? 33.333, says your calculator. Well, 33 full sets with two even numbers per set produces 66 even numbers, right? However, how about that annoying decimal (.333)? What does that mean? It means that although we’ve accounted for 99 of our 100 numbers, we have a single “orphan” number left over at the end. Would such an orphan begin or end a set? If you’ve been paying attention so far, you know that any such pattern orphans will begin the next set. Is the first member in each of our repeating sets even or odd? Right, it’s odd. So, \( 33 \times 2 = 66 \) it is.

* 52. \((3 \times 19) + 5\).
NUMBER PATTERNS B

1) The least integer in a set of consecutive integers is -8. If the sum of these integers is 19, how many integers are in this set?
   a) 8  c) 16  e) 19
   b) 9  d) 18

   The sum of three consecutive even integers is 186.

2) If y represents the greatest of the three integers, which of the following equations represents the statement above?
   a) 3y = 186  c) 3y - 3 = 186  e) 3y - 9 = 186
   b) 3y - 2 = 186  d) 3y - 6 = 186

3) The first two numbers of a sequence are 7 and 9, respectively. The third number is 16, and, in general, every number after the second is the sum of the two numbers immediately preceding it. How many of the first 1,000 numbers in this sequence are odd?
   a) 333  c) 665  e) 667
   b) 500  d) 666

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) The first five terms of a sequence are shown above. After the second term, each term can be obtained by subtracting from the previous term the term before that. For example, the third term can be obtained by subtracting the first term from the second term. What is the sum of the first 44 terms of this sequence?
   a) 0  c) 7  e) 14
   b) 3  d) 9

5) A paper chain is made by stringing Z individual paper links together in the repeating pattern orange, white, red, blue, green, and purple. If the paper chain begins with an orange link and is 73 links long, then the last link is
   a) orange  c) blue  e) purple
   b) white  d) green

6) [Grid In] If the sum of the consecutive integers from -23 to p, inclusive, is 75, what is the value of p?
The first four terms of a sequence are shown above. Which of the following could be the formula that gives the nth term of this sequence for all positive integers n?

a) \(2n\)  

b) \(2n + 1\)  

c) \(3n\)  

d) \(n^2 + 1\)  

e) \(n^2 + 2\)

The decimal number above consists of only 4’s and 0’s to the right of the decimal point. The first 4 is followed by one 0, the second 4 is followed by two 0’s, the third 4 is followed by three 0’s, and so on. What is the total number of 0’s between the 74th and 79th “4” in this decimal number?

a) 380  

c) 440  

e) 459  

b) 390  

d) 443

The first five terms of a sequence are shown above. Each consecutive term in the sequence is calculated by performing the same operation on the previous term n. What is the sixth term?

a) 133  

c) 176  

e) 252  

b) 139  

d) 246

An arithmetic sequence is a sequence in which each term after the first is equal to the sum of the preceding term and a constant. If the list of numbers shown above is an arithmetic sequence, which of the following must also be an arithmetic sequence?

I. \(2p, 2r, 2s, 2t, 2u\)

II. \(p - 3, r - 3, s - 3, t - 3, u - 3\)

III. \(p^2, r^2, s^2, t^2, u^2\)

a) I only  

c) III only  

e) II and III  

b) II only  

d) I and II
NUMBER PATTERNS B

1) **E**. Please draw a number line* whenever you’re asked about consecutive integers. As we proceed upward on this number line, we add all of the negative integers starting with –8. Since our addition starts in negative territory and we need to come up with a positive sum, first let’s figure out how to get a sum of zero; we’ll need to add the integers from negative 8 all the way up to positive 8. OK, let’s keep adding consecutive integers: When we add the next integer on the number line, 9, to our sum of zero, don’t we get a sum of 9 (0 + 9)? Now, let’s add 10 to that sum of 9; when we do so, we get a sum of 19. Looking at our number line, how many integers comprise our set? Well, we have 8 negative integers, 10 positive integers, and zero!

2) **D**. First, let’s find calculate the average (it’s 186/3, or 62). So, our three consecutive even integers must be 60, 62, and 64. At this point, I assume that you know that when we’re dealing with consecutive numbers, whether they’re consecutive integers or consecutive multiples of 12, the average is also the median!! Plugging 64 (the greatest of the three integers) in for y gives us...

3) **E**. First, note that we have a three-number pattern that repeats odd, odd, even, odd, odd, even. So, two numbers out of every three-number sequence are odd. With that in mind, how many three-number patterns are there in 1,000 numbers? 333.333, says your calculator. It’s true; we can break 1,000 numbers into 333 complete three-number patterns. Since each pattern contains two odd numbers, 333 patterns will provide us with a total of 666 odd numbers. However, what does that annoying decimal (.333) mean? It means that after we’ve taken out 333 patterns there is a single number left over. Would such a number be even or odd? If you’ve been paying attention so far, you know that any such “orphans” will always begin the next pattern. Is the first number in each of our patterns even or odd? Right, it’s odd. So, 666 + 1...

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) **B**. Did you read the instructions carefully? (“Each term can be obtained by subtracting from the previous term the term before that ...” means that to calculate the 6th term, we subtract the 4th term from the 5th term.) When we extend the pattern, we find that the sixth term is –1 [-2 – (-1)]; the seventh term is 1 [-1 – (-2)]; the eighth term is 2 [1 – (-1)]. Since the pattern repeats beginning with its 7th term, we know that there are six terms in each repeating set. Next: Since we need to come up with an overall sum, first we should determine the sum of each six-term set. Well, 1 + 2 +1 +(-1) +(-2) +(-1) = 0, right? So, given that every six-term set adds up to 0, aren’t we really interested only in the sum of the remainder when 44 is divided by 6 (7 full sets with a remainder of 2 terms)? When we’ve

* We recommend using vertical number lines, which eliminate any confusion about which negative number is “bigger.”

^ Note by how few numbers we had to extend this sequence before it repeated. If you’ve extended a sequence by five terms and it hasn’t repeated yet, start over because you’ve done the math wrong.
removed those 7 full sets, we still have two terms left over! Wouldn’t they be the first two terms in the next full set? So, 1 + 2 ... 

5) **A.** The six colors repeat, so we can use the same math that we would use to find the 73rd term in a 6-term repeating pattern, right? Dividing by 6 (the number of links in the pattern), we find that the pattern of colors will repeat 12 times with a remainder of 1 link. Wouldn’t that be the first link in a final, incomplete set? 

6) **26.** See the explanation for problem 1. Here, starting with -23, how far into positive territory will we need to add to get a sum of zero? Positive 23, right? So, after we’ve added all the numbers between negative 23 and positive 23, inclusive, we have a sum of 0. Since we’re looking for a sum of 75, though, we need to keep adding. Adding the next consecutive integer, 24, gives us a sum of 24 (0 + 24); adding 25 to that sum gives us 49; adding 26 gives us 75. 

7) **E.** It’s important to distinguish between the value of a number and its place in a pattern. The nth term refers to the (1st, 2nd, 3rd) term in the pattern; here, 3 is the 1st term; 6 is the 2nd term; 11 is the 3rd. And so on. We need to identify the answer choice that provides us with a formula we can use to relate 1st (the place in the pattern) to 3 (the number occupying that place). Eliminate choices (a) and (d), since when we plug in 1 for n into those formulas, we get 2. Now, we’re down to (b), (c), and (e), so let’s try to relate the 2nd place in the pattern to the number 6: eliminate choice (b), since plugging 2 for n gives us 5, not 6; let’s try to use our remaining formulas [remember, we’re down to (c) and (e) at this point] to relate 11: In (c) 3 times 3 (the place in the pattern) gives us 9; so, (e) must be the answer. Let’s try it: 3² + 2 = 11; 4² + 2 = 18; what would be the 5th term in this pattern?*

8) **A.** We’re looking to add the number of zeros that follow the 74th (74), 75th (75), 76th (76), 77th (77), and 78th (78) terms. We end with the 79th term, so any zeros that follow that term are outside the area we’ve been asked to add. (SAT directions are precise!) 

9) **D.** When a sequence seems to have inconsistent gaps between the terms, it’s good to take a minute to examine those gaps to see whether they make up the real sequence! Here, the gap between 4 and 6 is 2; the gap between 6 and 12 is 6 (3 times 2); the gap between 12 and 30 is 18 (3 times 6); the gap between 30 and 84 is 54 (3 times 18); so, mustn’t the next gap be 3 times 54 (or 162)? 

10) **D.** In an arithmetic pattern, the gap between terms remains constant throughout each set. Let’s plug in numbers 1, 2, 3, 4, and 5 (each succeeding term is equal to the previous term plus 1). Doing so, we find that both Roman numerals I and II work fine (in Roman numeral I, the constant is now twice as big—but it’s still a constant!); however, when we try III, we get 1, 4, 9, 16, 25, which means that each term does not relate to the previous one arithmetically. 

*27.
PICKING NUMBERS A

It's really important that you read and understand the following:

1) **When to “sub in numbers”:** Substitute numbers for variables whenever you see variables in both the problem’s information and answer choices.

2) **What numbers to pick:** If possible, pick 3 or 5: If you need even numbers, try 4 or 6!

3) **Write down which number you choose for each variable:** If you don’t write down your numbers (for example, \( a = 3; b = 5 \)), you might mix up which number to sub for which variable when you reach step 5.

4) **Write down and box your Target Number:** Subbing your number(s) into the problem will give you a numerical result. That’s your Target Number.

5) **Plug your chosen number(s) into the answer choices:** When you do so, one of the choices will return your Target Number.

---

1) A number \( z \) is increased by 5 and the result is multiplied by 5. This result is decreased by 5. Finally, that result is divided by 5. In terms of \( z \), what is the final result?
   - a) \( z - 3 \)
   - b) \( z - 1 \)
   - c) \( z \)
   - d) \( z + 2 \)
   - e) \( z + 4 \)

2) If \( e \) and \( v \) are positive numbers and \( e > v \), which of the following must be negative?
   - a) \( e + \frac{1}{v} \)
   - b) \( e + v \)
   - c) \( e - v \)
   - d) \( -(v - e) \)
   - e) \( -(e - v) \)

3) When \( n \) is divided by 9, the remainder is 5. What is the remainder when \( 3n \) is divided by 9?
   - a) 4
   - b) 5
   - c) 6
   - d) 7
   - e) 8

---

**PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW**

4) If \( e = dc \), which of the following must be equal to \( d/e \)?
   - a) \( dec \)
   - b) \( dc^2 \)
   - c) \( d^2c \)
   - d) \( e/c \)
   - e) \( 1/c \)
5) If the sum of 5 consecutive integers is \( z \), then, in terms of \( z \), what is the least of these integers?

\[
\begin{align*}
\text{a)} & \quad \frac{z - 2}{5} \\
\text{b)} & \quad \frac{z - 4}{5} \\
\text{c)} & \quad \frac{z - 6}{5} \\
\text{d)} & \quad \frac{z - 8}{5} \\
\text{e)} & \quad \frac{z - 10}{5}
\end{align*}
\]

6) How many seconds are there in \( m \) minutes and \( s \) seconds?

\[
\begin{align*}
\text{a)} & \quad 60m + s \\
\text{b)} & \quad m + 60s \\
\text{c)} & \quad 60(m + s) \\
\text{d)} & \quad \frac{m + s}{60} \\
\text{e)} & \quad \frac{m}{60s}
\end{align*}
\]

7) Which of the following is the result obtained by performing the operations described above?

\[
\begin{align*}
\text{a)} & \quad \frac{y - 7}{3} \\
\text{b)} & \quad \frac{y + 1}{3} \\
\text{c)} & \quad \frac{y - 3}{3} \\
\text{d)} & \quad \frac{3y - 7}{3} \\
\text{e)} & \quad \frac{y}{3}
\end{align*}
\]

8) If \( b = 5a \) and the value of \( a \) is increased by 3, then the value of \( b \) will increase by how much?

\[
\begin{align*}
\text{a)} & \quad 1 \\
\text{b)} & \quad 3 \\
\text{c)} & \quad 5 \\
\text{d)} & \quad 15 \\
\text{e)} & \quad 20
\end{align*}
\]

9) To celebrate Arbor Day, the \( s \) members of the local Treehuggers Club agreed to contribute equally to buy a tree thermometer that costs a total of \( t \) dollars. If \( r \) of the members failed to contribute, which of the following represents the additional amount, in dollars, that each of the remaining members must contribute to pay for the thermometer?

\[
\begin{align*}
\text{a)} & \quad \frac{t}{s} \\
\text{b)} & \quad \frac{rt}{s(s - r)} \\
\text{c)} & \quad \frac{rt}{s - r} \\
\text{d)} & \quad \frac{t(s - r)}{s} \\
\text{e)} & \quad \frac{t}{s - r}
\end{align*}
\]

10) If \( x \) is a prime number greater than 3, which of the following is NOT a factor of \( 6x^2 \)?

\[
\begin{align*}
\text{a)} & \quad x^2 \\
\text{b)} & \quad 6x \\
\text{c)} & \quad 3x \\
\text{d)} & \quad 2x \\
\text{e)} & \quad 3
\end{align*}
\]
PICKING NUMBERS A

1) **E**. I can’t imagine why one would want to do this problem without picking numbers. Let’s pick 3 for z. Adding 5, we have 8; multiplying by 5 gives us 40; subtracting 5 gives us 35; dividing by 5 gives us 7, which is what in terms of z? Let’s plug 3 into our answer choices to find out which one gives us 7.

2) **E**. Can we plug in, say, 3 for v and 5 for e? Great. When we do so, we find that (e) gives us –(5 – 3), or 2.

3) **C**. Any time you’re having trouble coming up with a number that yields a certain remainder (here, 5) when divided by a certain number (here, 9), just add the divisor to the remainder (9 + 5 = 14)! Let’s check: 9 divides into 14 once, and leaves a remainder of 5! So, 3 x 14 = 42; 9 divides into 42 four times, leaving a remainder of 6.

**PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10**

4) **E**. Here we see three unknowns: One is a product of the other two. Wouldn’t it make sense to Pick Numbers for the two that we need to multiply to get the third? So, let’s sub in 3 for d and 5 for c, which means that e is 15. Now, using the numbers we’ve picked (did you write them down or are you trying to remember what they are?), let’s find the answer that’s the same as our Target Number of 3/15. We can quickly get rid of (a), (b), and (c) because each of them has no denominator and so must be more than 1, while our Target Number is clearly less than 1. Trying (d), we get 15/5, or 3; trying (e), we get 1/5. Bingo.

5) **E**. Shall we Pick five consecutive integers (like 1 through 5) and add them to get z? Now let’s plug in that sum (15) for z and find the answer choice formula that yields our Target Number of 1.

6) **A**. How about we sub in 3 for m and 5 for s? So, 3 minutes equals 180 seconds; add five seconds and we get 185. So, 185 is our Target Number. Plugging our values in for m and s into (a) gets us to the right answer very quickly. This is the kind of problem that causes many smart test-takers to make “dumb mistakes.”

7) **A**. Although any number we pick will help us solve this problem, this is our first glimpse at how we can make life easier by picking a convenient number. In this case, after we add 5 to y we’ll need to divide the result by 3; so, wouldn’t it be a good idea to pick a number for y that, when we add 5 to it, becomes a multiple of 3?

* Here’s a way to calculate remainders: Let’s find what the remainder is when we divide 87 by 7. First, punch 87/7 into your calculator. The answer is 12 and a decimal, right? OK, let’s now subtract the whole number (12), leaving just the decimal. Now, multiply that remaining decimal by the number we originally divided by (7). Did you get a remainder of 3? If so, great. If not, be sure to ask! Now try this one: 94/11.
Let's try 4; so $4 + 5 = 9/3 = 3 - 4 = -1$. What's our Target Number? Right, $\frac{3}{2}$. When we plug in 4, we find that only (a) works. Now try the problem picking $y = 7$. Piece of cake, right?

8) **D.** We can pick numbers here even though the answer choices are numerical! Let's make a 3; so $b$ is 15. $a + 3 = 6$; now $b$ is 30, which is an increase of 15.

9) **B.** This is the problem you've been training for. Let's choose 5 for $s$, 30 for $t$, and 3 for $r$. Using these numbers, the members would each have to pay $6 if everyone contributed equally. However, if three members don't contribute, then the two who do contribute would have to pay $15, or $\$3$ extra. When we plug our numbers into (b), we get a numerator of 90 and a denominator of 10. Nice.

10) **A.** A prime number has exactly two different factors, itself and 1 (Is 1 prime? *). Let's pick 5 and plug it in for $x$—what's our Target Number? It's $6x$ or $30$, right? When we plug 5 into the answer choices, the only choice that doesn't work is (a), since $5^2 = 25$.

* No, since 1 has only 1 distinct factor, itself.
PICKING NUMBERS B

It's really important that you read and understand the following:

1) **When to “sub in numbers”:** Substitute numbers for variables whenever you see variables in both the problem’s information and answer choices.

2) **What numbers to pick:** If possible, pick 3 or 5: If you need even numbers, try 4 or 6!

3) **Write down which number you choose for each variable:** If you don’t write down your numbers (for example \(a = 3; b = 5\)), you might mix up which number to sub for which variable when you reach step 5.

4) **Write down and box your Target Number:** Subbing your number(s) into the problem will give you a numerical result. That’s your **Target Number**.

5) **Plug your chosen number(s) into the answer choices:** When you do so, one of the choices will return your Target Number.

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1) A person slices a pie into \(q\) equal pieces and eats one piece. In terms of \(q\), what percent of the pie is left?
   
   a) \(100(q - 1)\%\)  
   b) \(\frac{100(q - 1)}{q}\)  
   c) \(\frac{100q}{(q - 1)}\)  
   d) \(\frac{q - 1}{100}\)  
   e) \(\frac{(q - 1)\%}{100}\)

2) If \(e, f, g,\) and \(h\) are consecutive odd integers and \(e < f < g < h\), then \(g + h\) is how much greater than \(e + f\)?

   a) 2  
   b) 3  
   c) 4  
   d) 5  
   e) 8

3) If \(v\) and \(x\) are positive integers, which of the following expressions is equivalent to \(\frac{(2^v)x}{(2^v)}\)?

   a) \(1^x\)  
   b) \(2^x\)  
   c) \(2^{vx - 1}\)  
   d) \(2^{vx} - 2^v\)  
   e) \((2^v)x - 1\)  

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**PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW**

4) **[Grid In]** For the numbers \(r, s,\) and \(t\), the average (arithmetic mean) is twice the median. If \(r < s < t, r = 0,\) and \(t = ns,\) what is the value of \(n\)?

5) The sum of two numbers that differ by 1 is \(w\). In terms of \(w\), what is the value of the **lesser** of the two numbers?

   a) \(\frac{w - 1}{2}\)  
   b) \(\frac{w}{2}\)  
   c) \(\frac{w + 1}{2}\)  
   d) \(\frac{2w + 1}{2}\)  
   e) \(\frac{2w - 1}{2}\)
6) If \( a = 2b \), \( b = 4c \), \( 2c = d \), and \( a \neq 0 \), then \( \frac{d}{a} = \)
   a) \( \frac{1}{4} \)   c) \( 1 \)   e) \( 4 \)
   b) \( \frac{1}{2} \)   d) \( 2 \)

7) Two towns \( r \) miles apart are located \( c \) centimeters apart on a certain map that is drawn to scale. What is the distance, in centimeters, on the map between two cities that are \( r + 1 \) miles apart?
   a) \( \frac{r}{c} \)   c) \( \frac{(r + 1)}{r} \)   e) \( \frac{r}{c(r + 1)} \)
   b) \( \frac{c}{(r + 1)} \)   d) \( \frac{c(r + 1)}{r} \)

8) Set A contains seven consecutive integers. Set B contains all integers that result from adding 3 to each of the integers in set A and also contains all integers that result from subtracting 3 from each of the integers in Set A. How many more distinct integers are there in Set B than in Set A?
   a) 0    c) 3    e) 9
   b) 2    d) 6

9) The rate for a conference call between Country M and Country N is 40 cents for the first minute and 15 cents for any additional minute or portion thereof. Which of the following functions describes the cost, in dollars, of a phone call between these two cities that lasts \( t \) minutes, if \( t \) is a positive integer?
   a) \( h(t) = 0.55t \)   d) \( h(t) = 0.40 + 0.15(t - 1) \)
   b) \( h(t) = 0.40 + 0.15t \)   e) \( h(t) = 0.40t + 0.15(t - 1) \)
   c) \( h(t) = 0.40 + 0.15(t + 1) \)

10) Axle grease leaks out of a container at the rate of \( g \) gallons in \( h \) hours. If the grease costs 2 dollars per gallon, how many dollars' worth will be lost in \( z \) hours?
   a) \( \frac{2gz}{h} \)   c) \( \frac{2h}{gz} \)   e) \( \frac{hz}{2g} \)
   b) \( \frac{gz}{2h} \)   d) \( \frac{gh}{2z} \)
**PICKING NUMBERS B**

1) **B.** Are we allowed to pick numbers that relate comfortably to the current problem? Sure! This is a percent problem—what’s your favorite percent? How about 100? So, \( q = 100 \). So, if a person eats one of 100 pieces, there are 99 left, or \( \frac{99}{100} = 99\% \) (our Target Number). When we plug 100 into choice (b), we get 99%.

Alternatively, there’s nothing wrong with sticking with our old stand-bys, 3 and 5. If you picked 3, wasn’t 66.7% of the pie left? And if you picked 5, 80%, right?

2) **E.** Here we can sub in numbers even though the answer choices are values rather than variables. Let’s sub in 1, 3, 5, and 7. Doing so, we find that \( g + h \) (or 5 + 7) is greater than \( e + f \) (or 1 + 3).

3) **E.** Let’s say you picked 3 for \( v \) and 5 for \( x \). Plugging in those numbers would make the numerator \( 2^{15} \) and the denominator \( 2^{5} \). When a division problem contains the identical base in the numerator and denominator, and each base is raised to a power, we keep the base and subtract the denominator exponent from the numerator exponent; here, we are left with \( 2^{15-5} \). Now, plugging in 3 for \( v \) and 5 for \( x \), which answer choice gives us \( 2^{10} \)? By the way, if you picked (d), remember that we subtract the exponents when we divide, not when we subtract. For example, what’s \( 3^{2} - 3^{1} \)? Well, if you subtract the exponents, you’ll get \( 3^{1} \), or 3. Is that the right answer? Not quite: \( 3^{3} = 27 \) and \( 3^{2} = 9 \). \( 27 - 9 \) does not equal \( 3 \)!

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**PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10**

4) **5.** Sometimes, even grid-in problems can be solved more easily when we Pick Numbers. Here, picking a value for \( s \) will help us calculate a value for \( t \). First, we’re told that \( r = 0 \) and that \( s < t \). Can we pick a number for \( s \), such as \( s = 3 \)? Next, how do we calculate \( t \)? Well, we’re told that the average is twice the median. So, if \( s \) (the median) equals 3, then the average must be 6. On the SAT, whenever you’re given an average, you know you have to calculate the total. So a group of three terms whose average is 6 must total 18. If \( r = 0 \) and \( s = 3 \), then \( t \) must be 15. Plugging in, \( 15 = 3n \), which would make \( n = 5 \).

5) **A.** Let’s pick any two consecutive numbers, such as 3 and 4, which makes \( w = 7 \). Now, let’s plug 7 in for \( w \) and see which answer choice formula gives us our Target Number of \( \sqrt[3]{7} \) (the lesser of the two numbers). Try this problem again using different consecutive numbers, such as 7 and 8, with a Target Number of \( \sqrt[7]{8} \).

6) **A.** Picking a number for any one of the variables will define all of the variables, so does it matter for which variable we pick a value? Let’s say we pick 3 for \( a \). That would make \( b \) 3/2; \( d \) would be 3/8; and \( c \) would be 3/16. Yuck. Here’s an idea: Pick a number for the
smallest value and work up (thus avoiding all fractions). To answer your next question, if \( x \) and \( y \) are positive and \( x = 5y \) (meaning it takes 5 \( y \)'s to equal one \( x \)), which one is bigger? So, smaller numbers need bigger coefficients to be equal—making \( c \) the baby of the group. Let’s pick 3 for \( c \), making \( d = 6, b = 12, \) and \( a = 24 \). So, \( d/a = 6/24 \) or \( 1/4 \).

7) \( D \). After you get comfortable Picking Numbers, you start to see how modifying your technique can help on this sort of nasty-looking problem. Here, if we choose 3 for \( r \) and, say, 6 for \( c \), then \( c \) will always be twice \( r \), and cities that are \( (r + 1) \) or \( 3 + 1 \) miles apart will be \( 8 \) centimeters apart on the map. Plugging in 3 for \( r \) and 6 for \( c \), we find that choice (d) works, since it is \( 6 \) times 4 divided by 3, or 8.

8) \( D \). We should read a problem through before deciding which numbers we’ll pick. We’ll have to add 3 to and subtract 3 from each of the seven numbers in our original set, so why not pick numbers that will keep the second set positive? I’m writing down 4, 5, 6, 7, 8, 9, and \( 10 \). Subtracting 3 from each number gives me one subset of 1 to 7, and adding 3 to each number gives me another subset of 7 to 13. Putting those subsets together, my new set contains 13 numbers (1 to 13), or \( 6 \) more than the original set. If you don’t pick numbers, it’s hard to notice that the middle number is duplicated!

9) \( D \). If we make \( t \) equal to 3, the cost of that three-minute phone call is \( .40 + .15 + .15 \), right? So, our Target Number is \( .70 \). Plugging in 3 to (d) gives us our Target Number. Choice (b), the most attractive wrong choice, would have us pay for the first minute twice, since we’re paying 0.40 for the first minute and then paying an additional 0.15 for all minutes (including the first).

10) \( A \). This problem can be really tough without picking numbers. How about 3 gallons (\( g \)) in 5 hours (\( h \))? Let’s find out how much money is lost in 10 hours (\( z \))? (6 gallons at $2 per gallon, gives us a Target Number of $12.) So, let’s plug in our numbers for the variables and see which choice gives us 12.
PROBABILITY A

1) Set T contains only the integers 1 through 50. If a number is selected at random from T, what is the probability that the number selected will be greater than 30?
   a) 1/4  c) 2/5  e) 2/3
   b) 1/3  d) 3/5

2) Naomi has a bowl that contains her last five jellybeans. The jellybeans are flavored cherry, blueberry, molasses, earwax, and vanilla. In how many different orders can she eat the five jellybeans?
   a) 15  c) 60  e) 250
   b) 20  d) 120

3) A book is to be chosen at random from a barrel containing books of various colors. The ratio of books with yellow covers to those without yellow covers is 4/5. Which of the following could NOT be the number of books in the barrel?
   a) 28  c) 45  e) 72
   b) 36  d) 63

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) A dinner menu lists 7 appetizers and 6 desserts. How many different appetizer-dessert combinations are possible from this menu?
   a) 13  c) 40  e) 76
   b) 36  d) 42

5) [Grid In] Magdalena can select one or more of the following three toppings for her peach ice cream: walnuts, hot fudge, pineapple. If she selects one or more toppings, how many different combinations are possible? (Assume that the order of the toppings does not matter.)

6) The hockey pucks in a certain box are either new or used. If 3/7 of the pucks are used, each of the following could be the number of new hockey pucks in the box EXCEPT
   a) 8  c) 28  e) 80
   b) 14  d) 48

7) If a is to be chosen at random from set P {4,5,6,7} and b is to be chosen at random from set Q {2,3,4}, what is the probability that ab will be even?
   a) 1/6  c) 1/2  e) 5/6
   b) 1/3  d) 2/3
8) The probability is 50% that a fair coin will turn up heads on any given toss. If a fair coin is tossed three times, what is the probability that on at least one of the tosses the coin will turn up heads?
   a) 1/8          c) 3/4          e) 15/16
   b) 1/2          d) 7/8

9) In a class of 24 college students, half are men and 18 are juniors. If 2 of the men are not juniors, how many juniors in the class are women?
   a) 3          c) 9          e) 12
   b) 8          d) 11

10) In a shipment of 140 desks, 5 percent were scratched. In a shipment of 90 desks, 10 percent were scratched. For the two shipments combined, approximately what percent of the desks were scratched?
    a) 6%          c) 8%          e) 10%
    b) 7%          d) 9%
PROBABILITY A

First, this: In probability problems, the SAT uses real objects like books or baseballs. (We can’t reduce, for instance, to 3/8 of a book.)

Probability = \( \frac{\text{number of desired results}}{\text{number of total results}} \)

1) C. See FORMULA above. 20/50

<table>
<thead>
<tr>
<th>Less than or equal to 30</th>
<th>Greater than 30</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>20</td>
<td>50</td>
</tr>
</tbody>
</table>

2) D. This problem asks us in how many different ways we can arrange a single group of items. Since in each sequence of choices we can choose each item only once, each choice we make restricts our subsequent choices! In other words, if Naomi eats the blueberry jellybean first, she can’t also eat it second, third, fourth, or last!

So, Naomi starts with 5 beans. To begin, she chooses one of the five. Then she chooses one of the remaining four. Then one of the remaining three. Then one of the remaining two. Then the last one. To figure out the total number of possibilities, we simply write down the number of choices she has in each round and then multiply them! So, \( 5 \times 4 \times 3 \times 2 \times 1 = 120 \star \)

3) A. Draw a ratio “tic-tac-toe” table (example below) whenever you see a ratio (and probability is a way of expressing a ratio) on the SAT.

<table>
<thead>
<tr>
<th>Yellow</th>
<th>Not Yellow</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>5</td>
<td>9</td>
</tr>
</tbody>
</table>

Always include a “Total” column. Let’s label our “part” columns, and fill in the ratio of 4 to 5. Inasmuch as we cannot have partial books, the fewest Total number of books is 9.

(Below) Note that the “red” column must be a multiple of 4; the “not red” column must be a multiple of 5 (there are no partial books), and the “total” column must be a multiple of 9.

<table>
<thead>
<tr>
<th>Red</th>
<th>Not Red</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>8</td>
<td>10</td>
<td>18</td>
</tr>
</tbody>
</table>

Please return and finish problems 4 through 10

* Some people understand this more easily by considering each bean’s odds of being picked in each round. Each jellybean has a 1/5 chance of being picked first; then, after one has been picked, each remaining bean has a 1/4 chance of being picked second; then a 1/3 chance of being picked third, and so on.
4) **D.** To determine the number of permutations when we combine two separate sets, we simply multiply the number of members of Set A by the number of members of Set B. For instance, how many desserts can we choose to go with the first appetizer on the menu? Six, right? How about with the second appetizer? So, if there are seven appetizers ...

5) **E.** This is a great time to use our favorite alternative solving method, The Maine Prep Dumb Method (“MPDM”). Using MPDM, we start by counting the number of single toppings Magdalena can put on her ice cream. There are three: walnuts, fudge, and pineapple. Next, we count the two-topping combinations. Again, there are three: walnuts/fudge, walnuts/pineapple, and fudge/pineapple. Last, we count how many combinations of three toppings. Since all three toppings would have to be used in such a combination, there can only be one. So, 3 + 3 + 1.

6) **B.** As we saw in problem 3, here’s another chance to draw a ratio. Fill in the “Used” and “Total” columns. What’s left for “New”? Can we have partial hockey pucks? So, the Total will be a multiple of 7, the number of Used pucks will be a multiple of 3, and the number of New pucks will be a multiple of 4.

<table>
<thead>
<tr>
<th>New</th>
<th>Used</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>

7) **E.** Please review the probability formula at the beginning of this answer set (before the explanation to question 1). As we saw in problem 4, we can find the “number of total results” by multiplying the number of members in the first set times the number of members in the second set (4 x 3). Next, to get the numerator, we need to find out how many of those 12 combinations will be even.

If you’re interested in making your life easier, consider using “excluded possibilities”: Any non-even integer is odd. So, how many odd products can we generate? Looks like two (5 x 3 and 7 x 3). So, removing the 2 odd products from the total of 12 leaves us with 10 out of 12 even products.

8) **D.** This problem can best be solved using the “excluded possibilities” method introduced in problem 7. To find out the portion of the time we will flip at least one “heads,” why don’t we figure out how often we will flip exactly no “heads” (three “tails”)? The probability of throwing one “tails” is 50% of throwing two in a row 25%, and three in a row 12.5% right? So, other than 12.5% of the time, we will throw at least one “heads.” Subtract 12.5% from 100% to get 87.5%. If, at this point, you’re not sure which fraction equals 87.5%, stick each fraction in your calculator.

9) **B.** There are 24 people in the class; half (12) are men. Two of the men are not juniors, so the remaining 10 men are. Since the class contains 18 juniors and 10 of them are men, we know that 8 of the juniors are women!
10) **B.** You’re about to see a very powerful use of the ratio table: Whenever you combine two ratios, nothing works better.

<table>
<thead>
<tr>
<th>Scratched</th>
<th>Not Scratched</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>140</td>
</tr>
<tr>
<td></td>
<td></td>
<td>90</td>
</tr>
<tr>
<td></td>
<td></td>
<td>230</td>
</tr>
</tbody>
</table>

First, we put in our totals and we note that in the combined shipment we’ll end up with 230 desks. Now, let’s figure our percentages; 5% of 140 is 7 and 10% of 90 is 9. Let’s fill those in:

<table>
<thead>
<tr>
<th>Scratched</th>
<th>Not Scratched</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>133</td>
<td>140</td>
</tr>
<tr>
<td>9</td>
<td>81</td>
<td>90</td>
</tr>
<tr>
<td><strong>16</strong></td>
<td><strong>214</strong></td>
<td><strong>230</strong></td>
</tr>
</tbody>
</table>

We now know that 16/230 of the desks were scratched. That translates to 6.956%
PROBABILITY B

1) During each complete cycle at a traffic light, the light is green for 25 seconds, yellow for 10 seconds, and red for 35 seconds. At a randomly chosen time, what is the probability that the light will not be green?
   a) \( \frac{5}{7} \)  
   b) \( \frac{9}{14} \)  
   c) \( \frac{1}{2} \)  
   d) \( \frac{5}{14} \)  
   e) \( \frac{2}{7} \)

<table>
<thead>
<tr>
<th>S</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>V</td>
</tr>
<tr>
<td>W</td>
<td>X</td>
</tr>
<tr>
<td>Y</td>
<td>Z</td>
</tr>
</tbody>
</table>

2) The figure above shows an overhead view of an open carnival game box that is divided into 8 areas with walls of equal height. Each of the areas T, V, X, and Z has twice the area of the equal areas S, U, W, and Y. When a rubber ring is dropped into the box at random, it falls into one of the areas. What is the probability that it will fall into area V?
   a) \( \frac{1}{12} \)  
   b) \( \frac{1}{8} \)  
   c) \( \frac{1}{6} \)  
   d) \( \frac{1}{5} \)  
   e) \( \frac{1}{3} \)

3) Monica likes to wear 2 rings, each a different metal, at the same time. If she has 6 rings, each of a different metal, how many combinations of 2 different-metal rings can she select to wear?
   a) 3  
   b) 6  
   c) 12  
   d) 15  
   e) 36

   PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) [Grid In] Joey sells boxes of marbles in which the marbles are white, red, or green. Shelley purchased a box in which \( \frac{1}{3} \) of the marbles were white. If there were half as many red marbles in the box as white ones and 18 marbles were green, how many marbles were in the box?

5) In how many different ways can 5 people arrange themselves in 5 adjacent seats at a movie theater if only 2 of the people are allowed to sit in the only aisle seat?
   a) 25  
   b) 48  
   c) 50  
   d) 60  
   e) 120

6) [Grid In] A box contains only plums and peaches. There are twice as many plums as peaches. The plums are either green or red, and 4 times as many plums are green as are red. If one piece of fruit is to be drawn at random from the box, what is the probability that the piece drawn will be a red plum?
7) Two integers will be randomly selected from the sets above, one integer from Set C and one integer from Set D. What is the probability that the sum of the two integers will equal 10?

a) 0.16  

b) 0.20  

c) 0.25  

d) 0.30  

e) 0.33

8) [Grid In] There are 130 lime green buttons and 90 gray buttons in a container that contains 220 buttons. If only gray buttons are to be added to the bag so that the probability of randomly drawing a gray button from the bag becomes 2/3, how many gray buttons must be added to the bag?

9) At a certain pizzeria, 1/3 of the pizzas sold in one week were mushroom and 1/8 of the remaining pizzas sold were onion garlic. If n of the pizzas sold were onion garlic, how many were mushroom?

a) 8/3 n  

b) 7/3 n  

c) 16/7 n  

d) 8/7 n  

e) 4n

10) Bobby’s collection of paper clips contains only gold paper clips, silver paper clips, and white paper clips. If the probability of randomly choosing a gold paper clip is 1/5 and the probability of randomly choosing a silver paper clip is 1/3, what is the probability of randomly choosing a white paper clip?

a) 2/15  

b) 1/3  

c) 7/15  

d) 8/15  

e) It varies with the number of paper clips in a set
PROBABILITY B

1) B. If you make a ratio “tic-tac-toe” table as a matter of course on problems like this one, your test experience will be more serene and pleasant.

<table>
<thead>
<tr>
<th>Green</th>
<th>Yellow</th>
<th>Red</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>10</td>
<td>35</td>
<td>70</td>
</tr>
</tbody>
</table>

In order to find the ratio of a part to a whole, we must know the whole! So, once we calculate the “Total” column, we know that the chance of the light being other than green is 35 + 10 = 45/70, or 9/14!

2) C. Because the right-hand areas are twice as big as are the left-hand areas, why not put a “2” in each right-hand compartment and a “1” in each left-hand one? Now, add up the numbers to find out what we should put in the “Total” column (12). What portion of that 12 is the “V” area? The number’s right there—2! So, 2/12 = 1/6. Alternatively, can’t you draw a line down the middle of the right-hand boxes to make three columns of equal-sized boxes? If you haven’t yet done so, try it now.

3) D. Let’s say the rings are engraved from A to F. When Monica wears ring A, she has five choices for the second ring, B through F. When Monica wears ring B, she has four choices (remember, we’ve already accounted for AB, which is identical to BA); ring C offers three choices, D offers 2, and E offers one (since we’re down to EF, and by the time we get to F, we find that we’ve accounted for all of its combinations. So, 5 + 4 + 3 + 2 + 1 = 15.

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) 36. In any ratio table, keep fractions of the whole in a separate row from any numbers. Note that below we have put the “18” in the second row.

If 1/3 of the marbles are white and 1/6 (or half as many) are red, then 1/3 + 1/6 = 2/6 + 1/6 = 3/6 = 1/2. So, half the marbles must be green. And if the 18 green marbles make up half the total, then the total must be 18 x 2. By the way, how many white marbles were there? How many red ones?

<table>
<thead>
<tr>
<th>White</th>
<th>Red</th>
<th>Green</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/3</td>
<td>1/6</td>
<td>?</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>18</td>
</tr>
</tbody>
</table>

1 The total of any fractional portions will always be 1.
5) B. This problem is a variation on the “restricted choice” problems we saw in the “A” series. However, we have a wrinkle here, since one seat is further restricted in that only two people can sit there. So, how about we remove that seat from our calculations until we figure out the permutations for the other four seats? Of the four seats that aren’t restricted, we can put any of 4 people in the first, 3 in the second, 2 in the third, and 1 in the fourth. $4 \times 3 \times 2 \times 1 = 24$. Since we have two possible aisle sitters, can’t we just multiply 24 times 2?

Alternatively, how many possibilities would we have if there were NO restrictions? We’d have 5 factorial, right? Like so:

<table>
<thead>
<tr>
<th>Aisle seat</th>
<th>Seat 2</th>
<th>Seat 3</th>
<th>Seat 4</th>
<th>Seat 5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>120</td>
</tr>
</tbody>
</table>

However, we do have a restriction on the Aisle seat; only two people can sit there. Does this restriction have any effect on the other four seats? NO!

<table>
<thead>
<tr>
<th>Aisle seat</th>
<th>Seat 2</th>
<th>Seat 3</th>
<th>Seat 4</th>
<th>Seat 5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>48</td>
</tr>
</tbody>
</table>

6) 2/15 or .133. Let’s make a table that expresses the ratio between plums and peaches.

<table>
<thead>
<tr>
<th>Plums</th>
<th>Peaches</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

Not so bad, right? Why is the “Plums” column so wide, though? Ah, we have another relationship, that between green plums and red plums. Can we fit that in?

<table>
<thead>
<tr>
<th>Green Plums</th>
<th>Red Plums</th>
<th>Peaches</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>1</td>
<td>2.5</td>
<td>7.5</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>5</td>
<td>15</td>
</tr>
</tbody>
</table>

OK, so the ratio between green and red plums is 4 to 1. However, since the plum to peach ratio is still 2 to 1, we have to come up with a number of peaches that’s half the number of plums, right? Although 2.5 works, why not multiply all the ratio numbers by 2 (doesn’t change any of the relationships, right)? When we do so, we find that the ratio of red plums to total fruit is 2/15, or .133.

7) A. Here we have another combination of sets problem. Since we’re combining these two sets without restriction, we will have 25 (5 times 5) possibilities. Out of these 25, how many combinations will add up to 10? Looks like 4. So, 4/25 = 16% or 0.16.
8) **170.** This is another terrific opportunity to use a ratio grid to solve a complex problem.

<table>
<thead>
<tr>
<th>Lime green</th>
<th>Gray</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>130</td>
<td>90</td>
<td>220</td>
</tr>
<tr>
<td>130</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

As we can see, our goal is to create a gray/total ratio of 2/3 by adding only gray buttons (so the number of lime green buttons remains the same). Wait a minute! If two out of every three buttons will be gray, then one out of three will be lime green! That means that the total will be 3 times 130, or 390.

<table>
<thead>
<tr>
<th>Lime green</th>
<th>Gray</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>130</td>
<td>90</td>
<td>220</td>
</tr>
<tr>
<td>130</td>
<td></td>
<td>390</td>
</tr>
</tbody>
</table>

In order to make up our total of 390 buttons, we’ll need 260 gray ones. So, we’ll have to add 170 gray buttons.

<table>
<thead>
<tr>
<th>Lime green</th>
<th>Gray</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>130</td>
<td>90</td>
<td>220</td>
</tr>
<tr>
<td>130</td>
<td></td>
<td>390</td>
</tr>
</tbody>
</table>

9) **E.** When you use a ratio table to relate fractions, why not use the lowest common denominator (or lowest common multiple) as the Total? Remember that the number of Onion Garlic pizzas is 1/8 of the remaining pizzas (so, here, 1/8 of 24 – 8, or 16).

<table>
<thead>
<tr>
<th>Mushroom</th>
<th>Onion Garlic (n)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>2</td>
<td>24</td>
</tr>
</tbody>
</table>

If the number of onion garlic pizzas (2) is represented by n, then we can see that the number of mushroom pizzas is 4n.

10) **C.** Again, a combination of fractions is best handled by a table:

<table>
<thead>
<tr>
<th>Gold</th>
<th>Silver</th>
<th>White</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>5</td>
<td>7</td>
<td>15</td>
</tr>
</tbody>
</table>

By choosing a “total” number that’s equal to the common denominator of gold and silver, we allow ourselves to work with integers. Out of every 15 paper clips, 3 will be gold and 5 will be silver, so 7 will be white. By the way, once you get past question 3 in any math section, any answer like (e) here will only be right if you can come up with two or more conflicting answers.
RATIO/DECIMAL/PERCENT CONVERSION

Yes, you can use your calculator. Please put all fractions that are greater than 1 in the “improper” form that you must use when solving grid-ins.

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Decimal</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2</td>
<td>.5</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td>.75</td>
<td></td>
</tr>
<tr>
<td>3/8</td>
<td>.4</td>
<td>95%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>225%</td>
</tr>
<tr>
<td>3/20</td>
<td>.15</td>
<td>62.5%</td>
</tr>
<tr>
<td>7/10</td>
<td>.6</td>
<td></td>
</tr>
<tr>
<td>4/3</td>
<td></td>
<td>65%</td>
</tr>
<tr>
<td>17/20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Decimal</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2</td>
<td>.5</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td>.75</td>
<td></td>
</tr>
<tr>
<td>3/8</td>
<td>.4</td>
<td>95%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>225%</td>
</tr>
<tr>
<td>3/20</td>
<td>.15</td>
<td>62.5%</td>
</tr>
<tr>
<td>7/10</td>
<td>.6</td>
<td></td>
</tr>
<tr>
<td>4/3</td>
<td></td>
<td>65%</td>
</tr>
<tr>
<td>17/20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
RATIO/DECIMAL/PERCENT CONVERSION

Check against yours. Circle any that don’t make sense.

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Decimal</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2</td>
<td>.5</td>
<td>50%</td>
</tr>
<tr>
<td>3/4</td>
<td>.75</td>
<td>75%</td>
</tr>
<tr>
<td>3/8</td>
<td>.375</td>
<td>37.5%</td>
</tr>
<tr>
<td>2/5</td>
<td>.4</td>
<td>40%</td>
</tr>
<tr>
<td>19/20</td>
<td>.95</td>
<td>95%</td>
</tr>
<tr>
<td>1/8</td>
<td>.125</td>
<td>12.5%</td>
</tr>
<tr>
<td>1/3</td>
<td>.333</td>
<td>33.33%</td>
</tr>
<tr>
<td>9/4</td>
<td>2.25</td>
<td>225%</td>
</tr>
<tr>
<td>3/20</td>
<td>.15</td>
<td>15%</td>
</tr>
<tr>
<td>5/8</td>
<td>.625</td>
<td>62.5%</td>
</tr>
<tr>
<td>7/10</td>
<td>.7</td>
<td>70%</td>
</tr>
<tr>
<td>3/5</td>
<td>.6</td>
<td>60%</td>
</tr>
<tr>
<td>4/3</td>
<td>1.33</td>
<td>133.3%</td>
</tr>
<tr>
<td>13/20</td>
<td>.65</td>
<td>65%</td>
</tr>
<tr>
<td>17/20</td>
<td>.85</td>
<td>85%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Decimal</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4</td>
<td>.25</td>
<td>25%</td>
</tr>
<tr>
<td>11/10</td>
<td>1.1</td>
<td>110%</td>
</tr>
<tr>
<td>7/5</td>
<td>1.4</td>
<td>140%</td>
</tr>
<tr>
<td>7/8</td>
<td>.875</td>
<td>87.5%</td>
</tr>
<tr>
<td>14/4</td>
<td>3.5</td>
<td>350%</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>500%</td>
</tr>
<tr>
<td>99/100</td>
<td>.99</td>
<td>99%</td>
</tr>
<tr>
<td>5/4</td>
<td>1.25</td>
<td>125%</td>
</tr>
<tr>
<td>7/20</td>
<td>.35</td>
<td>35%</td>
</tr>
<tr>
<td>8/5</td>
<td>1.6</td>
<td>160%</td>
</tr>
<tr>
<td>10/3</td>
<td>3.333</td>
<td>333.3%</td>
</tr>
<tr>
<td>1/12</td>
<td>.0833</td>
<td>8.33%</td>
</tr>
<tr>
<td>9/8</td>
<td>1.125</td>
<td>112.5%</td>
</tr>
<tr>
<td>9/20</td>
<td>.45</td>
<td>45%</td>
</tr>
<tr>
<td>3/2</td>
<td>1.5</td>
<td>150%</td>
</tr>
</tbody>
</table>
RATIOS, FRACTIONS, AND PERCENT A

Please read: Try learning the Maine Prep ratio table method, because if you like it and use it in ratio problems, you won’t get them wrong any more. Please make sure to review all problems (1, 2, 3, 7, and 10) in which we use ratio tables rather than algebra.

Note that the total on the top line must be the sum of the parts. Values in subsequent rows will be multiples of those in the top row, and can be determined by using a Common Multiplier. For example, look at the table below in which we set up a ratio table to solve this question: If the ratio of red to blue to green chips is 5:4:7, and Roz has 48 chips, how many of them are green?

<table>
<thead>
<tr>
<th></th>
<th>Red</th>
<th>Blue</th>
<th>Green</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>4</td>
<td>7</td>
<td>16</td>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td>12</td>
<td>21</td>
<td>48</td>
</tr>
</tbody>
</table>

Note that the Total in the second row, 48, is 16, the Total in the first row, times the Common Multiplier of 3. So, we use that same Common Multiplier to determine all the values in the second row. Checking our work, we note that 15 + 12 + 21 = 48.

1) Three business partners are to share profits of $39,000 in the ratio 5 : 5 : 3. What is the amount of the smallest share?
   a) $1,200
   b) $3,000
   c) $4,000
   d) $9,000
   e) $10,000

2) [Grid In] There are 560 students at Morris Green High School. One of these students is to be selected at random to be a student representative. If the probability that a junior will be selected is 3/8, how many juniors are in the school?

3) Which of the following is equal to 4 plus (200 percent of 4)?
   a) 100% of 4
   b) 200% of 4
   c) 100% of 8
   d) 200% of 8
   e) 300% of 4

Please read the answers and explanations for problems 1 through 3 now.

4) A total of 90 advertisements were sold for a high school basketball program. If 30 percent of the first 30 sold were in color, 25 percent of the next 40 sold were in color, and 70 percent of the last 20 sold were in color, what percent of the 90 advertisements were not in color?
   a) 63.3%
   b) 61%
   c) 58.2%
   d) 51.4%
   e) 50%

5) If s is 70 percent of t and t > 0, which of the following represents 40 percent of s?
   a) 4% of t
   b) 28% of t
   c) 42% of t
   d) 70% of t
   e) 79% of t
6) [Grid In] A store has 840 games in stock. If 75 percent of these games are on sale, how many games are not on sale?

7) [Grid In] A team has won 70 percent of the 20 games it has played so far this season. If the team plays a total of 60 games and wins 60 percent of the remaining games, how many games will the team win for the entire season?

8) If each of the fractions above is in its simplest reduced form, which of the following could be the value of \( a \)?

- a) 32
- b) 35
- c) 36
- d) 37
- e) 42

9) [Grid In] Nine of the 14 members of the math club are girls and the rest are boys. What is the ratio of boys to girls in the math club? (Grid your ratio as a fraction.)

10) [Grid In] A recipe for making 17 loaves of bread requires 34 cups of flour and 6 tablespoons of baking powder. If the proportions in this recipe are to be used to make 8 loaves of bread, how many cups of flour will be needed?
RATIOS, FRACTIONS, AND PERCENT A

1)  D. Let’s set up our ratio grid.

<table>
<thead>
<tr>
<th>partner a</th>
<th>partner b</th>
<th>partner c</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>5</td>
<td>3</td>
<td>13</td>
</tr>
</tbody>
</table>

Because we need to multiply the 13 in the top row of the Total column by $3,000 to equal the $39,000 in the second row, we use the Common Multiplier of $3,000 to determine how the profits should be distributed ... like so.

<table>
<thead>
<tr>
<th>partner a</th>
<th>partner b</th>
<th>partner c</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>5</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>$15,000</td>
<td>$15,000</td>
<td>$9,000</td>
<td>$39,000</td>
</tr>
</tbody>
</table>

2) 210. It’s fairly easy to do this one algebraically, but please note how simple this problem is when you use a ratio table:

<table>
<thead>
<tr>
<th>juniors</th>
<th>others</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>5</td>
<td>8</td>
</tr>
</tbody>
</table>

What’s the common multiplier between the two rows? It would be 560/8 (or 70), right? So, to fill in the blanks in the second row, we’ll need to multiply the ratio numbers in the first row by 70.

3)  E  4 is 100% of itself; when we add 200% of 4, or 8, we end up with 12, which is 300% of 4.

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4)  A. The information in blue was given in the problem; that in black we supplied ourselves.

<table>
<thead>
<tr>
<th>b&amp;w</th>
<th>color</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>9</td>
<td>30</td>
</tr>
<tr>
<td>30</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>6</td>
<td>14</td>
<td>20</td>
</tr>
<tr>
<td>57</td>
<td>33</td>
<td>90</td>
</tr>
</tbody>
</table>

We’re asked for the ratio that features the ads that are not in color. Adding up the columns, we find that 57/90, or .633, or 63.3%
5) **B.** As in all percentage problems, things get easier if you choose 100 for one of your variables. Here, if we make \( t = 100 \), then \( s = 70 \). 40% of 70 = 28, which is 28% of 100.

6) **210.** If 75 percent of the games are on sale, then aren’t 25 percent of the games not on sale? So, rather than take 75 percent of 840 and then subtract that from 840, how about we just figure out what 25 percent of 840 is?

7) **38.** Line 1 shows 70% wins in the first 20 games; in row 3, we write in the total number of games played; then, in row 2, we determine the total remaining games, and from that we can calculate 60% wins in those 40 remaining games. Please note that each time we fill in a cell in this table, we’re able to fill in another cell.

<table>
<thead>
<tr>
<th>wins</th>
<th>losses</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>24</td>
<td>16</td>
<td>40</td>
</tr>
<tr>
<td>38</td>
<td>22</td>
<td>60</td>
</tr>
</tbody>
</table>

8) **D.** Here, it’s helpful to know that 37 is prime (and so can’t be reduced under any circumstances). Any even answer choice (32, 36, 42) can be reduced when used as a denominator with the numerator of 4; 35 can be reduced when used as a denominator with the numerator of 7.

<table>
<thead>
<tr>
<th>girls</th>
<th>boys</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>5</td>
<td>14</td>
</tr>
</tbody>
</table>

9) **5/9.** Always good to make a quick table (above). Now that we’ve done so, can we make a fraction with the number of boys in the numerator and the number of girls in the denominator? If you gridded in “9/5,” slow down!

10) **16.** Here, a simpler ratio grid. Note that here, “loaves” serves as our “total” column:

<table>
<thead>
<tr>
<th>loaves</th>
<th>flour</th>
<th>baking powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>34</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>?</td>
<td>who cares?</td>
</tr>
</tbody>
</table>

We’re given the recipe for 17 loaves and asked to figure what the recipe would be for 8 loaves. Since the ratio of the first two columns in the first row is two cups of flour for each loaf, it becomes clear that, whatever row we’re in, we’ll need two cups for each loaf.
RATIOS, FRACTIONS, AND PERCENT B

**First, this:** In this TEN FOR TEN, we are continuing our work with the ratio table. Please make sure to review how we use ratio tables in these problems.

1) If \( x \) is \( 5/2 \) of \( y \) and \( y \) is \( 2/3 \) of \( z \), what is the value of \( x/z \)?
   a) \( 1/4 \)  
   b) \( 5/8 \)  
   c) \( 5/3 \)  
   d) \( 5/2 \)  
   e) \( 3/2 \)

2) The ratio of \( j \) to \( k \) to \( m \) to \( p \) to \( q \) is 6 to 4 to 3 to 2 to 1. If \( j = 72 \), what is the value of \( p \)?
   a) 8  
   b) 12  
   c) 24  
   d) 55  
   e) 57

3) Every student who studies geography at Harry Bailey High School receives exactly one of the grades A, B, C, or D. If \( 1/10 \) of the students receive A’s, \( 1/5 \) receive B’s, \( 3/5 \) receive C’s, and 12 students receive D’s, how many students in the school study geography?
   a) 70  
   b) 90  
   c) 100  
   d) 120  
   e) 150

**PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW**

4) At a consignment store, all clothing is marked down each month. During the first month, the price is what the seller requests. On the first day of each month after that, the price is reduced 10 percent from the price in the previous month. If the price of an item was \( r \) dollars in August, what was the price in December?
   a) \( 0.5r \)  
   b) \( 0.6r \)  
   c) \( 0.656r \)  
   d) \( 0.7r \)  
   e) \( 0.729r \)

5) In a class of 120 seniors, there are 3 boys for every 5 girls. In the junior class, there are 3 boys for every 2 girls. If the two classes combined have an equal number of boys and girls, how many students are in the junior class?
   a) 72  
   b) 90  
   c) 130  
   d) 150  
   e) 170

6) A store charges $52 for a certain type of jacket. This price is 30 percent more than the amount it costs the store to buy one of these jackets. At an end-of-season sale, store employees can purchase any remaining jackets at 25 percent off the store’s cost. How much would it cost an employee to purchase a jacket of this type at this sale?
   a) $10.00  
   b) $28.00  
   c) $29.60  
   d) $30.00  
   e) $46.00
7) If \( c \) is directly proportional to \( g^2 \) and \( c = \frac{1}{12} \) when \( g = \frac{1}{2} \), what is the positive value of \( g \) when \( c = 3 \)?
   a) \( \frac{3}{4} \)  
   b) \( \frac{3}{2} \)  
   c) \( \frac{9}{4} \)  
   d) \( 3 \)  
   e) \( 9 \)

8) [Grid In] To make an orange dye, 3 parts of red dye are mixed with 1 part of yellow dye. To make a green dye, 2 parts of blue dye are mixed with 1 part of yellow dye. If equal amounts of green and orange are mixed, what is the proportion of yellow dye in the new mixture?

9) Four people, 3 men and one woman, who each have an equal share, own a business. If one of the men sells one-fifth of his share to the woman, and another of the men keeps three-fourths of his share and sells the rest to the woman, what fraction of the business will the woman own?
   a) \( \frac{13}{40} \)  
   b) \( \frac{7}{20} \)  
   c) \( \frac{9}{25} \)  
   d) \( \frac{29}{80} \)  
   e) \( \frac{2}{5} \)

10) In an 8-gram solution of water and blackberry juice, the ratio by mass of water to juice is 3 to 1. If 12 grams of a solution consisting of 2 grams water for each gram of blackberry juice is added to the 8-gram solution, what fraction by mass of the new solution is blackberry juice?
   a) \( \frac{1}{6} \)  
   b) \( \frac{3}{10} \)  
   c) \( \frac{4}{15} \)  
   d) \( \frac{7}{12} \)  
   e) \( \frac{5}{24} \)
RATIOS, FRACTIONS, AND PERCENT B

1) **C.** Since the y-value is the same in both ratios, we can set up a three-number ratio:

\[ x : y : z = 5 : 2 : 3 \]

2) **C.** Here’s a chance to use a ratio table (which we discussed in Ratios, Fractions, and Percent A) to your advantage.

<table>
<thead>
<tr>
<th></th>
<th>j</th>
<th>k</th>
<th>m</th>
<th>p</th>
<th>q</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>72</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As we practiced in Ratios A, the ratio between rows can be expressed by using a Common Multiplier. Here, the first row (in which \( j \) is 6) relates to the second row (in which \( j \) is 72) by the Common Multiplier of 72/6, or 12. So, now let’s multiply the other numbers in the top row by 12, OK? Bonus question: What would the value of \( k \) be if the value of \( m \) were 21?*

3) **D.** Let’s start by filling in our ratio table. Remember, as illustrated below, to put fractions of the whole in their own row. Put numbers in their own row, and then note the Common Multiple between rows.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1/10</td>
<td>1/5</td>
<td>3/5</td>
<td>1/10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1/10</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>120</td>
</tr>
</tbody>
</table>

When searching for a “missing fraction,” first determine the lowest common denominator. Here, it’s 10. After converting, we note that the top row is missing 1/10 of the total of 1. Now, when we put 120 into the Total column in the second row, we note that the Common Multiplier that converts 1 to 120 is 120. So, multiplying 1/10 times 120 ...

**PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10**

4) **C.** How do you calculate percentages of a changing base? For instance: If I told you that my car depreciates by 50% each year, would you put its value at 50% of the original after year 1 and at 25% (50% of 50%) after year 2, or would you conclude that my car is worthless after two years? And what about after 3 years? Would I owe money?

Unless we’re told to do otherwise, whenever we need to work with percentages we should begin by “picking” 100. So, in August our chosen price is **100**. Then in September, the price becomes **90** (90% of 100). At this point, is our base for the next percentage reduction

*28.
90 (the current price) or 100 (the original price)? Right, it’s 90. So, in October, the price becomes 10% less than 90, or 81. Then, November becomes 81 – 8.1 (or 72.9), and December 72.9 – 7.29, or 65.6.

5) D. Let’s look at the senior class numbers:

<table>
<thead>
<tr>
<th>boys</th>
<th>girls</th>
<th>total seniors</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>45</td>
<td>75</td>
<td>120</td>
</tr>
</tbody>
</table>

Since there are 120 members of the senior class (from which we get a Common Multiplier of 15), to get actual numbers in row 2 we’ll just multiply everything on the first line by that same 15. Doing so, we find that the senior class consists of 30 more girls than boys. So, in order for the number of boys and girls in the two classes to be equal, there must be 30 more boys than girls in the junior class!

<table>
<thead>
<tr>
<th>boys</th>
<th>girls</th>
<th>total juniors</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

Each group of 5 students will consist of one more boy than girl. To make up the deficit of 30 boys, won’t we need 30 groups? Let’s try multiplying all the numbers in the first row by 30:

<table>
<thead>
<tr>
<th>boys</th>
<th>girls</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>60</td>
<td>150</td>
</tr>
</tbody>
</table>

6) D. If the current price is 30% more than the store paid, isn’t that the same as saying that the current price is 1.3 times the price the store paid? So, 1.3x = 52. Dividing both sides by 1.3 gives us x = 40. Now that we’ve found the store’s cost, we can find the employee’s discount price by taking 25% off, which is the same as multiplying the price by 0.75, right?

7) D. Let’s use a ratio table to relate c to g² (and g). Numbers that are directly proportional form an unchanging ratio, so if a is directly proportional to b, and a is 5 when b is 7, then if a were 10, b would be 14, preserving the 5/7 ratio. Here, c is directly proportional to g², so our first job is to start filling in our table:

<table>
<thead>
<tr>
<th>c</th>
<th>g²</th>
<th>g</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/12</td>
<td>1/4</td>
<td>1/2</td>
</tr>
<tr>
<td>1</td>
<td>3</td>
<td>?</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>?</td>
</tr>
</tbody>
</table>
First, we have to square \( \frac{1}{2} \) to get \( \frac{1}{4} \). Next, we can use a Common Multiplier of 12 to get the integer (1:3) ratio that you see in the second row. So, if the ratio is 1:3, then (in the third row), when \( c \) is 3, \( g^2 \) must be 9, which makes \( g \) equal to 3.

8) **IMPORTANT**: When we combine mixtures that have unequal totals, we need to find LOWEST COMMON MULTIPLE ("LCM") of the two totals so we can combine an equal amount of each mixture.

Here, we establish that in a batch of 4 parts, 3 will be red and 1 will be yellow (for a Total of 4). Then, in a batch of 3 parts, 2 will be blue and 1 will be yellow (for a Total of 3). What do you think our LCM might be?

<table>
<thead>
<tr>
<th></th>
<th>red</th>
<th>blue</th>
<th>yellow</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORANGE</td>
<td>3</td>
<td></td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>GREEN</td>
<td></td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

Did you predict that the LCM for 3 and 4 would be 12?

<table>
<thead>
<tr>
<th></th>
<th>red</th>
<th>blue</th>
<th>yellow</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORANGE</td>
<td>9</td>
<td></td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>GREEN</td>
<td>8</td>
<td></td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>COMBO</td>
<td>9</td>
<td>8</td>
<td></td>
<td>24</td>
</tr>
</tbody>
</table>

Now we can combine equal amounts of the two dyes (12 units of each). Note that the ratios in the top two rows remain constant (to get the LCM of 12, in the “orange” row we multiplied all the numbers by 3 and in the “green” row we multiplied all the numbers by 4). Now, we add the “orange” and “green” rows to get the ratio in the “combo” row. Since a proportion is a ratio, we need the “yellow” number in the numerator and the “total” in the denominator.

9) **D.** As we saw in problem 7, when we need to solve problems that include fractions with different denominators, we should use the LOWEST COMMON MULTIPLE ("LCM") as our table total. Here, since we’re reducing two of the partnership interests by fractions, it will help if the one man’s share is easily divisible by one of those denominators (5), and the other man’s easily divisible by the other denominator (4). Since all of the original holdings are equal, giving each party 20 (5 x 4) shares in the company will make our job easier:

<table>
<thead>
<tr>
<th></th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>W</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>80</td>
</tr>
</tbody>
</table>

Let’s see how using a multiple of 5 and 4 makes a difference:
When one man (M1) sells 1/5 of his share of the company, he retains 16 out of his original 20 shares, and the woman adds her new 4 shares to her original 20.

When another man (M2) sells 1/4 of his share (the same as keeping 3/4, right?) of the company, he retains 15 out of his original 20 shares, and the woman adds her new 5 shares to her original 24. Since the total number of shares remains constant, the woman now owns 29 out of the 80 shares, or 29/80 of the company!

10) B. As always, we set out a “Total” column along with the columns for “Water” and “Juice.” In the 8-gram solution, the Water/Juice ratio is 3 to 1 (25% juice); in the 12-gram solution, it’s 2 to 1 (33.3% juice). If you were pressed for time here and weren’t sure how to go about solving, couldn’t you eliminate choices (a), (d), and (e), since they don’t fall between 25% and 33%?

<table>
<thead>
<tr>
<th>Water</th>
<th>Juice</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>14</td>
<td>6</td>
<td>20</td>
</tr>
</tbody>
</table>

The first row gives us the 3:1 ratio in an 8-gram solution; the second gives us the 2:1 ratio in a 12-gram solution. Both solutions are made up of the same elements (water and juice), so we can add the columns to get a new, 20-gram solution.
SLOPE AND ANGLES

Do not assume that the following figures are drawn to scale. However, when you’re taking the SAT, unless you see these words under the figure, “Note: Figure not drawn to scale,” always assume that figures are drawn to scale.

1) What is the slope of a line that passes through the points (4, 5) and (19, 80)?
   a) 1/4 
   b) 3/4 
   c) 2 
   d) 5 
   e) 53

2) In the figure above, what is the total degree measurement of the 7 labeled angles?
   a) 450 
   b) 540 
   c) 600 
   d) 700 
   e) 720

3) If the slope between the points at (1, 1) and (v, 7) is 3/4, what is the value of v?
   a) 4 
   b) 6 
   c) 8 
   d) 9 
   e) 12

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) A line containing the points (0, 0) and (9, 6) will also contain the point ...
   a) (2, 3) 
   b) (3, 6) 
   c) (12, 8) 
   d) (9, 12) 
   e) (18, 15)

5) What is the slope of a line that passes through the origin and the point (-2, -1)?
   a) 2 
   b) 1/2 
   c) 0 
   d) -1/2 
   e) -2
6) In the figure above, lines A, B, and C have slopes \( z, y, \) and \( x, \) respectively. Which of the following is a correct ordering of those slopes?
   a) \( z < y < x \)  
   b) \( z < x < y \)  
   c) \( y < z < x \)  
   d) \( y < x < z \)  
   e) \( x < y < z \)

7) If line \( m \) is the perpendicular bisector of the line segment with endpoints (-2, 0) and (0, 1), what is the slope of line \( m \)?
   a) 2  
   b) 1  
   c) 0  
   d) -1  
   e) -2

8) If the slope of the line that passes through the points \((a, 0)\) and \((1, a)\) is \( \frac{1}{2} \), what is the value of \( a \)?
   a) -3  
   b) \(-\frac{1}{3}\)  
   c) 0  
   d) \(\frac{1}{3}\)  
   e) 3

9) [Grid In] What is one possible value for the slope of a line passing through point (-1, 1) and passing between points \((1, 3)\) and \((2, 3)\) but not containing either of them?

10) In the figure above, what is the degree measure of angle \( z \)?
    a) 65°  
    b) 45°  
    c) 40°  
    d) 30°  
    e) 25°
SLOPE AND ANGLES

1) **D.** Has it been a while since you used the following formula?

\[
\text{Slope} = \frac{y_2 - y_1}{x_2 - x_1}
\]

We can designate either point as (1) and the other as (2)—try it both ways; it doesn’t matter. Since it’s easier to work with positive numbers, let’s designate as point 2 the coordinate pair containing the bigger numbers (19, 80) and designate the other coordinate pair (4, 5) as point 1:

\[
\text{Slope} = \frac{80 - 5}{19 - 4}
\]

or 75/15, which equals 5. Note that if you designate (4, 5) as point 2 and (19, 80) as point 1, you still end up with 5 (-75/-15).

2) **B.** A triangle has 180 degrees; a quadrilateral has 360 degrees.

3) **D.** Check back to problem 1 for the slope formula. Since we know the slope here, we can enter that into the equation with the other information. Then we can cross-multiply to get

\[3(v - 1) = 4(6), \text{ which becomes } 3v - 3 = 24.\]

\[\frac{3}{4} = \frac{7 - 1}{v - 1}\]

4) **C.** The line has a slope of 2/3 (it moves up 2 every time it moves 3 to the right); since the problem writer was kind enough to let us start at zero, we only have to find the choice whose y:x ratio is 2/3.

5) **B.** See the explanation for question 1.

\[
\text{Slope} = \frac{-1 - 0}{-2 - 0}
\]

6) **B.** Positive slopes go “up” from left to right, and negative slopes go “down.” Just like a stock chart or progress report.

7) **E.** A perpendicular bisector crosses any original line at a 90-degree angle. To find this particular bisector we need to find the slope of the bisected line—1/2, right? Next, the slopes of perpendicular lines are always negative reciprocals (which means “flip” the original
SLOPE AND ANGLES
ANSWERS AND EXPLANATIONS

8) D. See the slope formula laid out in problem 1. Can we still use that formula here, even though the variable a shows up twice? Sure.

\[
\frac{1}{2} = \frac{a - 0}{1 - a}
\]

Let’s plug in what we know and cross-multiply to solve.

\[
\frac{1}{2} = \frac{a}{1 - a}
\]

Now cross-multiply: \(2a = 1 - a\); or \(3a = 1\).

9) \(0.667 < x < 1\). Whenever the SAT asks you a question for which a range of numbers will work, any number in that range will win you the point. Here, since our line passes between the points (1, 3) and (2, 3), why don’t we choose (1.5, 3) for our calculations?

Slope = \(\frac{3 - 1}{1.5 - (-1)}\)

or Slope = \(\frac{2}{2.5}\) or 0.8

Alternatively, if you enjoy hard work, you can figure the slope from (-1, 1) to both (1, 3) (slope 1) and (2, 3) (slope 2/3). The slope of our line must be somewhere in between.

10) E. In the triangle on the upper left, we can add 40° and 30° to get 70° and so can calculate the unknown angle to be 110°. Since vertical angles are always equal, the vertical angle in the bottom triangle must also be 110°. Add 45° to 110° and what’s left?

# Not true when the lines are parallel to the x and y axes (any line parallel to the y axis has an “undefined” slope, since the “change in x” (the slope fraction’s denominator) is zero.

* When two straight lines cross, the side-by-side angles created are supplementary (they add up to 180°). The two pairs of angles that are “across” the intersection from each other are termed “vertical.” Because the angle of the crossing lines is the same on both sides of the intersection, angles that are vertical to each other are always equal.
SYMBOLS

First, this: No matter what you think of your high school education so far, it has introduced you to every operation symbol (addition, division, fractions, roots, and the rest) that’s used on the SAT. What, then, does it mean if you encounter a symbol (such as \( \Delta m \)) that you’ve never seen before? That means the problem you’re looking at is not there primarily to test your math abilities; it’s there to test your anxiety level, self-confidence, and ability to follow directions.

1) [Grid In] The “digital root” of a positive integer is found by adding its digits, adding the digits of the resulting number, and so on, until the result is a single digit. For example, the digital root of 876 is 3 because \( 8 + 7 + 6 = 21 \) and \( 2 + 1 = 3 \). What is the least integer greater than 500 with a digital root of 1?

2) For all nonnegative numbers \( d \), let \( \Delta d = \frac{d}{5}^{1/2} \)

If \( \Delta d = 2 \), what is the value of \( d \)?

   a) 6  
   b) 20  
   c) 27  
   d) 35  
   e) 125

3) [Grid In] For all integers \( t \), let \( \bowtie t \) be defined as:

\[ \bowtie t = \begin{cases} 
3t & \text{if } t \text{ is even} \\
(t + 2)^2 & \text{if } t \text{ is odd} 
\end{cases} \]

If \( \bowtie 2 + \bowtie 1 = u \), what is the value of \( \bowtie u \)?

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) [Grid In] For all numbers \( r \) and \( s \), where \( r \neq -s \), let \( r \triangleright s \) be defined as:

\[ r \triangleright s = \begin{cases} 
r - s & \text{if } r > s \\
r + s & \text{if } r < s 
\end{cases} \]

If \( 6 \triangleright z = 7/8 \), what is the value of \( z \)?

5) [Grid In] \( \lfloor d \rfloor \) is defined as the greatest integer less than \( d \). \( \lceil d \rceil \) is defined as the smallest integer greater than \( d \).

What is the value of \( \lfloor 17.4 \rfloor - \lceil 15.7 \rceil \)?

6) [Grid In] For all positive integers \( g \), let \( \lbracket g \rbracket \) equal the greatest prime number that is a divisor of \( g \).

What does \( \lbracket 14 \rbracket \) equal?
7) If $z$ is a positive integer, let $\mathbb{Z}$ be defined as the set of all multiples of $z$. All of the numbers in which of the following sets are also in all three of the sets $\mathbb{2}, \mathbb{3}$, and $\mathbb{7}$?

- a) $\mathbb{2}$
- b) $\mathbb{7}$
- c) $\mathbb{14}$
- d) $\mathbb{21}$
- e) $\mathbb{42}$

8) Let $\mathcal{y}$ be defined by $\mathcal{y} = y^2 + 8$. If $2\mathcal{y} = 2^2\mathcal{y}$, what is the value of $y$?

- a) 1
- b) 2
- c) 2.5
- d) 4
- e) 8

9) [Grid In] Let $r \gg s = \text{the sum of the integers between (and not including) } r \text{ and } s$.

What is the value of $(70 \gg 100) \text{ minus } (71 \gg 99)$?

10) For all $z \geq -1$, $\mathcal{z}$ is defined as $\mathcal{z} = (z + 1)^{1/2}$.

Which of the following is equal to $\mathcal{24} - \mathcal{15}$?

- a) $\mathcal{-1}$
- b) $\mathcal{0}$
- c) $\mathcal{1}$
- d) $\mathcal{7}$
- e) $\mathcal{\sqrt{7}}$
SYMBOLS

1) 505. This is a great example of the essentially nonsensical nature of symbols problems. I know and you correctly suspect that there is no such thing (in the real world) as a “digital root.” That’s why the test maker put “digital root” in quotes.

2) B. If you’re not comfortable with fractional powers, you should work on the Exponents B TEN FOR TEN. Here, the ½ power is the square root. One way to solve would be to square both sides, meaning that \( d/5 = 4 \); or \( d = 20 \). Alternatively, we can plug in the answer choices into the equation. Plugging in 20 and dividing it by 5 gives us 4; the square root of 4 is ... .

3) 289. Symbols problems that ask you perform the defined operation twice are particularly annoying, since if you’re in a hurry you might not notice the second operation! (If you answered 15 here, you fall into that category.) First, we have to calculate what \( u \) equals (15); then we have to perform the Symbol operation on \( u \)—so, since \( u \) is 15, we end up with \((15 + 2)^2 \). ...

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) \( 2/5 \) or 0.4.

\[
\begin{align*}
6 - z &= 7 \\
6 + z &= 8
\end{align*}
\]

The (r) position in the defined function is now occupied by the value 6, so we sub in 6 wherever r shows up in the original definition; the (s) position is now occupied by the variable (z), so we sub in z for s. Then cross-multiply:

\[
7(6 + z) = 8(6 - z); \text{ so } 42 + 7z = 48 - 8z; \text{ adding } 8z \text{ to both sides and subtracting } 42 \text{ from both sides: } 15z = 6; \text{ so, } z = 6/15 \text{ or } 2/5.
\]

5) 1. Right now, draw a number line. Put 17.4 and 15.7 on the line. Now, fill in the integer values around those numbers. For instance, the greatest integer value less than 17.4 (or just to its left on the number line) is 17; the smallest integer value more than 15.7 (or just to its right ...) is 16. 17 – 16 ... .

6) 7/3. What’s the greatest prime number that divides evenly into 14? Must be 7. How about the largest prime number that divides evenly into 18? 9? Is that prime? Hmm. How about 3? What’s the definition of a prime number, anyway?*

7) E. The Box tells us to include all multiples of the boxed value, which means that, for example, \( \Box \) includes 14, 21, 28, etc. The tough part of this problem is noticing that the answer choices are also boxed, which means that, for example, \( \Box \) doesn’t mean just 3, but also 6, 9, 12, etc. Once we understand the implications of the boxes, it’s evident we need a boxed number that includes factors of 2, 3, and 7, right?

* A prime number is an integer that has exactly two different factors, 1 and itself. So, how many even prime numbers are there? What are the first five primes? If you don’t know, ask.
8) **B.** If you’re comfortable with functions, think of each \( y \) in this problem as \( f(x) \) instead. You may have noticed that many Symbols definitions are very similar to those in functions problems.

The definition tells us that whenever the musical note shows up beside a value (or variable), we have to square that value and then add 8. Translating gives us \( 2(y^2 + 8) = (2y)^2 + 8 \); note that on the right side of the equation the value we’re squaring is \( 2y \) but \( 2y \). Next, \( 2y^2 + 16 = 4y^2 + 8 \); simplifying, \( 8 = 2y^2; 4 = y^2; 2 = y \).

9) **170.** No SAT math problem is designed to take much more than one minute to solve. What does it mean, then, when you’re supposed to compare two sets with a grand total of 56 numbers? Probably that there’s an easier way.

When we lay out the beginning and end of the first added set (71 + 72 + ... + 98 + 99) and the beginning and end of the second added set (72 + 73 + ... + 97 + 98), we notice that, except for 71 and 99, the added members are duplicated in both sets. So, after we subtract the second set from the first set, we add up whatever’s left over (71 + 99).

10) **B.** Look back at the explanation to question #2 to revisit fractional exponents. Also, like question #3, because the answer choices are accompanied by symbols, you need to take one more step after you figured you’d be done.

The square root of \( 24 + 1 \) is 5; the square root of \( 15 + 1 \) is 4. Subtract them and you get 1. Now, translating the answer choices: Let’s find a number that, when we execute the symbol function, produces 1. Starting with (c): \( 1 + 1 = 2 \), the square root of which is more than 1 (eliminating not only (c), but (d) and (e) as well). Now, how about (b)? \( 0 + 1 = 1 \), the square root of which is ....
TRANSLATION SKILLS A

First, this: Always plan to read each problem TWICE. During your first read, note what’s interesting or quirky about the problem. IGNORE THE NUMBERS. During your second read, translate the information, including the numbers.

1) The total mass of a container and the liquid in it was 850 grams. When half of the liquid was poured from the container, the total mass of the container and remaining liquid was 530 grams. What was the mass, in grams, of the container alone?
   (a) 130 (c) 190 (e) 210
   (b) 150 (d) 200

2) Terri received pledges from 35 people for a 20-mile bike-a-thon. If Terri rode 20 miles and each person gave 25 cents for each mile she rode, which of the following gives the total dollar amount of money Terri collected?
   (a) 0.25 x 20 x 35 (c) 35 + 20 x 0.25 (e) 20 + 35 + 0.25
   (b) 35 x 0.25 + 20 (d) 20 x 35 + 0.25

3) A machine can collate documents at the rate of 180 per hour. Another machine can bind the documents at the rate of 6 per minute. How many binding machines are needed to keep up with 12 of these collating machines?
   (a) 4 (c) 8 (e) 24
   (b) 6 (d) 12

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) [Grid In] Joan and Dean each bought the same Forever-Lead pencils and a large pink eraser. Joan paid $4.10 for 7 pencils and one eraser. Dean paid $1.35 for 2 pencils and one eraser. What is the price of one of the Forever-Lead pencils? (Disregard cents sign when gridding.)

5) The regular price per can of a certain brand of soup is $0.80. If the regular price per can is discounted 20 percent when the soup is purchased in 12-can cases, what is the price of 48 cans of this brand of soup purchased in 12-can cases?
   (a) $15.36 (c) $27.50 (e) $30.72
   (b) $19.03 (d) $28.80

6) Kim has minks, pumas, and ferrets for pets. The number of pumas she has is 1 more than the number of minks, and the number of ferrets is 3 times the pumas. Which could be the total number of these pets?
   (a) 15 (c) 17 (e) 19
   (b) 16 (d) 18
7) A sauce maker buys tomatoes in cans containing 72 ounces of tomatoes each. If the sauce maker uses 12 ounces of the tomatoes in each jar of her tomato sauce, what is the least number of cans she needs to prepare 61 jars of sauce?

(a) 7  
(b) 8  
(c) 10  
(d) 11  
(e) 12

8) During a two-month period, the price of an ounce of mercury decreased by 25 percent by the end of the first month and then increased by 1/3 of this new price by the end of the second month. If the price of mercury was $m$ dollars per ounce at the beginning of the two-month period, what was the price, in dollars per ounce, by the end of the period?

(a) $0.81m$  
(b) $0.98m$  
(c) $m$  
(d) $1.08m$  
(e) $1.33m$

9) A sewing kit contains a number of green, beige, and black buttons. The information above is about 5 buttons that were drawn from the kit. If $b$ is the total number of black buttons drawn, which of the following statements must be true?

(a) $b = 1$ only  
(b) $b = 2$ only  
(c) $b = 3$ only  
(d) $b = 1$ or $2$  
(e) $b = 1$ or $3$

10) A tour bus stopped to let its passengers stretch their legs after it traveled 1/3 of the total distance to its destination. It stopped again after it traveled 2/5 of the distance remaining between its first stop and its destination, and then the driver drove the bus the remaining 90 miles to its destination. What was the total distance, in miles, from the bus's starting point to its destination?

(a) 180  
(b) 225  
(c) 260  
(d) 300  
(e) 380
TRANSLATION SKILLS A

1) E. During our first read, we notice that the container weighs a certain amount, as does the liquid it contains. We’re going to pour out some of the liquid, and when we do so, the combined weight of the container + remaining liquid will change. How much of the liquid? Half. How much does the weight change? During our second read, we note that we poured out half the liquid, and what’s left is 320 grams lighter. So, half of the liquid weighs 320 grams, which means that originally, the container contained twice as much liquid, or 640 grams. Subtract that 640 from the original weight of 850 grams and we find that the container weighs 210 grams.

2) A. During our first read, we notice that the funding for this bike-a-thon is set up pretty much the way we’d figure it should be. So, how do we compute how much money Terri raised? During our second read, we start to put the numbers into place—the quarter per mile, the 20 miles, and the 35 people.

3) B. During our first read, we note that we’re dealing with hours and minutes, so we’ll have to translate one into the other. Usually it makes sense to translate toward the smaller unit of measurement, which here is per minute—let’s try to do so during our second read. A collator that can process 180 documents per hour can collate 3 documents per minute, right? So, since the binding machine can bind 6 documents per minute, wouldn’t we need twice as many collators as binders?

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) 55. During our first read, we note that we will have to work with two unknowns. In such cases, the SAT will provide us with two equations. We should write out the equations in our own handwriting, one directly above the other, using letters that represent the entities (rather than x and y, which could be confused). When we do so here, during our second read, we note that:

\[7p + e = 4.10\] and
\[-(2p + e = 1.35)\]

Since we’re looking to solve for \(p\), we notice that subtracting the bottom equation from the top causes \(e\) to disappear, leaving us with \(5p = 2.75\).

5) E. During our first read, we see that we’re going to discount a regular price and then multiply that discounted price by the number of items bought. During our second reading, we include the numbers: 20% less than 80 cents is 64 cents; \$0.64 \times 48 = \$.

6) E. During our first read, we note that there are multiple ratios among Kim’s three types of pets. The question asks us what could be the total number of pets, which on the SAT always means there could also be other totals (that aren’t included in the answer choices). During our second read, we determine that the pet she has fewest of is minks, followed by pumas, and finally by ferrets. So, since the answer choice numbers are sort of small, how about we substitute a small number, like 2, for minks and do the math? So, if there are 2 minks, then
she has 3 pumas and 9 ferrets. That adds up to ... 14. Not enough. So, what do you figure we should do next? Yeah, 3 minks means ...

If you secretly enjoy algebra, here’s how to do it: Since \( f = m + 1 \) and \( p = 3f \), and we want the sum of \( m + f + p \), subbing in we can solve in terms of \( m \): \( m + (m + 1) + 3(m + 1) \), which equals \( 5m + 4 \). How does this help? We know that, since \( m \) is an integer, \( 5m \) is a multiple of 5. Because \( 5m + 4 \) is four more than a multiple of 5, any answer choice matching that description (and of course there’s only one in this set) will do.

7) **D.** During our first read, we note that we will need to determine how many jars of sauce can be made from each can of tomatoes. During our second read, we note that \( 72/12 = 6 \), which means that the sauce maker can make 6 jars from each can. So, if the sauce maker needs to fill an order for 61 jars of sauce, she’ll have to open the 11th can, because 10 cans will only allow her to make 60 jars.

8) **C.** Whenever you see more than one percentage change discussed in a problem, you’re looking at a classic SAT “percentages of changing bases” problem, in which you have to use the most recent base to calculate each succeeding percentage change. To solve all percentage problems in which no number is provided for the original base, it makes sense to “pick” 100 to stand in as the original base. So, \( m = 100 \). When we decrease 100 by 25% after the first month, we end up with a new base of 75. Next, during the second month, increasing our most recent base of 75 by 1/3 (or 25) puts us right back where we started at 100 (or \( m \))!

9) **E.** Finishing our first read, we note that all the question is asking us is how many black buttons were drawn! So, during our second read, we cross out Buttons 1 and 4, underline Button 3, and then consider Buttons 2 and 5 (which must be the same color). If 2 and 5 are beige, only Button 3 will be black; however, if Buttons 2 and 5 are black, then we have three black buttons (2, 3, and 5). So, one or three buttons can be black.

10) **B.** Whenever we are given percentages (or fractions or ratios), it makes more sense to work backwards from the total. During our second read, we see that when the bus stops after 1/3 of the trip, 2/3 of the trip is left, and so 90 miles is 3/5 of 2/3 of the total distance. We can set up the equation like this: \( 90 = 3/5 \times 2/3 \) (whole trip). So, \( 90 = 2/5 \) (whole trip). Because we don’t like coefficients like 2/5, we multiply by the reciprocal of 5/2 to get the answer. Alternate, you can guess ‘n’ check this one. Moreover, since we’re dealing with denominators of 3 and 5 here, wouldn’t our right answer need to be divisible by 3 and 5? That eliminates (c) and (e), leaving (a), (b), and (d). Conveniently, (b) is the middle choice, so we start there. 1/3 of 225 is 75, leaving 150 for the second leg of the trip. 90 is 3/5 of 150. Bingo.

6/24/09
TRANSLATION SKILLS B

First, this: Please read every problem TWICE. During your first read, **IGNORE THE NUMBERS**. During your second read, **begin** translating the information, including the numbers. This two-part process will cut down on confusion, which is the #1 time-waster on standardized tests.

1) **[Grid In]** Assume that ¼ quart of orange drink concentrate is mixed with 1¾ quarts of water to make orange drink for 4 people. How many quarts of orange drink concentrate are needed to make orange drink at the same strength for 22 people?

2) **[Grid In]** Gwendolyn rode her bicycle a total of 260 miles in 13 days. Each day after the first day she rode 1 mile farther than the day before. What was the difference between the average (arithmetic mean) number of miles she rode per day and the median number of miles she rode during the 13 days?

3) If the product of the integers r, s, t, and y is 770, and if 1 < r < s < t < y, what is the value of r + y?

   (a) 5
   (b) 9
   (c) 10
   (d) 13
   (e) 18

**PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW**

4) What was the initial weight, in pounds, of a person who now weighs r pounds and who lost s pounds and then gained w pounds?

   (a) r + s - w
   (b) s - r + w
   (c) r + s + w
   (d) s - r - w
   (e) r - s + w

H J K L M

5) **[Grid In]** Each of the boxes above must contain one number from the set {6, 11, 14, 20, 21}. If different number is to be placed in each box so that the following conditions are met, what number is in Box M?

   (a) Box H contains an odd number.
   (b) Box J contains an even number.
   (c) The number in box H is less than the number in box J.
   (d) Boxes K and L each contain a number that is a multiple of 7.

6) In a horticultural experiment, 300 seeds were planted in plot A, and 250 were planted in plot B. If 61 percent of the seeds in plot A germinated and 40 percent of the seeds in plot B germinated, what percent of the total number of planted seeds germinated?

   (a) 42.7%
   (b) 50.8%
   (c) 51.5%
   (d) 56.6%
   (e) 59.3%
7) If half of the people in a room leave at the end of every ten-minute interval and at the end of an hour the next to last person leaves, how many people were in the room to start with? (Assume that no one comes into the room once the process begins.)

(a) 4  
(b) 8  
(c) 16  
(d) 32  
(e) 64

8) If 65 percent of a class answered the first question on a certain test correctly, 45 percent answered the second question on the test correctly, and 30 percent answered neither of the questions correctly, what percent answered both correctly?

(a) 32%  
(b) 38%  
(c) 40%  
(d) 52%  
(e) 62%

9) The accountant of a movie theater noted that for every 10 admission tickets sold, the concession stand sells 2 bags of popcorn at $3.50 each, 5 sodas at $2.25 each, and 3 candy bars at $1.25 each. To the nearest cent, what is the average (arithmetic mean) amount of these snack sales per ticket sold?

(a) $1.04  
(b) $1.68  
(c) $1.95  
(d) $2.08  
(e) $2.20

10) The height of a solid cone is 20 inches and the radius of the base is 12 inches. A cut parallel to the circular base is made completely through the cone so that one of the two resulting solids is a smaller cone. If the radius of the base of the small cone is 3 inches, what is the height of the small cone, in inches?

(a) 3.5  
(b) 4.3  
(c) 5.0  
(d) 9.2  
(e) 13.0
TRANSLATION SKILLS B

1) \(\frac{11}{8}\) or 1.375. We’re given a recipe that will serve four people. We need to make enough for 22 people. Let’s first figure out how much of each ingredient we need to serve one person—shouldn’t we divide by 4? OK, now that we know how much of each ingredient we need to serve one person, let’s multiply those amounts by 22 ...

2) 0. Here, the question is not what we expected, since it asks only for the difference between the median and the average. At this point, if you’ve worked on any Average and Total TEN FOR TENs, you know that, for any set of consecutive numbers, the median and the average are always the same! So, during our second read, we note that to solve this problem we don’t have to pay attention to what the numbers are, only that they are consecutive.

3) D. The first reaction to this problem is: How should I know? 770 must have about 50 factors! However, we know that on the SAT there is no ambiguity! So, there must be four, and only four, different numbers greater than 1 that multiply to 770. So, how about trying a factor tree? 770 breaks down to 77 x 10; 77 is \(7\times11\) and 10 is \(2\times5\). Which is which? The problem tells us—the smallest, 2, is \(r\), and the largest, 11, is \(y\). Adding \(r+y\) ...

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) A. Slow down when you encounter a “backwards” problem like this one. In essence, we’re given road directions from the point of view of the destination (“Here’s how you got here.”) Let’s start by writing down exactly what we’ve been told (we’ll call the “initial weight” \(x\))

\[r = x - s + w.\]

Now, can we isolate \(x\)? Sure, by adding \(s\) and subtracting \(w\), right?

Alternatively, you can choose to “run the movie backwards” (i.e., subtract to reverse any addition; divide to reverse any multiplication). So, running “backwards,” \(r + s - w = x.\)

5) 6. During our first read, we note that we need to figure out which values go into which boxes. As always in such situations, we’re given rules. During our second read, we start to decipher what the rules mean:

(a) Box H contains an odd number, which could be 11 or 21.
(b) Box J contains an even number, which could be 6, 14, or 20.
(c) The number in box H is less than the number in box J.
(d) Boxes K and L each contain a number that is a multiple of 7, which will have to be 14 and 21 (in either order). Because we have two values and two boxes, these values, 14 and 21, are no longer available to put into the other boxes. So,

(e) Box H must contain 11;
(f) Box J must contain 20 (since 14 is already taken and the number in Box J must be larger than the number in Box H); which leaves
(g) 6 as the only number that can be put into Box M.

6) C. During our first read, we note that we have two garden plots in which seeds were planted. Each plot received a certain number of seeds and a different percentage of seeds germinated in each plot. During our second read, we realize that a ratio table might help:

<table>
<thead>
<tr>
<th>Plot</th>
<th>Planted</th>
<th>% Germinated</th>
<th>Total Germinated</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>300</td>
<td>61</td>
<td>183</td>
</tr>
<tr>
<td>B</td>
<td>250</td>
<td>40</td>
<td>100</td>
</tr>
<tr>
<td>Both</td>
<td>550</td>
<td>51.5%</td>
<td>283</td>
</tr>
</tbody>
</table>

We are working toward filling in the box in bold, above. By entering the information about Plots A and B, we can get the Total Germinated for each plot. Adding the Total Germinated (283) and then dividing that by the number of seeds Planted (550) gives us 0.5145.

7) E. During our first read, we note that this problem will require us to work “backwards.” During our second read, we might choose to make a table like the one below.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>64</td>
<td>32</td>
<td>16</td>
<td>8</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

In the first row, we’ll mark out the time in ten-minute intervals. Next, we put a “1” in the last box in the second row, showing that after an hour, one person remained in the room. Next, running our calculations backwards, we see that there must have been 2 people at the 50-minute mark, and 4 at the 40-minute mark, etc. When you’re running a problem backwards like this one, it’s easy to check your work by working forwards once you get your answer.

8) C. Here, we’re dealing with “overlapping sets,” so our best technique is a Venn diagram, like the one below. Next, we see that since 30% of the students got both questions wrong, only 70% (not 100%) of the students got either or both questions right. So, our “total group” is not 100 but 70.

Next, we put the total for each circle next to that circle (not inside the circle; you’ll see why in a minute) and the overall total at the bottom right. So, 65% answered the first question correctly and 45% answered the second question correctly. This means that 70 students
answered 110 questions correctly. How can this be unless some of the students answered both questions correctly (and so must be counted in both circles)?

To find the number that must be counted twice (or put into the overlap of the two circles), add the circle totals and then subtract the overall total (here, $65 + 45 = 110 - 70 = 40$).

Now, in order to bring the left-hand circle up to 65 students we need to add 25 in the non-overlapping portion of the circle; similarly, to come bring the right-hand circle up to 45 we need to add 5 in the non-overlapping portion of the circle. (This is why you put your circle totals outside their respective circles.) Now, add the numbers in the circles: $25 + 40 + 5 = 70$!

9) E During our first read, we note that the question tells us that we’ll pro-rate the concession expenses per moviegoer. During our second read, we begin to combine the numbers—popcorn totals $7.00, sodas total $11.25, and candy bars total $3.75. What’s the grand total? $22.00. When we divide this by 10 we get …

10) C During our first read we fear that we’ll have to determine the volume of a cone (the formula for which is not included at the beginning of the SAT math sections). During our second read, we realize that this is just a glorified “similar triangles” problem—since a cone slopes steadily from bottom to top, cutting the cone horizontally will create a “mini-version” of the cone, and so maintain the same ratio between the base and the height. So, the old radius divided by the new radius will equal the old height divided by the new height.

$$\frac{12}{3} = \frac{20}{h}$$

When we cross-multiply, we find that $12h = 60$; or, $h = 5$. 
SHORT PREVIEW—WHAT ELSE DO I KNOW?

In many SAT math problems, inference is everything: We see this when working on a circle problem: We’re given one measurement (radius, diameter, area, or circumference) of a certain circle, and to solve we need to calculate at least one of the other three measurements! So, whenever you are given an item of information in an SAT math problem, ask yourself, “If I know this, what else do I know?”

Here, let’s think about what else we know before turning the page.

1) If the volume of a cube is 27 ...?
   What else do I know? ________________________________
   ________________________________

2) A circular piece of plywood is cut in half along a diameter. If the radius is 4 feet ...?
   What else do I know? ________________________________
   ________________________________

3) Of the 29 engineers on a project, 16 had at least 5 years experience, 17 had master’s degrees, and 4 had less than 5 years experience and did not have a master’s degree ...?
   What else do I know? ________________________________
   ________________________________

4) If 5 and 10 are the lengths of two sides of a triangular region ...?
   What else do I know? ________________________________
   ________________________________

5) How many solid wood cubes, each with a total surface area of 54 square centimeters ...?
   What else do I know? ________________________________
   ________________________________

PLEASE READ THE DISCUSSION OF THE PREVIEW PROBLEMS NOW
WHAT ELSE DO I KNOW?

1) A right circular cylinder with radius 24.7 and height 6.5 has volume $w$. In terms of $w$, what is the volume of a right circular cylinder with radius 24.7 and height 19.5?

   a) $w + 6.5$  
   b) $2w$  
   c) $3w$  
   d) $4w$  
   e) $6.5w$

2) If the volume of a cube is 27, what is the shortest distance from the center of the cube to the base of the cube?

   a) $\frac{1}{2}$  
   b) 1  
   c) 1.5  
   d) $2\sqrt{3}$  
   e) $4\sqrt{3}$

3) A circular piece of plywood is cut in half along a diameter. If the radius is 4 feet, what is the perimeter, in feet, of one of the semicircular pieces?

   a) $4\pi + 4$  
   b) $4\pi + 8$  
   c) $8\pi + 8$  
   d) $8\pi + 16$  
   e) $12\pi + 8$

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) [Grid In] Five points, F, G, H, J, and L, lie on a line, not necessarily in that order. Segment FG has a length of 28. Point H is the midpoint of FG, and point J is the midpoint of segment FH. If the distance between J and L is 5, what is one possible distance between F and L?

5) If the average (arithmetic mean) of $b$ and $c$ is $p$, then, in terms of $p$, which of the following must be the average of $b$, $b$, $c$, and $c$?

   a) $p$  
   b) $2p$  
   c) $4.5p$  
   d) $p + 1$  
   e) $p + 2$

6) Of the 29 engineers on a project, 16 had at least 5 years experience, 17 had master’s degrees, and 4 had less than 5 years experience and did not have a master’s degree. How many of the applicants had a master’s degree and at least 5 years experience?

   a) 5  
   b) 8  
   c) 9  
   d) 13  
   e) 14
7) If 5 and 10 are the lengths of two sides of a triangle, which of the following can be the length of the third side?
   I.  7
   II. 12
   III. 15

   a) II only
   b) III only
   c) I and II only
   d) II and III only
   e) I, II, and III

8) [Grid In] In the diagram to the left, if both figures are squares, what is the area of the shaded square?

9) How many solid wood cubes, each with a total surface area of 54 square centimeters, can be cut from a solid wood cube with a total surface area of 5,400 square centimeters if no wood is lost in the cutting?
   a) 1,000
   b) 750
   c) 500
   d) 250
   e) 100

10) In the figure to the left, the large rectangle is divided into six identical small squares. If the perimeter of the large rectangle is 90, what is the area of one of the small squares?
   a) 25
   b) 36
   c) 49
   d) 64
   e) 81
WHAT ELSE DO I KNOW?  Preview:

1)  If I know the volume of a cube, I can take the cube root of that volume to calculate the length of each of the cube’s sides. Once I know that length, I can find the area of a side (all a cube’s sides are the same size). If asked, I can calculate the diagonal of a side (note that cutting a square in half diagonally produces two isosceles [45-45-90] right triangles) by multiplying any side by root 2, and I can even (by multiplying one side’s area by 6) calculate the surface area of the cube.

2)  As we discussed in the introduction to the preview, each of a circle’s measurements (diameter, radius, circumference, or area) is convertible into any of the other measurements! So, whether the question requires us to know the circumference, area, or diameter, we’re ready.

3)  One thing we know for sure is that we have more subcategories (degrees and experience) than we have total engineers, which tells us that this is going to be an “overlapping sets” problem. When we picture overlapping sets, we see two circles that partially overlap. That’s pretty appropriate, and will get us started on using a Venn diagram to solve this problem.

4)  When test takers are asked about triangles, they often draw a triangle that clearly ignores the given side lengths. However, let’s not do that, but rather consider the possibilities we can’t rule out when our only information about a triangle is the length of two of its sides. This could be a right triangle—but if that’s the case, is “10” the hypotenuse or are “5” and “10” the legs? Maybe the question will ask us about the maximum area of a triangle that includes sides of 5 and 10. In that case, we would make one of the sides the base and the other the height—no problem. Or, the problem could ask about the possible length of the third side. Here’s my rule: the longest side of any triangle must be shorter than the other two sides added up.

5)  Please refer back to the explanation for preview problem 1, which helps us convert from volume to edge length, area, and surface area. Here we are probably going to need to go in the opposite direction—from the surface area to the volume. First, how many surfaces does a cube have? So, when we divide the surface area by that number we can calculate the area of one side. Next, the area of each side is the square of one of the cube’s edges, right? So, if we take the square root of any side, we get one of the cube’s edges, and then, if necessary, we can use that information to calculate the volume. Right?

PLEASE RETURN AND WORK THROUGH THE MAIN EXERCISE

---

1 Six.
1) C. If you always ascertain exactly what you know before you start calculating, you will save a lot of time in the long run. Here, if you note that both cylinders’ bases are equal (and so can be ignored), all that’s relevant is that the second cylinder is three times as tall.

2) C. A cube’s volume is equal to any of its sides cubed, so to get the length of a side from the volume, shouldn’t we just do the opposite (take the cube root)? The cube root of 27 is 3, so each side is 3. If the cube stands 3 high, then halfway between the bottom and top of the cube will be half of that, or 1.5.

3) B. Let’s draw a circle. Now split it in half. Label the diameter. Next, how do we get the circumference (the circle’s perimeter) from the diameter—we multiply it by $\pi$, right? So, the circumference of the entire circle is $8\pi$. But, our perimeter includes only half the circumference (these problems are a lot easier to solve if we always draw a diagram), so …

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) 2 or 12. Number line problems are more easily solved when we create a number line that has numbers! So, whenever a problem involves a number line, and you’re only given relative distances, begin by labeling the leftmost point 0. If we do that here, F is 0, G is 28, H is 14, and J is 7. If L is 5 away from J, which is at 7, then it must lie at 2 or 12. Since we already labeled F 0, L’s position on the number line and distance from F are identical.

5) A. Let’s Pick Numbers. How about 3 for $b$ and 5 for $c$? That means that $p$, which is the average of 3 and 5, is 4. When we add, we get $3 + 3 + 5 + 5 = 16$; dividing that sum by 4 yields our Target Number of 4 (refer to the Picking Numbers A TEN FOR TEN® if any of this is unclear), which equals $p$.

6) B. First, we know that any time the SAT presents us with a problem about groups and subgroups, a Venn diagram (two overlapping circles) will organize the problem visually. Here, we have an overall group of 29 people; however, we have to subtract the four who are not in either relevant subgroup (and so cannot be in both of those subgroups). Once we remove those 4 people from our total of 29, we have an adjusted total of 25.

At this point, we can draw two circles representing the two relevant groups (“5+ years’ experience” and “master’s degree”). There are 17 members in one of the circles and 16 in the other (for a total of 33)—but only 25 people in the entire group. So, as we discussed above, if we add 17 + 16 and then subtract 25, we are left with 8, which is the number of people who must be in both groups (the workers who have been counted twice). Try it—draw the circles with a good-sized overlap. Now, put the 8 people who must be in both groups into the “overlap area.” Since we need 17 people in the left-hand circle, and 8 of them are in the “overlap area,” don’t we need to put 9 into the “exclusive” portion of the left-hand circle? Now, you try the right-hand circle—16 total. 8 are in the overlap. How many are left for the “exclusive” portion of that circle? Right, 8.
Now, put your hand over the far-right number, leaving only the numbers that are inside the left-hand circle. They add up to 17, right? Now, cover the left-hand number—16 inside the right-hand circle. Like magic.

7) **C.** Please review the preview discussion about the third side of a triangle—it must be less than the sum and more than the difference of the other two sides. So, $5 < \text{third side} < 15$, which means that 7 and 12 qualify. If you might like to remember something simpler, here it is again: The longest side of any triangle must be shorter than the sum of the other two sides.

8) **5.** What else do I know? First, how much irrelevant information will you run into in SAT math problems? Practically none. So, what does that tell us about the measurements on the outside of the square? **All of them are relevant.** The “3” tells us that the big square has an area of 9. Now we have to figure out the measurement of the small square. Here’s where noticing that the four little triangles formed by the rotation of the small square within the big square each measures 1 by 2. So, at this point we have two ways to solve: (1) If each right triangle measures 1 by 2, then the area of each of the four triangles is 1. So, 1 times 4 is 4; $9 - 4 = 5$; or (2) If each right triangle measures 1 by 2, its hypotenuse (and the side of the blue square) is root 5; to get the area of the blue square, we measure length times width: $\sqrt{5} \times \sqrt{5} = 5!$

9) **A.** The total surface area of each small cube divided by 6 faces gives us the area of each face (9 square centimeters), which means that each edge must be 3 centimeters and so each small cube’s volume is 27 cubic centimeters. Repeat the process for the large cube: surface area of 5400 translates to 900 per side, which translates to an edge of 30 and so a volume of 27,000 cubic centimeters. So, how many 27s go into 27,000? If you answered (e), please go back and look at the problem. Do you really think that the SAT is going to ask whether you can divide 5,400 by 54?

10) **E** What else do we know? Since perimeter is $2(l + w)$, and this figure’s length is 3 squares and its width 2 squares, the perimeter consists of the length of 10 individual sides ($3 + 3 + 2 + 2$), meaning that the length of one side of each square is 9.
TEN FOR TEN®

WATCH YOUR STEP!

Read this: “Tricky” SAT math problems encourage you to assume things that aren’t necessarily true. Try to imagine all the possibilities rather than just the convenient ones.

1) For how many values of \( p \) does \((p - 9)^{33} = 0\)?
   (a) -9  
   (b) 0  
   (c) 1  
   (d) 9  
   (e) 33

2) If \( n \) is a positive integer, which of the following must represent an even integer that is twice the value of an odd integer?
   (a) \(2n\)  
   (b) \(2n + 3\)  
   (c) \(2n + 4\)  
   (d) \(4n - 1\)  
   (e) \(4n + 2\)

3) [Grid In] If \((y + 3)^2 = 36\), which is the larger value of \(y^2\)?

   PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) During a sale at a pet store, if a customer buys a dog at full retail price, the customer is given a 50 percent discount on a bird of equal or lesser value. If Geoff buys a dog and a bird that have full retail prices of $30 and $20, by what percent is the total cost of the pets reduced during this sale?
   (a) 15%  
   (b) 20%  
   (c) 25%  
   (d) 28%  
   (e) 32%

5) The average (arithmetic mean) of eleven numbers is 42. When a twelfth number is added, the average of the twelve numbers is also 42. What is the twelfth number?
   (a) 42  
   (b) 44  
   (c) 84  
   (d) 126  
   (e) 170

6) What percent of 5 is 7?
   (a) 71.4%  
   (b) 80%  
   (c) 125%  
   (d) 140%  
   (e) 180%

7) Sid is writing the page number on the bottom of each page of a 22-page book report, starting with 1. How many digits will he have written after he has written the number 22?
   (a) 35  
   (b) 39  
   (c) 40  
   (d) 41  
   (e) 50
8) [Grid In] A sequence is formed by repeating the 5 numbers above in the same order indefinitely. What is the sum of the first 42 terms of the sequence?

9) X is the sum of the first 77 positive even integers, and Z is the sum of the first 77 consecutive positive integers. X is what percent more than Z?
   (a) 200%
   (b) 100%
   (c) 99%
   (d) -18%
   (e) -100%

10) The dogs in a certain kennel are fed Brand K and Brand P dog food only. Of those dogs, 9 dogs eat Brand K and 11 dogs eat Brand P. If 5 of the dogs that eat Brand K also eat Brand P, how many dogs are in the kennel?
    (a) 13
    (b) 15
    (c) 17
    (d) 19
    (e) 20
WATCH YOUR STEP!

1) C. The question isn’t asking, “For which value of \( p \)” Rather, it’s asking how many values \( p \) can have. If you answered (d), you misread the question. If \( x^2 = 0 \), mustn’t \( x = 0 \)? So, therefore, mustn’t \( p - 9 = 0 \)?

2) E. Why don’t we try picking numbers? First, though, let’s eliminate the choices that can’t end up even no matter what integer we pick—(b) and (d). Now, if we pick a number like 3, we can’t eliminate any of the remaining choices. But wait! This is a problem about evens and odds, so why don’t we try picking an even number to see whether that helps? Picking 2, we can eliminate (a) and (c), since neither 4 nor 8 is twice the value of an odd integer. Is the problem that easy? It is, if you read it all the way to the end (“of an odd integer…”).

3) 81. We know that \( y + 3 = |6| \), right? So, either \( y + 3 = 6 \) or \( y + 3 = -6 \). Which values for \( y \) will work in each case? 3 and -9. Especially when you’re working on the negative side of zero, draw a vertical number line and plot your points. Doing so here will eliminate the possibility that you’ll think that \( y \) could be -3! So, since \( y \) could be -9, the larger square here is 81.

4) B. First, Geoff has to pay the full retail price for the dog, or $30. Next, the bird’s sale price is half of $20, or $10. So, he pays $40 rather than $50. To calculate the percent discount, we subtract the new price from the old price and then put the difference over the old price (see below). We then multiply our decimal result by 100 and then stick a % sign after it. Thus:

\[
\text{Old} - \text{New} \times 100\% \\
\text{Old}
\]

5) A. Let’s keep this simple. If you have a 95.0 average in English, what grade to you need on the upcoming very important test to keep your average exactly 95.0? Would be a 95, right?

6) D. Your first task is to unscramble the information. How could you rewrite the question to make it easier to understand? How about “7 is what percent of 5?” Now, we can translate as we go: 7, as we know, is 7; “is” translates to = “what percent” can be expressed as \( z/100 \); “of” means times; 5 is 5. So, \( 7 = z/100 \times 5 \). Multiplying both sides by the denominator (100) yields \( 700 = 5z \). (Alternatively, you can throw 7 over 5 on your calculator and get 1.4, which you then multiply by 100 to get the percent.)

7) A. Every now and then, you can actually solve a problem by “writing it all out.” Here, you can write, “1 2 3 4 ... 20 21 22” and then count all the digits. Won’t take more than a minute, so why not?

Or, you can shorten the process. How many digits in each number? Well, 1-9 contain a total of 9 digits; 10-22 contain a total of 26 digits [13 numbers (not 12!), each with 2 digits].

8) 13. Here, we know that each of these five-number sequences adds to 2. How many such sequences do we have? If you whipped out your calculator, you came up with 8.4.
Multiplying 8.4 by 2, you got 16.8. That didn’t work.

But this is a Sets and Remainders problem, isn’t it? Try this: Start counting the terms starting with -2. To count 42 terms, you’ll have to count the entire set 8 times and then need to count two more numbers, which would be the terms that begin the next set (-2 and -1).

Next, we know that each complete set of the five terms adds to 2. If we have 8 sets (of 5 terms), we have a total of 16. When we add in the “remainder” terms (-2 and -1), we end up with a final total of 13.

9) **B.** If you even touched the calculator on this one you were sunk. Instead, we’ll use the Compare Piece by Piece method: The first 77 even numbers start with 2 and end with 154. So, Set X contains {2, 4, 6, 8 ... 154}, and Set Z contains {1, 2, 3, 4 ... 77}. Now, let’s put one set next to the other, so each corresponding term (first, second, etc.) is compared individually. Isn’t each term in Set X twice as big as the corresponding term in Set Z? Will that relationship continue all the way to the end (154 vs. 77)? If so, then the sum of Set X must also be twice as big (or 100% more) as the sum of Set Z.

10) **B.** Although you can use a Venn diagram on such a problem, you can also use a very simple formula, which is

\[
\text{number in Group K + number in Group P - number common to both groups}
\]

\[= 9 + 11 - 5 = 15!\]
The Florida museum built by beverage billionaire Heinrich Coors to house his world-class art collection opened in 2001.

**Passage 1** describes some early reactions to the Coors Museum. **Passage 2** is excerpted from Coors' autobiography.

**Passage 1**

It sits atop a wooded hillside overlooking the Gulf of Mexico in Naples, Florida. Critics have contemptuously compared it to Disney World. “A plastic paradise in kitsch city,” grumped one. “It outstrips any existing monument to expensive, aggressive bad taste, cultural pretension, and self-aggrandizement.”

The building that houses the controversial new Heinrich Coors Museum is a re-creation of the Villa dei Grecii in Trevyrarum, near Pompeii, Italy, which was destroyed by the eruption of Vesuvius in A.D. 79. It is the design of this building that has ignited the most heated art controversy of the new millennium.

Criticism of the museum design is of two types. One school of thought holds that the museum building itself is not sufficiently neutral, that a museum ought not to be, of itself, a work of art, competing with the collection displayed therein. The other school of thought holds that while it is permissible for a museum to be a work of art, the Coors building fails miserably as art because it is neither tastefully conceived nor accurately reproduced. “It is a faithful replica of nothing that ever existed,” wrote architecture maven Jeffrey Caruso, “re-created by inappropriate technologies and frequently lacking in basic architectural design judgment.”

Perhaps the most devastating single criticism of the authenticity of the museum design has been that excavation of the original villa site has been so incomplete that there is insufficient knowledge available even to attempt a legitimate three-dimensional recreation. “No one knows about its exact style and details, how many floors it had, or even how tall it was,” wrote Caruso. The Coors Museum, he seemed to imply, is merely an exercise in guesswork.

**Passage 2**

Since I personally would be paying for the new museum, the final question was put to me: Expand the existing facilities or construct an entirely new building? I listened to all the pros and cons. “Draw up plans for an entirely new building,” I told the trustees. I made one reservation. “I refuse to pay for one of those concrete-bunker-type structures that are the fad among museum architects—nor for some tinted-glass-and-stainless-steel monstrosity.”

To my delight, the trustees beamed. They, too, wanted the museum building itself to be unique and a work of art.

The flouting of conventional wisdom and refusal to conform carry with them many risks. This is nowhere more true than in the art world, certain quarters of which tend to be very much doctrinaire and elitist. However, I had calculated the risks—and I say this with an admitted degree of arrogance, I disregarded them. Thus, I was neither shaken nor surprised when some of the early returns showed that certain critics sniffed at the new museum. The building did not follow the arbitrary criteria for “museum construction.”

There were those who thought it should have been more conventional—that is, I suppose, that it should have been built to look like some of the museum structures whose architecture can be best described as “Penitentiary Modern.” In any event, for the first two months or so, the Heinrich Coors Museum building was called “controversial” in many art world (or should I say artsy-craftsy) quarters.

I have a fortunate capacity to remain unruffled. I also have had more than sufficient experience in many areas of life to know that the shrillest critics are not necessarily the most authoritative (and seldom the most objective).
1. In line 4, “plastic” most nearly means
   a. pliable
   b. artificial
   c. impermanent
   d. innovative
   e. inexpensive

2. The critics mentioned in the first paragraph of Passage 1 most probably consider the comparison of the museum to Disney World appropriate because they believe that both places
   a. have aroused controversy in the press
   b. were built in picturesque areas
   c. celebrate imagination and innovation
   d. are garish and inauthentic in design
   e. were very expensive to maintain

3. Lines 30-38 suggest that the excavation at the site of the Villa dei Grecii had revealed the original structure’s
   a. domestic fixtures
   b. architectural embellishments
   c. shell, but not the location of its interior walls
   d. age, but neither its layout nor its purpose
   e. floor plan, but neither its height nor its details

4. Passage 1 indicates that Caruso and like-minded critics have arrived at some of their objections to the Coors Museum by
   a. evaluating the artworks it holds
   b. comparing it to other museums that house antiquities
   c. considering the Roman building on which it is modeled
   d. investigating the sources of Coors’ personal fortune
   e. analyzing the character of Heinrich Coors

5. Coors indicates that the trustees “beamed” (line 50) because they were
   a. amused by Coors’ cantankerousness
   b. accustomed to Coors’ impulsiveness
   c. in accord with Coors’ preferences
   d. pleased by Coors’ unexpectedly generous donation
   e. impressed with Coors’ financial acumen

6. When Coors mentions the “flouting of conventional wisdom” (line 53), he is referring to his opinions about the
   a. design of the museum building
   b. location of the museum
   c. museum’s arrangement of displays
   d. financing of the museum
   e. floor plan of the museum building

7. As indicated in Passage 2, Coors considered his choice of museum design an act of
   a. courageous defiance
   b. pointed satire
   c. spiteful mischief
   d. reluctant compromise
   e. justified indignation

8. On the basis of the information in Passage 2, which statement most accurately describes Coors’ reaction to the art controversy mentioned in lines 53-60?
   a. He tabled plans to expand the museum’s facilities.
   b. He felt that his intentions had been misunderstood by critics.
   c. He took the complaints seriously enough to consider redesigning the museum.
   d. He had anticipated the response and decided to ignore it.
   e. He engaged the most vehement of the critics in public debate.
9. Which aspect of the Coors Museum building seems to matter a great deal in Passage 1, but not in Passage 2?
   a. Its potential for future expansion
   b. Its convenience for visitors
   c. Its questionable authenticity
   d. Its unusual appearance
   e. Its practicality

10. Which statement best expresses an idea shared by one group of critics in Passage 1 and the trustees in Passage 2?
    a. A museum ought to concentrate on collecting artworks from only one historical period
    b. Museums can be considered successful only if they attract a large enough segment of the population.
    c. The design of a building in which works of art are shown should resemble the style of those artworks.
    d. It is appropriate for a museum building to be a work of art in its own right.
    e. Museums that collect contemporary art experience fewer difficulties than those that collect classical art.
A DIFFERENCE OF OPINION—PAIRED PASSAGES 1

Recommended overall technique (see Paired Passages Companion):

1) **B.** Go to line 4. Blacken the word “plastic.” Now, plug the answer choices into the sentence. Critics have spoken of the museum “contemptuously”—does any other choice have a purely negative connotation?

2) **D.** An author can have but one goal, so often the test maker has to ask pretty much the same question again and again. If you used good technique on #1, above, you came away with the understanding that both Disney World and the Coors Museum were lambasted by critics for lack of authenticity (although I’m not sure how Disney World could be authentic).

3) **E.** Beginning in line 35, Caruso says, “No one knows about its exact style and details, how many floors it had, or even how tall it was.” If you answered (d), notice the word “purpose”: The original villa’s purpose was to be a country house.

4) **C.** Stay focused on an author’s Intention; this author has written a passage in order to discuss critics’ responses to the Coors Museum’s design. When in doubt, go with the subject under discussion—the design. If you answered (b), to which other museums was the Coors Museum compared? Remember, to be correct an answer choice must be based on specifics within the passage.

5) **C.** As we saw in the introduction, Heinrich Coors is a very rich man. Mr. Coors, in this snippet from his autobiography, interpreted the trustees’ beaming reaction as an affirmation of his decision to use a non-standard museum design—I wonder how often his trustees frowned? Choice (b) could be true; however, since the author never discusses Coors’ impulsiveness, the answer choice can’t be right.

6) **A.** When you keep your eye on the overall subject matter, you’ll lean toward correct answers and away from incorrect ones. If you considered (e), you were thinking in the right direction; however, isn’t the floor plan just a detail in the overall design? Is it possible that this entire controversy could have erupted over the location of the bathrooms rather than the museum’s overall appearance?

7) **A.** How does Coors see himself? As a clown, a victim, or a hero? If as a clown, then (b) or (c) could work. If as a victim, (d) or (e). However, if you were to write your autobiography, would you paint yourself as a figure of fun, someone who is manipulated by stronger personalities, or rather as the star of the show? These days, people don’t write autobiographies unless they think they’re stars.

8) **D.** “The flouting of conventional wisdom and refusal to conform carry with them many risks. ... However, I had calculated the risks—and I say this with an admitted degree of arrogance, I disregarded them.” As in question #7, we need to find an answer that reflects Coors’ view of himself as a hero stoically suffering the slings and arrows of outrageous critics.
Questions 9-10 compare and contrast the two passages. At this point, stop for 30 seconds and ask yourself, “Why are these two passages paired?” Specifically:

- What is the common subject matter? (Here, the design of the Coors Museum.)

- How do the points of view differ? (The critics think that the museum is inauthentic and in bad taste; Mr. Coors writes that the critics are “artsy-craftsy,” living in an echo chamber and so hostile to new ideas.)

9) C. Choices (a), (b), and (e) are not discussed at all. Choice (d) is wrong because the museum’s unusual appearance is the focus of both passages. In Passage 1, the critics go ape over the lack of authenticity; in Passage 2, Coors fails to mention the museum design’s authenticity at all.

10) D. This is tough because, at this point, we’re pretty much convinced that the critics and the trustees (and, of course, Coors) have no common ground. However, let’s eliminate the choices that are irrelevant—(a), (b), and (e). Starting on line 20, “The other school of thought holds that while it is permissible for a museum to be a work of art....” Starting on line 50, “… the trustees beamed. They, too, wanted the museum building itself to be unique and a work of art.” If you chose (c), was there any mention of the artworks housed at the Coors? Can an answer choice be right if it’s not supported anywhere in the passage? Nope.
VARIATIONS ON A THEME—PAIRED PASSAGES 2

These passages by 20th Century British writers are about Joan of Arc (c. 1412-1431), a young Frenchwoman who played a major role in the Hundred Years War. She came to prominence when English forces occupied much of French territory.

Passage 1

The report of a supernatural visitant sent by God to save France, which inspired the French, clouded the minds and froze the energies of the English. The sense of awe, and even of fear, robbed them of their assurance. Upon Joan’s invocation the spirit of victory changed sides, and the French began an offensive that never rested until the English invaders were driven out of France. She called for an immediate onslaught upon the besiegers, and herself led the storming parties against them. Wounded by an arrow, she plucked it out and returned to the charge. She mounted the scaling-ladders and was hurled half-stunned into the ditch. Prostrate on the ground, she commanded new efforts. “Forward, fellow countrymen!” she cried. “God has delivered them into our hands.” One by one the English forts fell and their garrisons were slain. The siege was broken, and Orleans was saved. The English retired in good order, and the Maid of Orleans prudently restrained the citizens from pursuing them into the open country.

Despite her victories and her services to Charles VII, King of France, the attitude of both the Court and the Church toward Joan eventually began changing. It became clear that she served God rather than the Church, and France rather than one particular political interest. Indeed, the whole conception of France seems to have sprung and radiated from her. Thus, the powerful particularist interests which had hitherto supported her were estranged. Joan was captured by the Burgundians, a rival French faction of Orleans, and sold to the rejoicing English for a moderate sum. For a whole year her fate hung in the balance, while careless, ungrateful Charles lifted not a finger to save her. There is no record of any ransom being offered. History, however, has recorded the comment of an English soldier who witnessed her death at the stake. “We are lost,” he said. “We have burnt a saint.” All this proved true. Joan of Arc perished on May 29, 1431, and thereafter the tides of war flowed remorselessly against England.

Passage 2

Joan of Arc, a village girl from the Vosges, was born about 1412; burnt for heresy, witchcraft, and sorcery in 1431; but finally declared a saint by the Roman Catholic church in 1920. She is the most notable Warrior Saint in the Christian calendar, and the most unusual fish among the eccentric worthies of the Middle Ages. She was the pioneer of rational dressing for women, and dressed and fought as men did.

Because she contrived to assert herself in all these ways with such force that she was famous throughout western Europe before she was out of her teens (indeed she never got out of them), it is hardly surprising that she was judicially burnt, ostensibly for a number of capital crimes that we no longer punish as such, but essentially for what we call unwomanly and insufferable presumption. At eighteen Joan’s pretensions were beyond those of the proudest pope or the haughtiest emperor. She claimed to be the ambassador of God. She patronized her own king and summoned the English king to repentance and obedience to her commands. She lectured, talked down, and overruled statesmen and prelates. She pooh-poohed the plans of generals, leading their troops to victory on plans of her own. She had an unbounded and quite un concealed contempt for official opinion, judgment, and authority. Had she been a sage and a monarch, her pretensions and proceedings would have been trying to the official mind. As her actual condition was pure upstart, there were only two opinions about her. One was that she was miraculous; the other, that she was unbearable.
1. Lines 11-17 portray Joan as
   a. rebellious
   b. courageous
   c. compassionate
   d. desperate
   e. fair

2. The word “retired” in line 20 most nearly means
   a. discarded
   b. recalled
   c. retreated
   d. slept peacefully
   e. ceased working

3. The sentence beginning “It became clear” (lines 26-28) indicates that Joan
   a. was more interested in military affairs than in religious or political ones
   b. was devoted to God and country rather than to any religious or political institutions
   c. preferred fighting for the underdog and lost interest once her side was winning
   d. had no particular loyalties, only vague and abstract ideas
   e. fought for religious reasons that had nothing to do with her allegiance to Charles VII

4. The phrase “technical arts” (line 58) refers to
   a. military craft
   b. mechanical skills
   c. formal schooling
   d. practical affairs
   e. scientific knowledge

5. Which of the following best describes the approach of Passage 1?
   a. Analysis of a historical theory
   b. Comparison and contrast
   c. Straightforward, factual narration
   d. Colorful, dramatic description
   e. Criticism couched in sarcasm

6. Passage 2 views Joan’s victories as stemming from her
   a. saintly behavior toward friend and foe alike
   b. natural goodness and essential simplicity
   c. threats to resort to witchcraft to frighten the enemy
   d. ability to command the respect of kings
   e. strength of personality and determination

7. The phrase “her actual condition was pure upstart” in lines 94-95 indicates that Joan
   a. behaved spontaneously and optimistically
   b. defied conventional strategies of warfare
   c. was unaware of what was expected of her
   d. was not a member of the elite
   e. used illegal means to achieve her ends

8. Both passages discuss which of the following regarding Joan?
   a. Her moral and ethical philosophy
   b. Her military background and training
   c. Her relationship to the Church and to the state
   d. The effect of her death on the outcome of the war
   e. The views that English subjects had of her

9. Which of the following questions is NOT explicitly answered by either passage?
   a. What was Joan charged with?
   b. Why did it take so long for Joan to be honored with sainthood?
   c. Where did Joan come from?
   d. What part did Joan personally play in the battle between the English and the French?
   e. How valuable was Joan to her country?
10. Both passages agree that Joan met with resistance primarily because of her
   a. attempts to undermine the Church and its teachings
   b. headstrong behavior and unwillingness to compromise
   c. petty squabbling with officials
   d. inability to continue to win military victories
   e. refusal to accept the typical female role of her time
VARIATIONS ON A THEME—PAIRED PASSAGES 2

Recommended overall technique (see Paired Passages Companion).

Passage 1—This author’s Intention is to Persuade us that, as the author states in lines 55-59, “All soldiers should read her story and ponder on the words and deeds of the true warrior, who in one single year, though untaught in the technical arts, reveals in every situation the key to victory.” It’s unusual that a Persuade passage would focus on such an historic subject, but this author isn’t out to just tell us a story but to convince us that Joan was even more amazing than we can imagine. In fact, if you’ve ever wondered what the word hyperbole* meant, you need look no further than this passage.

1) B. This is yet another example of how an answer choice can’t be too simple to be correct.

2) C. Go to line 20 and blacken out retired. Now, plug the answer choices into the sentence. The English must have left, since Joan kept her citizens from pursuing.

3) B. “It became clear that she served God rather than the Church, and France rather than one particular political interest.” As noted in this passage and the next, her loyalty to a “higher authority” made the earth-bound authorities resent her.

4) A. Go to line 58 and blacken out technical arts. Now, plug the answer choices into the sentence. Even if you had no clue from the sentence, however, what is the author’s Intention? To Persuade us that Joan was the greatest warrior ever!

5) D. Most people who get this wrong pick (c) (pegging this passage as Inform). Then they read Passage 2, which is much more straightforward. Here’s a hint: Straightforward narration generally doesn’t include statements such as “she finds no equal in a thousand years” (lines 46-47). Rest assured that if a passage on any future test is written in the style of a boring encyclopedia entry you won’t be asked to identify the passage’s style.

Passage 2—As opposed to the “colorful” Passage 1, this Inform passage reads like a dull encyclopedia entry! The author Intends to educate us on why a girl who saved France could be so casually thrown to the wolves. It seems that those in charge of churches and nations in those days were pretty thin-skinned when it came to someone questioning their authority. (Upon further consideration, delete “in those days” from the previous sentence.)

6) E. “Because she contrived to assert herself in all these ways with such force that she was famous throughout western Europe…” Of the other choices, only (d) comes close—but, even if Joan could command the respect of kings, what good

* Exaggeration; overstatement.
would that do her on the battlefield? My favorite is (a); if you picked it, you should actually read the passages.

7) D. I would say that more people get this question wrong than right, because the word “upstart” is rarely used any more. However, mightn’t the word actual clue us in that the relevant sentence is part of a comparison? “Had she been a sage and a monarch ... As her actual condition was ...” So, what’s the opposite of sage and monarch? While choice (a) may be true (although there is no direct evidence in the passage that it is), does this essay focus on Joan’s moods or the effects of her actions?

Questions 8-10 compare and contrast the two passages. At this point, stop for 30 seconds and ask yourself, “Why are these two passages paired?” Specifically:

- What is the common subject matter? (Here, Joan of Arc.)
- How do the points of view differ? (The first passage is a Persuade that idealizes a girl who stood up to pope and king while winning battles; the second Informs us about Joan’s effect on the powerful and how those powerful people treated her in consequence.)

8) C. Joan’s relationship with the powerful is the central focus of the second passage, and is important to the first passage in that “she served God rather than the Church, and France rather than one particular political interest.” If you chose (a), and many people do, somebody has convinced you that the SAT likes you to make great inferential leaps. It doesn’t.

9) B. Questions about what’s NOT there are always tough and if time is an issue these questions should be left until last. Choice (a) shows up in line 61, “burnt for heresy”; choice (c), in line 60, “a girl from the Vosges”; choice (d), pretty much the entire first passage; and choice (e), the first passage celebrates the lifting of the Siege of Orleans and how the tides of war turned against the English, all thanks to Joan. However, neither author makes clear why a warrior girl who thumbed her nose at the Church was declared a Roman Catholic saint many hundreds of years later.

10) B. This question continues the theme of “How could someone as valuable as Joan be thrown away by her country?” It seems that the authorities were, if anything, more scared of her than they were of their enemies. As the passage makes clear, France was less a country than a bunch of warring clans, some of which were allied with the English. Someone like Joan, who envisioned France as a nation, might frighten those with smaller minds who merely wanted to kill the neighbors and then get back to the feast. If you answered (c), reexamine the word “petty.” Even if Joan could be said to “squabble” (and you’d have to make a case not from the text but from your own extensive reading into the life and times of Joan of A), the stakes were never petty.

6/25/09
These passages present two perspectives of the prairie, the grasslands that covered much of the central plains of the United States during the nineteenth century. In Passage 1, a young Charles Dickens writes about his visit to the prairie on a sightseeing tour in the 1840’s. In Passage 2, Hamlin Garland, an American writer, describes the area near his childhood home in the early 1870’s.

Passage 1

We came upon the Prairie at sunset. It would be difficult to say why, or how—though it was possibly from having heard and read so much about it—but the effect on me was disappointment. Towards the setting Sun, there lay stretched out before my view a vast expanse of level ground, unbroken (save by one thin line of trees, which scarcely amounted to a scratch upon the great blank) until it met the glowing sky, wherein it seemed to dip, mingling with its rich colors and mellowing in its distant blue. There it lay, a tranquil sea or lake without water, if such a simile be admissible, with the day going down upon it: a few birds wheeling here and there, solitude and silence reigning paramount around. But the grass was not yet high, there were bare black patches on the ground and the few wild flowers that the eye could see were poor and scanty. Great as the picture was, its very flatness and extent, which left nothing to the imagination, tamed it down and cramped its interest. I felt little of that sense of freedom and exhilaration that the open landscape of a Scottish moor, or even the rolling hills of our English downlands, inspires. It was lonely and wild, but oppressive in its barren monotony. I felt that in traversing the Prairies, I could never abandon myself to the scene, forgetful of all else, as I should instinctively were heather moorland beneath my feet. On the Prairie I should often glance towards the distant and frequently receding line of the horizon, and wish it gained and passed. It is not a scene to be forgotten, but it is scarcely one, I think (at all events, as I saw it), to remember with much pleasure or to covet the looking-on again, in after years.

Passage 2

In herding the cattle on horseback, we children came to know all the open prairie round about and found it very beautiful. On the uplands a short, light-green grass grew, intermixed with various resinous weeds, while in the lowland grazing grounds luxuriant patches of blue joint, wild oats, and other tall forage plants waved in the wind. Along the streams, cattails and tiger lilies nodded above mats of wide-bladed marsh grass. Almost without realizing it, I came to know the character of every weed, every flower, every living thing big enough to be seen from the back of a horse. Nothing could be more generous, more joyous, than these natural meadows in summer. The flash and ripple and glimmer of the tall sunflowers, the chirp and gurgle of red-winged blackbirds swaying on the willow, the meadowlarks piping from grassy bogs, the peep of the prairie chick and the wailing call of plover on the flowery green slopes of the uplands made it all an ecstatic world to me. It was a wide world with a big, big sky that gave alluring hints of the still more glorious unknown wilderness beyond. Sometimes we wandered away to the meadows along the creek, gathering bouquets of pinks, sweet william, tiger lilies, and lady’s slippers. The sun flamed across the splendid serial waves of the grasses and the perfumes of a hundred spicy plants rose in the shimmering midday air. At such times the mere joy of living filled our hearts with wordless satisfaction.

On a long ridge to the north and west, the soil, too wet and cold to cultivate easily, remained unplowed for several years. Scattered over these clay lands stood small wooded groves that we called “tow-heads.” They stood out like islands in the waving seas of grasses. Against these dark-green masses, breakers of blue joint radiant rolled. To the east ran the river, plum trees and crabapples bloomed along its banks. In June immense crops of wild strawberries appeared in the natural meadows. Their delicious odor rose to us as we rode our way, tempting us to dismount.

On the bare upland ridges lay huge antlers, bleached and bare, in countless numbers, telling of the herds of elk and bison that had once fed in these vast savannas. On sunny April days the mother fox lay out with her young on southward-sloping swells. Often we met a prairie wolf, finding in it the spirit of the wilderness. To us it seemed that just over the next long swell toward the sunset the shaggy brown bison still fed in myriads, and in our hearts was a longing to ride away into the “sunset regions” of our pioneer songs.
1. In creating an impression of the prairie for the reader, the author of Passage 1 makes use of
   a. a reference to geological processes
   b. description of its inhabitants
   c. evocation of different but equally attractive areas
   d. comparison with other landscapes
   e. contrast to imaginary places

2. In line 14, the author includes the detail of “a few birds” primarily to emphasize the
   a. loneliness of the scene
   b. strangeness of the wildlife
   c. lateness of the evening
   d. dominance of the sky
   e. infertility of the land

3. In line 27, “abandon myself to” most nearly means
   a. dismiss as worthless
   b. isolate from all others
   c. overlook unintentionally
   d. retreat completely into
   e. become absorbed in

4. The author of Passage 1 qualifies his judgment of the prairie by
   a. pointing out his own subjectivity
   b. commenting on his lack of imagination
   c. apologizing for his prejudices against the landscape
   d. indicating his psychological agitation

5. In Passage 2, the author’s references to things beyond his direct experience (lines 57-59 and lines 87-92) indicate the
   a. unexpected dangers of life on the unsettled prairie
   b. psychological interweaving of imagination and the natural scene
   c. exaggerated sense of mystery that is natural to children
   d. predominant influence of sight in experiencing a place
   e. permanence of the loss of the old life of the prairie

6. One aspect of Passage 2 that might make it difficult to appreciate is the author’s apparent assumption that readers will
   a. have seen nineteenth-century paintings or photographs of the prairie
   b. connect accounts of specific prairie towns with their own experiences of the prairie
   c. be able to visualize the plants and the animals that are named
   d. recognize the references to particular pioneer songs
   e. understand the children’s associations with the flowers that they gathered

7. The contrast between the two descriptions of the prairie is essentially one between
   a. misfortune and prosperity
   b. homesickness and anticipation
   c. resignation and joy
   d. bleakness and richness
   e. exhaustion and energy

8. In both passages, the authors liken the prairie to
   a. a desert
   b. an island
   c. a large animal
   d. a barren wilderness
   e. a body of water
9. Both authors indicate that the experience of a beautiful landscape involves
   a. artistic production
   b. detached observation of appearances
   c. emotional turmoil
   d. fanciful reconstruction of bygone times
   e. stimulation of the imagination

10. The contrast between the two passages reflects primarily the biases of
    a. a grown man and a little boy
    b. journalist and a writer of fiction
    c. passing visitor and a local resident
    d. native of Europe and a native of the United States
    e. weary tourist and an energetic farm worker
PART 3

Points of Reference—Paired Passages

Recommended overall technique (see Paired Passages Companion).

Passage 1—This author’s Intention is to Reveal his feelings upon encountering the American prairie. In case you suspected the author of trying to Inform, note that his descriptions and comparisons help us see the prairie through his eyes.

1) **D.** When the first question includes no line reference, check whether it’s asking about the “big picture” or just a detail. Because this one asks about a detail (the author’s choice of language), we can treat it as a line reference question and, because line reference questions are asked in order, know that we can find the answer before line 14 (the line reference for question 2). In lines 11-13, the author refers to a sea or lake without water (and even alerts us that he’s using a simile). Note that (d) is simpler than choice (c), which can be attractive until you notice the qualifier “equally attractive areas.” If you answered (e), “contrast to imaginary places” ... which imaginary places?

2) **A.** If we’ve Indexed these passages, we’ve just noticed the simile about the lake or sea without water, and now read, “a few birds wheeling here and there, solitude and silence ...” That doesn’t restate any choice but (a). If you chose (c), the sun has just begun to set.

3) **E.** Go to line 27. Blacken out abandon myself to. Now, read the words in the answer choices into the sentence. What’s the author’s Intention? Did he enjoy the overall experience, since he couldn’t “abandon himself” to the scene, as he could if he were knee-deep in Scottish heather?

4) **A.** What is the author’s Intention? If you thought this was a travel guide for the depressed, that should have been a pretty good clue that the passage described the scenery less than the author’s reactions to the scenery. If you picked up that the author Intended to Reveal, and thus was writing subjectively (“the effect on me was disappointment”), the correct answer must have been pretty obvious. So, if you didn’t take a few seconds to note the author’s Intention in this passage, please do so next time.

Passage 2—Now this is a more optimistic Reveal passage. Again, the author of this passage takes us on a Magical Mystery Tour of his environment, but also shares with us how the prairie fired his imagination.

5) **B.** Here we have two sets of line references. How do we deal with such situations on test day? If we’re Indexing, we mark both portions; however, rather than flash-forward to the second Indexed portion, we should postpone answering this question until we’ve read both portions in Context; then, we can compare. In 57-59, the author tells us, “It was a wide world ...” and in 87-92, “To us, it seemed that just over ...” The author breaks off his physical description and waxes metaphorical here when he remembers how the prairie stimulated his imagination.
6) C. When you read the names of the birds, did you wonder what those birds looked like? I have no idea what a plover is—I think it’s a bird. Can you imagine how much more enjoyable the passage would be if it were accompanied by Audubon illustrations? Answer choice (a) is limited by the descriptive language; would you have to see actual artwork that was done at the time—or could a detailed description better help you see what the author saw?

Questions 7-10 compare and contrast the two passages. At this point, stop for 30 seconds and ask yourself, “Why are these two passages paired?” Specifically:

• What is the common subject matter? (Here, personal reactions to the American prairie.)

• How do the points of view differ? (The English visitor has a negative reaction; the resident finds the same prairie joyful and inspiring.)

7) D. How does each writer describe the prairie? The first, as an empty place, the second as a full one. If you think about it, only (d) truly describes the physical prairie as seen through the two sets of eyes. If you chose (e), you mistook the authors’ moods for their descriptions. Dickens never claimed that the prairie was exhausted.

8) E. We remember the lake or sea from Passage 1. So, let’s look at Passage 2 and see if there is something that compares the prairie to a lake or sea. Beginning in line 73, “waves of grass … breakers.”

9) E. The subject matter of these Reveal passages has reverted from the landscape to the authors. Let’s see: What sort of landscape would the author of passage 1 consider beautiful? In lines 22-24, he means that the prairie doesn’t fill him with “that sense of freedom and exhilaration that the open landscape of a Scottish moor, or even the rolling hills of our English downlands, inspires…”

10) C. The only “trappy” choice here is (d). Many residents of the U.S. live somewhere other than on the prairie, no? Also, was there any indication that the author of Passage 2 was a “farm worker”?
The following articles discuss aspects of television news reportage. Both passages refer to English author George Orwell (1903-1950), whose 1949 novel entitled 1984 warned against a totalitarian government that controlled all media and thus all “news” that was reported.

**Passage 1**

Relaying information and images instantly, television newscasts have allowed viewers to form their own opinions about various political events and political leaders. In many instances, television newscasts have even fostered active dissent from established governmental policies. It is no coincidence that, in the 1960’s, the civil rights movement took hold in the United States with the advent of television, which was able to convey both factual information and such visceral elements as outrage and determination. Only when all of America could see, on the nightly newscasts, the civil disobedience occurring in places like Selma and Montgomery did the issue of civil rights become a national concern rather than a series of isolated local events. By relaying reports from cities involved to an entire nation of watchers, television showed viewers the scope of the discontent and informed the disenfranchised that they were not alone.

The ability of television news to foster dissent has also been affected by increasingly widespread access to video cameras, so that the news presented on television now comes from the bottom up as well as from the top down. Across the world, dissidents have used video equipment to gather visual evidence of human rights abuses. Uncensored images and information have then been transmitted across otherwise closed borders by television newscasts.

One professor of popular culture, Fred Grayson, views the personal video camera as a “truth-telling device that can cut through lies.” That claim presumes, though, that the television viewer can believe what he or she sees. But the motivation of the photographer must always be taken into account, and the videotape that appears on television can, like still photography, be staged and even faked. When and if propagandists for some government utilize computer-generated effects, viewers will have more trouble believing what they see. However, even if seeing is not automatically believing, at least seeing is seeing—and in some repressive regimes, seeing is the fastest road to freedom.

“George Orwell was wrong,” writes television newscaster Tom Brokaw. Brokaw’s reasoning is persuasive: “The media, which Orwell predicted would become the instrument of totalitarian control, have become, instead, its nemesis.”

**Passage 2**

“Now … this” is a phrase commonly used on television newscasts to indicate that what one has just heard or seen has no relevance to what one is about to hear or see, or possibly to anything one is ever likely to hear or see. The phrase acknowledges that the world as mapped by television news has no order or meaning and is not to be taken seriously.

No earthquake is so devastating, no political blunder so costly, that it cannot be erased from our minds by a newscaster saying, “Now … this.” Interrupted by commercials, presented by newscasters with celebrity status, and advertised like any other product, television newscasts transmit news without context, without consequences, without values, and therefore without essential seriousness; in short, news as pure entertainment. The resulting trivialization of information leaves television viewers well entertained, but not well informed or well prepared to respond to events.

The species of information created by television is, in fact, “disinformation.” Disinformation does not mean false information, but misleading information—misplaced, irrelevant, fragmented, or superficial information—that creates the illusion of knowing something, but that actually leads one away from any true understanding. In the United States, television news does not deliberately aim to deprive viewers of a coherent understanding of their world. But when news is packaged as entertainment, no such understanding is possible. The problem is not that television viewers lack authentic information, but that they are losing their sense of what a complete body of information should include. And so they have lost the notion of holding leaders accountable for contradictions in their policies. What possible interest could there be comparing what the President says now and what he said in the past? Such a comparison would merely rehash old news and could hardly be interesting or entertaining.

For all his perspicacity, George Orwell did not predict this situation; it is not “Orwellian.” The government does not control the newscasts. Lies have not been defined as truth, nor truth as lies. All that has happened is that the public has adjusted to incoherence and has been entertained into indifference. The current situation fits the predictions of English novelist and essayist Aldous Huxley, rather than those of his contemporary Orwell. Huxley realized that the government need not conceal anything from a public that has become insensible to contradiction, that has lost any perspective from which to scrutinize government critically, and that has been rendered passive by technological diversions.
1. Both passages are primarily concerned with ways in which
   a. television newscasts deliberately distort information
   b. television affects viewers by its presentation of news
   c. truth frustrates efforts by the media to constrain it
   d. viewers of television newscasts can sort out fact from fiction
   e. governments manage to control television newscasts

2. Which of the following, if true, would most clearly strengthen the assertion in Passage 1 about television and the civil rights movement (lines 6-19)?
   a. Many filmed reports of civil disobedience were censored by television executives during the 1960's.
   b. Recent studies have questioned the objectivity with which television newscasts presented reports of civil disobedience during the 1960's.
   c. A biography of a major civil rights leader describes in detail the occasions on which the leader was featured in television newscasts of the 1960's.
   d. A 1960's poll shows that those Americans who considered civil rights a national priority had seen television newscasts of civil disobedience.
   e. Many of the reporting techniques used today originated in newscasts covering the 1960's civil rights movement.

3. In the context of lines 34-36, the reference to “still photography” (line 36) serves to
   a. illustrate the accuracy with which current events can be documented
   b. develop a claim about the trustworthiness of television programs
   c. demonstrate the progress that has been made in using computer-generated effects
   d. refute the argument that viewers are deceived by computer-generated effects
   e. emphasize that videotaped images have comparatively greater impact

4. The word “instrument” is used in line 46 to signify
   a. a gimmick
   b. an agent
   c. a navigational aid
   d. a musical device
   e. a legal document

5. The use of the quotation in lines 43-47 can be considered a weakness of the argument in Passage 1 because
   a. an irrelevant reason is cited as evidence that television news is beneficial
   b. an attribute of the media that is labeled as beneficial is in fact destructive
   c. a work of fiction is cited as though it were scientific research
   d. a negative assessment of television news is left unchallenged
   e. a defense of television news is presented by a television newscaster
6. According to Passage 2, television news is presented in a manner that serves to
   a. hold leaders accountable for their actions
   b. entertain viewers
   c. define lies as truth
   d. make complex issues accessible
   e. exaggerate minor political blunders

7. The word “mapped” in line 53 most nearly means
   a. plotted on a chart
   b. planned in detail
   c. measured
   d. defined
   e. verified

8. According to passage 2, the “disinformation” mentioned in line 68 affects television viewers by
   a. leading them to act on false information
   b. causing them to become skeptical about television news
   c. giving them the mistaken impression that they are knowledgeable
   d. making them susceptible to the commercials that accompany the news
   e. turning them against certain political leaders

9. Which of the following most accurately describes the organization of the last paragraph of Passage 2?
   a. One view of a situation is refuted and an alternative view is substituted.
   b. An assertion is made and is supported by means of historical evidence.
   c. Two authors with contrasting views are introduced and their views are reconciled.
   d. An argument in favor of one interpretation is set forth and an opposing interpretation is explained.
   e. A situation is described and a prediction about related future events is offered.

10. Both passages refer to George Orwell’s predictions in order to
    a. emphasize that the presentation of news has changed since Orwell’s time
    b. show how aspects of Orwell’s conception of the future have become reality
    c. point out that the government does not control television news
    d. warn against the control of news media exercised by governments worldwide
    e. illustrate public concerns that television newscasters themselves have begun to address
Dueling Analyses—Paired Passages 4

Recommended overall technique (see Paired Passages Companion).

Passage 1—This author’s Intention is to Persuade us that, contrary to George Orwell’s warnings, modern media has been used more effectively by those who question authority than by those who wield it.

1) B. Please keep in mind that answers to “both passages” questions (1) should be answered last and (2) tend to be plain vanilla—I would even say that the right answer choice is almost always vague. Before you look at the answers, try to prephrase what you think the passages have in common. If you answered (a), you chose to treat “disinformation” in Passage 2 as “distortion.”

2) D. Once again, a simple answer suffices. The author uses the example of the civil rights movement to claim that “television newscasts have even fostered active dissent from established governmental policies.” So, it would be helpful had the author been able to quote a poll that showed many viewers’ views changed after they watched newscasts during the 1960’s.

3) B. These are short passages. The author uses evidence to back up his argument—note that this paragraph’s point, that Mr. Grayson might be too eager to accept the TV camera as the ultimate truth-telling device, is also the answer to this question. As the author says in lines 31-33, “[Grayson’s] claim presumes, though, that the television viewer can believe what he or she sees.” Note that the author never says that video will be faked, only that it can.

4) B. Did you cross out an instrument? If so, only “an agent” works.

5) E. This is a tough question with long answer choices. I note that many students’ attention wanes as they wade through tedious choices, and for that reason they may give choice (e) less than full attention. Performers shouldn’t be considered authorities on their own performance (unless they’re stranded alone on a desert island). Wouldn’t it be better to get a quote from someone who doesn’t have a vested interest in the media’s image?

Passage 2—Another Persuade passage in which the author declares that Orwell was wrong but wasn’t misguided—there is manipulation in the media, just not the kind that’s obvious at first glance.

6) B. As the author says, “The resulting trivialization of information leaves television viewers well entertained, but not well informed or well prepared to respond to events.” If you chose (d), you probably thought the choice said “inaccessible.” If you chose (c), you missed the point—disinformation isn’t lying; it’s distracting the viewer by emphasizing trivial matters.

7) D. Did you cross out mapped? Although choices (a) and (c) are more attractive than most wrong answers, news does not plot or measure the news; it does define what’s newsworthy vs. what isn’t—Jon and Kate vs. genocide in Darfur.
8) C. Even if you got question 6 right, please read over that explanation now. Here the author elaborates on her same message, beginning in line 68: “Disinformation does not mean false information, but misleading information ... that creates the illusion of knowing something, but that actually leads one away from any true understanding. ...” Choice (a) is flawed in two respects: Television is as likely to lead people to inaction as action, and, as stated in the quote above, disinformation is not false information posing as true but irrelevant information crowding out what’s relevant.

9) A. The author rejects Orwell’s vision in favor of Huxley’s. If you chose (c), “reconciled” means that any inconsistency in the two views has been ironed out in the passage—could an author ever manage such a thing in a passage this short? If you chose (d), remember that this is a “Persuade” passage, and Persuade passages present facts in order to directly support the author’s argument.

10) C. Orwell has a tough time of it in these passages, since both authors use his predictions as a good try that didn’t work out. If you chose (a), remember that Orwell was not describing news as it was presented in his time, but rather how he presumed it would be presented 35 years hence.
The New England town meeting, discussed in these passages, is a form of local government that had its origins in the 17th century.

**Passage 1**


The New England town meetings, which met first weekly, then monthly, came to include all the men who had settled the town. At first, the meetings seem to have been confined to men labeled "freemen," those who satisfied the legal requirements for voting in the colony. Soon the towns developed their own sort of "freemen" — a group larger than those whom the General Court of the colony recognized as those granted rights to land. While the town meetings proved to be lively and sometimes acrimonious debating societies, they were more than that. They distributed town lands used by individuals on a rotating basis, they levied local taxes, they made crucial decisions about schools, roads, and bridges, and they elected the selectmen, constables, and others to conduct town affairs between meetings.

The laws of one colony, the Massachusetts Bay colony, gradually gave form to the town meetings. A law of 1692 required that meetings be held annually in March and enumerated the officers to be elected. A law of 1714 required the selection of moderators, gave them the power to impose fines on those who spoke without permission during meetings, and authorized any ten or more property owners to put items on the agenda. But as the movement for independence gathered momentum, a British Parliamentary Act of 1773 decreed that no town meeting should be held to discuss affairs of government without written permission from the royal governor.

**Passage 2**

Nationalistic pride in the myth of the venerable New England town meeting is entirely understandable. Nothing else so embodies the democratic ideal in the United States. Who can resist the thought that life would be better if we the people could just run our own affairs the way they used to in the old-fashioned New England town meetings?

A mainstay of the New England mythology is the presumption that at town meetings everybody was allowed to vote. But the impression that the town meetings of old were free, democratic, and civilized is far too simplistic. For one thing, the "everybody" who could vote did not include women, Black people, American Indians, and White men who did not own property. In the seventeenth century it was not "the people" who ran the town meetings; it was the town selectmen. It was they who levied the taxes, passed the laws, punished the disorderly, and settled disputes between neighbors.

However, in early colonial Needham, Massachusetts, there was a time when the townsfolk themselves actually made all the big decisions at town meetings. Here was the direct, participatory democracy in which Americans take such pride. A great and noble experiment, it lasted all of three years and was abandoned by 1641, soon after the town was established.

Historians who study the operation of the town meetings have revealed that the people in the colonial era exercised little control at all over their own affairs. For one thing, meetings were held so infrequently that townsfolk had little opportunity even to monitor their elected representatives. On average, two meetings were held once a year. When meetings were called, it was the selectmen who set the agenda and who they controlled the discussion. Only rarely did townsfolk challenge the decisions the selectmen made.

Ultimately the power did rest with the townsfolk if they wanted it. But frequently, they did not. The people were too busy plowing their fields and clearing the forests to bother with government. More importantly, many did not think they were equipped for governing. In Needham, people willingly left governing up to those who were well off, old, and devout. Once elected, selectmen tended to be elected over and over again, remaining in office for decades.

It can be argued that because the selectmen were elected by the townspeople, the process was indirectly democratic. It was. The statistics show, for example, that in the 1640's up to 90 percent of the adult males could vote in Needham in town elections. Some historians go so far as to say that anybody could vote. All one had to do, they say, was show up, even if one could not meet the legal property qualifications.

Perhaps, but the suffrage laws must have meant something, and through the seventeenth century, the suffrage was increasingly restricted. While upward of 90 percent of adult White males could vote in Massachusetts in the 1630's, by the 1680's, says colonial historian Ramona Escondido, "a majority of men held no suffrage whatsoever."
1. Passage 1 is best described as a
   a. tactful response to a controversial question
   b. personal assessment of a confusing situation
   c. scathing condemnation of an outdated concept
   d. general overview of a political institution
   e. theoretical statement about the value of self-government

2. Passage 1 suggests that the most significant innovation of the town meeting was the
   a. rejection of the parish as being equivalent to the town
   b. collective decision-making by ordinary citizens
   c. creation of a local arena for discussion of issues of national interest
   d. community approval of taxes and expenditures
   e. definition of “freemen” as a new group in rural society

3. In Passage 1, the author’s attitude toward the participants in town meetings is best described as
   a. admiration of their loyalty to a political ideal
   b. respect for their active involvement in local government
   c. sympathy with their frustration with meeting at infrequent intervals
   d. affection for their naïve trust in purely democratic institutions
   e. amusement at their willingness to carry petty arguments to local officials

4. The author of Passage 1 refers to the Parliamentary Act of 1773 to make the point that town meetings
   a. were perceived as fostering political self-determination
   b. were regarded as forums for class conflict
   c. enjoyed prestige only in New England
   d. had no counterparts in local English government
   e. represented a long tradition of local self-rule

5. In Passage 2, the author attempts to
   a. compare two erroneous views
   b. perpetuate old-fashioned historical beliefs
   c. explain reasons underlying a poor decision
   d. correct a misconception
   e. argue for changing a deplorable situation

6. In lines 39-46, the author of Passage 2 expresses which of the following for supporters of the myth?
   a. Scorn
   b. Impatience
   c. Dismay
   d. Admiration
   e. Sympathy

7. In lines 54-56, (“In . . . selectmen”), the author of Passage 2 distinguishes between the
   a. general population and a small group
   b. earliest colonizers and the earliest inhabitants
   c. rural population and the population of towns
   d. agricultural labor force and an aristocrat class
   e. highly educated elite and an illiterate minority
8. Which detail discussed in Passage 1 is most consistent with the generalization in lines 74-77 (“When ... made)?
   a. The existence of vestry meetings in English parishes
   b. The amenities on which tax revenues were spent
   c. The limit on attendance at town meetings to those designated as freemen
   d. The Massachusetts Bay colony law of 1714
   e. The Parliamentary Act of 1773

9. Both passages support which generalization about the seventeenth-century town meeting?
   a. Voters were well informed about political issues.
   b. Participants had to have certain qualifications.
   c. Town leaders were frequently replaced after an election.
   d. Meetings discussed matters of national interest.
   e. The most heated debates were about taxes.

10. Which statement best describes a significant difference between the two interpretations of how local taxes were set and collected?
   a. Passage 1 discusses the burden on tax-payers; Passage 2, the expenses to be met.
   b. Passage 1 emphasizes details of the process; Passage 2, the results of the process.
   c. Passage 1 analyzes seventeenth-century patterns; Passage 2, eighteenth-century patterns.
   d. Each passage presents a different justification for local taxes.
   e. Each passage identifies a different part of the community as having authority over taxes.
TWO SNAPShOTS—PAIRED PASSAGES 5

Passage 1—Historical passages will usually Inform. As we will see in Passage 2, we can argue over ancient history, but only when we are trying to revise a general misconception or apply history’s lessons to a current situation.

1) **D**. Note that our having identified this passage as Inform helps us eliminate Persuade choices like (c) and (e). Can you imagine any circumstances in which an answer like (b) (“personal”) might be right? Me neither.

2) **B**. What’s the whole point of a town meeting? These settlers had come from England, where they were governed by a monarch and the monarch’s representatives. What was new was the ability of ordinary citizens to make decisions without fear of being overruled.

3) **B**. In an Inform passage, you should be looking to choose “hands-off” words like “respect,” and to avoid words like “admiration,” “sympathy,” “affection,” and “amusement,” all of which represent an overt opinion on the part of the author.

4) **A**. The British Parliament wouldn’t have addressed the issue of these town meetings if it didn’t view them as a threat to royal power. Note the difference between (a) and (b): Town meetings, especially those attended by the have-nots, probably were forums for class conflict. However, nowhere in the passage is this stated or implied; and it’s not our job to “dig into” the passage.

Passage 2—This author has decided to Persuade us that our cherished beliefs that feature the “democracy” of the New England town meeting are built on sand.

5) **D**. Pretty straightforward. If you chose (a), what’s the second erroneous view?

6) **E**. As the author says in the opening paragraph, “Nationalistic pride in the myth of the venerable New England town meeting is entirely understandable. … Who can resist the thought that life would be better … ?” So, we see the basis for the author’s Persuasion—we should give up our fantasies that everything used to be so much better before government ruined everything.

7) **A**. The author is making a point that, as in ancient Greece, democracy was severely limited by gender and income. So, don’t get too excited. At least they didn’t have electronic voting machines.

8) **D**. This is tougher than your usual SAT question, because it requires you to understand that “moderators” (line 30), like selectmen, were representatives.

9) **B**. Even though, according to Passage 1, the qualifications were often minimal, they were never nonexistent. In Passage 2, the author tells us that “up to 90 percent of the adult males could vote in Needham in town elections.” This means that the other 10% couldn’t.

10) **E**. In Passage 1, the “freemen” “distributed … lands, they levied local taxes, …” In Passage 2, “In the seventeenth century it was not ‘the people’ who ran the town meetings; it was the town selectmen. It was they who levied the taxes …”
Mark Twain is the pseudonym of Samuel Clemens (1835-1910). The following passages are adapted from two essays about Clemens published while Clemens was still alive.

**Passage 1**

While Mark Twain has declared that humor is a “subject which has never had much interest” for him, it is as a humorist that the world persists in regarding him. It is certain that Mark Twain is the greatest genius evolved by natural selection out of the ranks of American journalism. Crude, rudimentary, and often coarse as much of his writing was, it has born upon it the fresh stamp of contemporary actuality. American humor, neither unfathomably absurd like the Irish, nor sharp and sensible and full of the realities of life like the Scottish, is simply the humor of imagination. It consists in piling towers on towers and mountains on mountains; of heaping a joke up to the stars and extending it to the end of the world.

Humor, it must be remembered, is a function of nationality. The same joke, as related by an American, a Scotsman, or an Irishman, carries with it a distinctive ethnic flavor and individuality of approach. Indeed, it is open to question whether most humor does not require some specialized knowledge of some particular locality. The secret of Mark Twain’s worldwide popularity as a humorist is not to be attributed to any tricks of style, to any breadth of knowledge, or even to any depth of intellectuality. His humor has international range because it is constructed out of a deep comprehension of human nature and a profound sympathy for human relationships and human failings; thus, it successfully surmounts the difficulties of translation into alien tongues. Above all, he has sympathized with and admired the citizens of every nation, seeking beneath the surface veneer the universal traits of that nation’s humanity. It is a matter of fact that he has made far more damaging admissions concerning America than concerning any other nation. “My secret, if there is a secret,” Twain has said, “is to create humor independent of local conditions. Through studying humanity as exhibited in the people and localities I best knew and understood, I have sought to winnow out the encumbrance of the local. Humor, like morality, has its eternal verities.”

**Passage 2**

Humor as a solid quality and a lucrative trade is of modern invention. The great men who dared to laugh in an earlier age than ours laughed in moderation and with a wise purpose. Aristophanes, Shakespeare, and Chaucer are the true humorists of our world. They did not jest out of season. Their humor is precious on account of its parsimony. They do not at every turn slap their readers on the back and assure them that there is nothing congruous in the visible world. Of the irreverence that turns whatever is beautiful or noble into a stupid jest they knew nothing. They kept their humor in its proper place; they used it for a wise purpose; they did not degrade it to catch an easy round of applause; and, fortunately for them, they are today refused the august title of humorist, which sits so aptly upon the shoulders of Mark Twain.

The essence of humor is that it should be unexpected. The modern humorist is never unexpected. He beats the drum from the moment at which he appears upon the stage. Mark Twain brings whatever time has honored down to the level of a Yankee drummer. He finds every custom ridiculous that does not conform with the standard of the United States. He holds his sides when he thinks of the old masters. Nor does he understand that there are certain manifestations of genius that should be sacred even for the jester. In other words, Mark Twain the humorist is a bull in the china shop of ideas. When, as in *A Connecticut Yankee in King Arthur’s Court*, he gave full rein to his fancy, he achieved such a masterpiece of vulgarity as the world has never seen.

His book gives you the same sort of impression that you might receive from a beautiful picture over which a poisonous slug had crawled. The hint of magnificence is there, pitilessly deformed and defaced. And it is the more pitiful because he has a talent that stands in need of no folly for its embellishment. Had he never cut a joke, had he refrained always from grinning at grave and beautiful things, how brilliant a fame would have been his!
1. In line 27, “range” most nearly means
   a. scope
   b. distance
   c. variation
   d. ranking
   e. value

2. In lines 27-32 (“His humor . . . tongues”), the author of Passage 1 attributes Twain’s international popularity to his
   a. knowledge of comedic style
   b. intellectual breadth
   c. understanding of people
   d. mastery of foreign languages
   e. reputation for appealing to ethnic humor

3. Which of the following most nearly captures the meaning of “winnow . . . local” (lines 43-44)?
   a. Intermix local details with universal truths
   b. Take out that which prevents one from recognizing the universal
   c. Use the universal as a way to place the specific in context
   d. Devise new ways to express old truths
   e. Reap the benefits of local customs so as to understand the universal

4. Which of the following, if true, would most seriously undermine the main argument presented in Passage 1?
   a. Humor is intrinsically connected to a sense of morality.
   b. Certain cultural differences are so powerful that it is impossible for them to be transcended.
   c. Humor is a function of imagination coupled with exaggeration.
   d. In order to be successful as a humorist, one must have specialized knowledge of local customs.
   e. Humor is based on perpetual truths.

5. Twain’s style of humor is criticized in Passage 2 mainly because the author believes that Twain
   a. lacks the subtlety of the literary masters
   b. ignores local customs
   c. confuses the standards of different nations
   d. attempts too hard to appear refined
   e. is less amusing as a public speaker than as a writer

6. Which of the following terms would the author of Passage 2 most likely use to describe Twain?
   a. Aristocrat
   b. Conformist
   c. Apologist
   d. Visionary
   e. Chauvinist

7. In the last sentence of Passage 2 (lines 88-91), the author indicates that Mark Twain
   a. would enjoy fame despite his vulgarity and crudeness
   b. would be a better writer if he did not attempt humor
   c. would enjoy a brilliant career if he perfected his comedic technique
   d. is an amateur and a dilettante whose interest in humor is superficial
   e. is destined for failure as a result of his insensitivity to his audience
8. Which of the following, if true, would best support the main argument presented in Passage 2?
   a. Literary greatness can sometimes be the subject of offensive satire.
   b. Certain subjects should not be held up to ridicule.
   c. Intelligent men and women appreciate a good joke at their own expense every now and then.
   d. Humorists are likely to be well received when they undertake to ridicule respected writers of the past.
   e. Contemporary humorists are never as insightful as the great comic writers of the past.

9. How would the author of Passage 1 most likely respond to the assertion in Passage 2 that Twain ridicules everything “that does not conform with the standard of the United States” (lines 70-72)?
   a. Twain reserves his harshest criticism for America.
   b. Twain is a gifted American journalist.
   c. Twain achieved international success because he is American.
   d. Twain attempts to create a uniquely American style of humor.
   e. Twain is captivated by American culture.

10. How would the author of Passage 2 most likely respond to the claim made by the author of Passage 1 that Twain “admired the citizens of every nation, seeking beneath the surface veneer the universal traits of that nation’s humanity” (lines 33-36)?
    a. Twain’s humor is so unexpected that he is able to see startling aspects about the behavior of people all over the world.
    b. Twain shares with the humorists of the past the tendency to attack foolishness whenever he sees it.
    c. Twain is limited by his inability to see things from anything other than an American perspective.
    d. Twain always uses his humor for a wise purpose and uses humor to emphasize the importance of people respecting each other.
    e. The effect of Twain’s probing beneath the surface is limited by the fact that he is not nearly as funny as many people claim he is.

11. Which statement best describes how the authors of the two passages differ in their views of Twain’s humor?
    a. The author of Passage 1 criticizes its offensive style, whereas the author of Passage 2 deplores its American bias.
    b. The author of Passage 1 views it as mediocre, whereas the author of Passage 2 views it as intolerable.
    c. The author of Passage 1 concludes that it is trivial, whereas the author of Passage 2 concludes that it is harmless.
    d. The author of Passage 1 praises its universality, whereas the author of Passage 2 disparages its lack of discrimination.
    e. The author of Passage 1 admires its vigor, whereas the author of Passage 2 considers it understated.
CRITICAL READING—PAIRED PASSAGES 6

Passage 1—It’s not often that you’ll see two Persuade passages that discuss a 100-year-old subject. The wild card here is that these passages were written during Twain’s lifetime, so it makes sense that they would assess the writer critically. Clearly, Passage 1’s author would like to Persuade us that Twain’s work is good-natured, enjoyable, and affectionate toward all humanity.

1) A. Did you cross out “range” and sub the answer choices? Since the author has just discussed the breadth and depth of Twain’s writing, which is its “scope.”

2) C. How can one create humor that people from very different cultures can enjoy equally? Only by tapping something that is common to all of the cultural groups; their shared humanity, if you will. If you chose (a), note that the author says, in lines 24-25, “not to be attributed to any tricks of style…”

3) B. Twain found humor in his immediate vicinity. However, to make that humor accessible to a wider audience, he needed to remove local references and peculiarities. Maine comedian Jud Strunk used to tell a story about his friend George: “Ran into my friend George yesterday. Said how you doin’? He said no so good, Jud. My doctor tells me I have only six weeks to live. I said that’s terrible, what you gonna do? He said, Goin’ to live in Rumford. Seem like six years.” Now, if you’re a Mainer who knows that years ago Rumford was a paper mill town and smelled like it, the story might be funny. To someone from California, it would be confusing. So, in order to make the story more universal, one would have to “winnow out” the Maine references, perhaps by saying, “Goin’ to live with Dick Cheney. Seem like six years.”

4) B. First, note that the question asks which answer choice, “if true,” will weaken the author’s argument. “If true” means that you must consider each choice true; the question then becomes whether the choice is to the question’s purposes.

The author contends that Twain transcended national and cultural boundaries. If that were impossible, the author’s argument would become much weaker. If you chose (d), note that in lines 20-23, “Indeed, it is open to question whether most humor does not require some specialized knowledge of some particular locality.” Whenever an author says that something is “open to question,” the author will not use that particular fact to support his argument.

Passage 2—This author, also a contemporary of Mark Twain, clearly didn’t like “modern humorists,” as represented by Twain, one bit. This Persuade passage is written about as pointedly and negatively as one can while clinging to the Reasonable end of the pool.

5) A. The author states in lines 49-51, “The great men who dared to laugh in an earlier age than ours laughed in moderation and with a wise purpose.” If you have gone searching into the second or third paragraph for the author’s main
argument, in the future wouldn’t it be good to confine your search to where the author’s thesis should show up?

6) E. The author states in lines 70-72, “He finds every custom ridiculous that does not conform with the standard of the United States.” Really, though, couldn’t you have reduced this answer to “good/bad,” and on that basis gotten rid of all the choices except (b) and (e)? Then, even if you don’t know what “chauvinist” is (or if you think it only applies to males), you can clearly see that one thing a successful humorist can never be is a conformist.

7) B. Remember, every correct answer choice will reflect the author’s Intention. This author seems bent on convincing us that Mark Twain would have been a great writer if he hadn’t tried to be funny; to wit, “he has a talent which stands in need of no folly for its embellishment.” Just because I thoroughly disagree with this author does not justify refusing to follow the author’s specious (look it up) logic.

8) B. Where should we look for Passage 2’s “main argument”? Where would you put your main argument in an essay of this length? Probably in the first paragraph, right? The author tells us that, contrary to Twain, who “beats the drum from the moment at which he appears on the stage,” classical humorists “did not jest out of season. … They do not at every turn slap their readers on the back and assure them that there is nothing congruous in the visible world. If the irreverence that turns whatever is beautiful or noble into a stupid jest they know nothing.” Hey, it’s the author who can’t seem to distill his silly thoughts down into one sentence. However, the correct answer choice does just so. If you chose (e), be careful about generalizing. The author focuses on Twain, not on “contemporary humorists,” and he never says a word about “insight.”

9) A. One of the Passage 2 author’s gripes is that Twain “finds every custom ridiculous that does not conform with the standard of the United States.” The Passage 1 author might reply, “It is a matter of fact that he has made far more damaging admissions concerning America than concerning any other nation.”

10) C. Whenever you’re asked, “What does the author of Passage ___ think of ___?” consider looking for a choice that reflects the author’s overall Intention. Clearly, this author’s opinion is negative. So, good-bye (a), (b), and (d). Now, of the two choices left, which one seems to restate an opinion referred to in question 9? If you were even tempted by (e), who are the people who make such claims?

11) D. At this point, you should have a clear idea of the authors’ differing opinions. Author 1: Good (eliminating choices (a), (b), and (c)) ; Author 2: Bad (eliminates (e), which is the opposite of the author’s point). IMPORTANT: Going forward, you need to know how the test maker uses “discrimination.” According to the dictionary, to discriminate is “to make a clear distinction; distinguish (as in) to discriminate among the options available.” The Passage 2 author believes that Twain should discriminate between topics that are naturally funny and those that aren’t.

* A chauvinist has “Prejudiced belief in the superiority of one’s own gender, group, or kind.”
PASSAGES—A COMPANION

Keep this TEN FOR TEN by your side as you work through the Passages exercises. Feel free to refer to it as often as you want—remember, we practice the Passages in order to develop a technique. First, two points:

(1) Critical reading questions are not ordered by difficulty, so you never know whether you are looking at the easiest or hardest question on the test; and (2) The SAT tries very hard to reward test takers who are organized and are willing to follow the author’s lead.

THE GLASS WALL

Imagine a glass wall between you and the passage. You’re allowed to notice what’s in the passage but you’re not allowed to interpret. If you’re asked to infer, you merely have to spot which answer choice restates one of the author’s ideas. In all cases, you’ll look for answer choices that reflect the author’s Intention (discussed below).

So, finding which choice restates the passage without changing it in any way is the best way to ace Critical Reading passages. Stop for a moment and consider how knowing this can simplify your task. You see, any time you select an answer choice that attracts you but does not restate the passage, you have picked a wrong choice.

See it from the test maker’s point of view—how could The College Board grade a test in which the right answers depended on the viewpoints or interpretations of individual test takers? Impossible.

Developing and maintaining this technique can be difficult, since every English lit teacher I know insists that you tear literature apart and interpret it—a fatal mistake when working with SAT passages.

THE REASONABLE RULE

This Rule, which will allow you to eliminate many answer choices, is simple and logical:

1. No SAT passage is long enough for the author to prove anything major; and
2. In order to maintain your trust (without which the author cannot convince you of anything), an author must avoid emotional and judgmental extremes.

So:

1. Because the author can’t prove anything in 100 lines, answer choices that contain absolute (always, never) or universal (all, none) language are almost always wrong; and
2. Any choice that attributes an extreme emotion (such as elation or disgust) or judgment (such as hatred or total admiration) to the author is always wrong.

THE ANSWER CHOICES

Incredibly, correct answer choices, even those that seemingly ask about a single line or word, will be consistent with the author’s Intention. Incorrect answer choices are nearly always inconsistent with the author’s Intention. I know this seems too good to be true, but this is why we make the effort to identify the Intention—the time comes back to us with interest when we’re answering the Passage’s questions!

Next, correct answer choices appear to be dull and boring. Again and again during our work, we will point out how the test maker has used uninteresting language to help a correct choice slip by you and has used more descriptive language (verbs, adjectives, adverbs) to make incorrect answer choices more intriguing. If you think about it, how better to hide right answers from people who are amped up on adrenaline than by choosing language that suggests those answers are uninteresting? Why does this knowledge help? Because now you know that after you’ve eliminated the choices that just can’t be right, the right answer is the dullest remaining answer.
One more thing: Choices that use mitigating, softening language such as *some, often, sometimes, can, may,* and *suggest* tend to be right, whereas choices that use more definitive language such as *all, always, very, will,* *are,* and *prove* tend to be wrong. We will notice this theme over and over during our work together.

Now that we’ve sorted all that out, let’s learn a new reading technique.

**STAND-ALONE PASSAGES**

Compared to articles you read in your textbooks, even the longest SAT passage is really, really short. How much can an author accomplish in fewer than 100 lines?3

Because each correct answer choice will reflect the author’s Intention, concentrating on that Intention is the most effective way to organize the author’s evidence and your responses.

**When you finish reading the first paragraph,** decide what you think the author’s Intention is so far (you can always change your mind later). Write the initial for that Intention (“I,” “R,” or “P”) at the top of the passage.2

There are the three classic Intentions:

1. **To Persuade:** The author wants us to reconsider an issue. Persuade passages will often focus on current events, or (rarely) on how we view history or science. The author will need to explain any “conventional” point of view before questioning it—so sometimes when passage’s initial Intention appears to be Inform, you’ll have to change your label when it becomes clear that the author has a Persuade agenda.

**Questions to ask yourself as you read a Persuade passage:** (1) What is the author’s primary point? Again, these are short passages—the author will have only one point to make. (2) Does the author want us to take action or just to consider the issue more completely?

In the following, a linguist reflects on changes in English language usage.

The “improprieties” of traditional grammar are the usages that arise out of the natural drift of the meanings of words in the standard vocabulary. Obviously, we are not bound to use the language just as it was used a hundred years ago, but neither is it in our interest to change the language willy-nilly. Faced with a particular change, we need to ask if it involves real loss and if there is anything we can do to stop it.

The progressive loss of the distinction between the words *disinterested* (unbiased) and *uninterested* (apathetic) is regrettable; however, we might admit that the fight on behalf of the distinction is a lost cause. …

The author’s attitude toward the loss of the distinction referred to in the second paragraph is best described as

(A) indifference
(B) resignation
(C) resentment
(D) defiance
(E) puzzlement

Here, the writer is clearly concerned about how we increasingly misuse language. In the second paragraph, she mentions two words we might mistake for one other, disinterested and uninterested. The question asks how she feels about this “loss of distinction.” Happily, since SAT writers will never get “personal,” we can eliminate choices (c) and (d), which if correct would reflect a seething irrationality in the author’s personality (think about someone you know who carries resentments—do you think it’s his problem or that of all those people he resents?). Next, if the

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1 Not much.
2 If you choose an Intention at this point, you’ll read the rest of the passage carefully in order to either prove or disprove your decision. You can change your decision at any time. However, postponing a decision at this point will cost you when you assess the answer choices.
author were indifferent (a), why would she write this? Last, if the author were puzzled (e), shouldn’t she go get clear on the subject before launching into an essay? What does that leave? A favored SAT choice (resignation), which merely says that although the situation is not so good the author thinks that there’s little to be done.

2. To **Reveal**: For any passage that has been taken from an autobiography, memoir, or piece of first-person fiction, the **correct answer choices will focus on the author**. This means that the author will always take responsibility for her actions; choices that suggest that the author would prefer to blame her behavior or feelings on outside factors are wrong.

**Questions to ask yourself as you read a Reveal passage:**

- If first-person fiction: Why is this story, and not another story, significant in explaining something about the character or his life?
- If non-fiction (autobiography, memoir): Where is the author now in her life? Has she changed? Looking back, what lesson might the author think she learned? How has that lesson changed her perspective on her life?

This excerpt is the beginning of a memoir, published in 2002, by a woman who emigrated with her family from Bulgaria to Florida when she was a teenager.

It is June 1962, I’m standing at the railing of the Drazki’s upper deck, and I feel that my life is ending. I’m looking out at the crowd that has gathered on the shore to see the ship’s departure from Varna, Bulgaria — a crowd that, all of a sudden, is irrevocably on the other side — and I want to break out, run back, run toward the familiar excitement, the waving hands, the exclamations. We can’t be leaving all this behind — but we are. I am fourteen years old, and we are emigrating. It’s a notion of such crushing, definitive finality that to me it might as well mean the end of the world.

This passage serves mainly to

(A) provide a detailed description of what the author loved most about her life in Bulgaria

(B) recount the author’s experience of leaving Bulgaria

(C) explain why the author’s family chose to emigrate

(D) convey the author’s resilience during times of great upheaval

(E) create a factual account of the author’s family history in Varna

This writer remembers her feelings and thoughts as her family prepared to leave Bulgaria. Remember, the author can have but one Intention—once you figure out that she’s taking herself back to that moment, correct answer choices often jump off the page. There’s nothing tricky here!! Choice (b) restates the obvious—it’s a Reveal passage and so must focus on the author. Choices (c) and (e) miss the point completely, since they feature the author’s family rather than the author; choice (a), while good raw material for a Reveal passage, does not come into play here (notice the word detailed—as you will see below when we discuss answer choices, the test maker often uses extra description to help you know that the choice is wrong). Choice (d) violates The Reasonable Rule (see below), since it suggests that the author is bragging.

3. To **Inform**: Think newspaper article or third-person fiction. The author wants to tell us a story for its own sake. Try this test: If the author’s point is easily arguable, you’re likely looking at a Persuade. If the subject matter is something like the development of giant Atlantic squid during the 14th century, what’s to argue about?

**Questions to ask yourself as you read an Inform passage:**

- What’s so special about the subject that the author made the effort to write about it? Is the author telling us about something we’ve never heard of before or something new about something we **have** heard of?

- What other sources does the author quote? Do those sources agree or disagree? Note that authors sometimes use quotes in order to allow the **sources** to make unreasonable claims.
Anyone who trains animals recognizes that human and animal perceptual capacities are different. For most humans, seeing is believing, although we do occasionally brood about whether we can believe our eyes. The other senses are largely ancillary; most of us do not know how we might go about either doubting or believing our noses. But for dogs, scenting is believing. A dog’s nose is to ours as the wrinkled surface of our complex brain is to the surface of an egg. A dog who did comparative psychology might easily worry about our consciousness or lack thereof, just as we worry about the consciousness of a mollusk.

We who take sight for granted can draw pictures of scent, but we have no language for doing it the other way about ...

Nearly all passages that deal with scientific issues (here, the issue of how an animal perceives vs. how a person perceives) are informal, because, to be blunt, you and I just don’t have the training to argue science, right? Just before the quoted line, the author tells us, “For most humans, seeing is believing, ...” So, can we figure out what the author’s saying about the other senses even if we don’t know what “ancillary” means? I think so. However, let’s examine the wrong choices: choice (a) is philosophical but does not address why sight would be a human’s “special” sense; (c) contradicts the author; (d) is not only silly (if you saw a baseball flying toward your head, would you wait until you could hear it too?) but also contradicts “seeing is believing”; and (e), like (a), sounds deep and philosophical, but doesn’t address anything the author’s saying. That leaves (b): Isn’t this choice a restatement of “seeing is believing”?

INDEXING—THE BEST WAY TO MAKE USE OF ANY QUESTION’S CONTEXT

Most of us naively assume that we should read the entire passage and then, after reading each question, return to the passage to search around the line reference for the answer. Some teachers have assured us that we can save time by skimming the passage, reading only the first line of each paragraph, which sounds like a great idea until you actually try it. One test preparation company tells us not to read the passage at all but rather to go directly to the questions and then search the passage for correct answers. This last idea also sounds like a real time-saver until you realize that correct answer choices are so much easier to recognize if you understand the author’s Intention as well as the question’s Context, and that confusion is the great time-waster on standardized tests.

The Maine Prep method (Indexing): Turn to the questions page before reading the passage. Don’t read the questions. Rather, note each question’s line reference (with tick marks or brackets) in the margin to the left of the respective line. (Yes, you are allowed, even encouraged, to write all over your test booklet!) After you’ve done so, begin reading the passage (including the italicized introduction, which can help you identify the author’s Intention) at a reasonable pace (in other words, not as fast as you can). 4

Several lines before each tick mark, read the relevant question. Somewhere between the tick mark and the end of the thought (usually the end of the sentence or paragraph), the author will Restate the right answer. Be patient, though, since the question writer might designate lines 9-12 when the answer actually is Restated in lines 15-16. As

4 Do you type? If so, you know at what top speed you are reasonably accurate. If you get in a rush and try to exceed that typing speed, what happens? Right, lots of errors. Having to fix all those errors, you end up working more slowly. Well, when most of us take standardized tests, the adrenaline pumping through our systems and the anxiety we feel urge us to go as fast as we can, which is faster than we normally work. How well do you think this usually works out? I recommend that you experiment to figure out what 90% of your top speed is so that you can work at that pace on test day. You will end up getting more done, I promise.
you move through the passage, answer each line reference question as you come to it. If you have trouble with one, put it aside until you’ve finished. You can always go back.

After you finish reading the passage, answer any “big picture” questions, which will always appear at the beginning or end of the question set. If a “big picture” question shows up at the beginning of the question set, make some sort of mark (I use a star) at the bottom of the question set to alert you when you get there that there’s a question that you haven’t yet answered!

Here’s why Indexing works so well:

1. You are only going to read the passage once, so you can read it more deliberately. Starting with the italicized introduction, you can concentrate on the author’s Intention from line 1.
2. You answer each question while you are in the relevant part of the passage.
3. Your goals are short-term. Instead of trying to read the entire passage (and probably nodding out around line 35), you only have to concentrate until the next tick mark (usually no more than 10-20 lines away).
4. You receive instant gratification when you know that you just got a question right. In addition, each question you answer correctly adds to your understanding of the passage (and helps you answer subsequent questions).

You’ll find that Indexing gives you several advantages over customary methods: First, you know where the points are. You might find that three questions can be answered by reading five lines carefully. You can read those lines carefully once and answer all three questions. Next, by scanning your Indexed passage, you may find that there are forty lines between, say, questions 3 and 4. If you have time concerns, you can identify where skimming is unlikely to do you harm.

A usual first reaction to Indexing is, “That takes time and I already have time concerns.” OK, gathering the line references and making the tick marks takes a minute or so. However, that time comes back to you with interest when you minimize confusion by answering questions in Context. I submit that a bigger time waste takes place when a test taker has to reread portions of a passage over and over in order to pick up the author’s Intention and Context.

**VOCABULARY IN CONTEXT**

A couple of years ago, after an otherwise talented student answered a “vocabulary in context” problem wrong, I asked her how she picked her answer. “Simple,” she said, not knowing she had chosen incorrectly, “I just picked the synonym.”

**Every answer choice is a synonym for the word we need to replace.** At first glance, however, some of the choices will appear to more attractive than others. Before we learn a new technique, let’s learn why that technique is so useful.

**Exercise:** Please rank the following answer choices from “1” to “5,” with “1” as your most likely candidate to replace “proved” and with “5” as your least likely.

In line 8, “proved” most nearly means

(A) refined
(B) verified
(C) tested
(D) made clear
(E) turned out
Now let’s answer the same problem using a new Maine Prep technique: Cross out the word(s) in the text you’re asked to replace. Now, fill the blank you’ve created by plugging in each answer choice.

... In the paper Morrison proposed the center of the Milky Way galaxy as one possible origin of the static. Further study, however, proved to be confusing, for the daily time of arrival was not behaving as regularly (based on the assumption of a single source) as it should have. Soon Morrison realized that the static was coming not from the galactic center but from the entire galaxy.

Always disregard the word you’re replacing, because the correct answer choice will rarely turn out to be your number “1” definition. In fact, was this one closer to your number “5”?

In line 3, “proved” most nearly means

(A) refined
(B) verified
(C) tested
(D) made clear
(E) turned out

PAIRED PASSAGES COMPANION

Paired passages consist of a common subject and differing viewpoints. Please keep the following outline handy when practicing Paired Passages:

Recommended overall technique:

- Index both passages.
- Read Passage 1, answering Indexed questions in context, noting the author’s Intention.
- Answer Big Picture questions related to Passage 1.
- Read Passage 2, answering Indexed questions in context, noting the author’s Intention. As soon as you figure out what it is, please write the common subject of the passages at the top of the page.
- Underline any sentences in Passage 2 that express the author’s viewpoint.
- Answer Big Picture questions related to Passage 2.
- Go back to Passage 1 and underline any sentences that express the author’s viewpoint.
- Answer compare and contrast questions, concentrating on the underlined portions of both passages.

Single and paired passages make up more than 70% of your Critical Reading score.

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5 In case you were wondering, the right answer is (E).
RATIOS, FRACTIONS, AND PERCENT A

Please read: Try learning the Maine Prep ratio table method, because if you like it and use it in ratio problems, you won’t get them wrong any more. Please make sure to review all problems (1, 2, 4, 7, and 10) in which we use ratio tables rather than algebra.

Note that the total on the top line must be the sum of the parts. Values in subsequent rows will be multiples of those in the top row, and can be determined by using a Common Multiplier. For example, look at the table below in which we set up a ratio table to solve this question: If the ratio of red to blue to green chips is 5:4:7, and Roz has 48 chips, how many of them are green?

<table>
<thead>
<tr>
<th></th>
<th>Red</th>
<th>Blue</th>
<th>Green</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
<td>4</td>
<td>7</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>12</td>
<td>21</td>
<td>48</td>
</tr>
</tbody>
</table>

Note that the Total in the second row, 48, is 16, the Total in the first row, times the Common Multiplier of 3. So, we use that same Common Multiplier to determine all the values in the second row. Checking our work, we note that 15 + 12 + 21 = 48.

1) Three business partners are to share profits of $39,000 in the ratio 5 : 5 : 3. What is the amount of the smallest share?
   a) $1,200  
   b) $3,000  
   c) $4,000  
   d) $9,000  
   e) $10,000

2) [Grid In] There are 560 students at Morris Green High School. One of these students is to be selected at random to be a student representative. If the probability that a junior will be selected is 3/8, how many juniors are in the school?

3) Which of the following is equal to 4 plus (200 percent of 4)?
   a) 100% of 4  
   b) 200% of 4  
   c) 100% of 8  
   d) 200% of 8  
   e) 300% of 4

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) A total of 90 advertisements were sold for a high school basketball program. If 30 percent of the first 30 sold were in color, 25 percent of the next 40 sold were in color, and 70 percent of the last 20 sold were in color, what percent of the 90 advertisements were not in color?
   a) 63.3%  
   b) 61%  
   c) 58.2%  
   d) 51.4%  
   e) 50%

5) If s is 70 percent of t and t > 0, which of the following represents 40 percent of s?
   a) 4% of t  
   b) 28% of t  
   c) 42% of t  
   d) 70% of t  
   e) 79% of t
6) [Grid In] A store has 840 games in stock. If 75 percent of these games are on sale, how many games are not on sale?

7) [Grid In] A team has won 70 percent of the 20 games it has played so far this season. If the team plays a total of 60 games and wins 60 percent of the remaining games, how many games will the team win for the entire season?

| 4/a | 7/a | 9/a |

8) If each of the fractions above is in its simplest reduced form, which of the following could be the value of a?

   a) 32       c) 36       e) 42
   b) 35       d) 37

9) [Grid In] Nine of the 14 members of the math club are girls and the rest are boys. What is the ratio of boys to girls in the math club? (Grid your ratio as a fraction.)

10) [Grid In] A recipe for making 17 loaves of bread requires 34 cups of flour and 6 tablespoons of baking powder. If the proportions in this recipe are to be used to make 8 loaves of bread, how many cups of flour will be needed?
1) D. Let’s set up our ratio grid.

<table>
<thead>
<tr>
<th>partner a</th>
<th>partner b</th>
<th>partner c</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>5</td>
<td>3</td>
<td>13</td>
</tr>
</tbody>
</table>

Because we need to multiply the 13 in the top row of the Total column by $3,000 to equal the $39,000 in the second row, we use the Common Multiplier of $3,000 to determine how the profits should be distributed … like so.

<table>
<thead>
<tr>
<th>partner a</th>
<th>partner b</th>
<th>partner c</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>5</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>$15,000</td>
<td>$15,000</td>
<td>$9,000</td>
<td>$39,000</td>
</tr>
</tbody>
</table>

2) 210. It’s fairly easy to do this one algebraically, but please note how simple this problem is when you use a ratio table:

<table>
<thead>
<tr>
<th>juniors</th>
<th>others</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>5</td>
<td>8</td>
</tr>
</tbody>
</table>

What’s the common multiplier between the two rows? It would be 560/8 (or 70), right? So, to fill in the blanks in the second row, we’ll need to multiply the ratio numbers in the first row by 70.

3) E. 4 is 100% of itself; when we add 200% of 4, or 8, we end up with 12, which is 300% of 4.

4) A. The information in blue was given in the problem; that in black we supplied ourselves.

<table>
<thead>
<tr>
<th>b&amp;w</th>
<th>color</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>9</td>
<td>30</td>
</tr>
<tr>
<td>30</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>6</td>
<td>14</td>
<td>20</td>
</tr>
<tr>
<td>57</td>
<td>33</td>
<td>90</td>
</tr>
</tbody>
</table>

We’re asked for the ratio that features the ads that are not in color. Adding up the columns, we find that 57/90, or .633, or 63.3%!
5) **B.** As in all percentage problems, things get easier if you choose 100 for one of your variables. Here, if we make \( t \) 100, then \( s \) is 70. 40% of 70 = 28, which is 28% of 100.

6) **210.** If 75 percent of the games are on sale, then aren’t 25 percent of the games not on sale? So, rather than take 75 percent of 840 and then subtract that from 840, how about we just figure out what 25 percent of 840 is?

7) **38.** Line 1 shows 70% wins in the first 20 games; in row 3, we write in the total number of games played; then, in row 2, we determine the total remaining games, and from that we can calculate 60% wins in those 40 remaining games. Please note that each time we fill in a cell in this table, we’re able to fill in another cell.

<table>
<thead>
<tr>
<th>wins</th>
<th>losses</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>24</td>
<td>16</td>
<td>40</td>
</tr>
<tr>
<td>38</td>
<td>22</td>
<td>60</td>
</tr>
</tbody>
</table>

8) **D.** Here, it’s helpful to know that 37 is prime (and so can’t be reduced under any circumstances). Any even answer choice (32, 36, 42) can be divided by 2 when used a denominator in a fraction that has a numerator of 4; 35 can be reduced when used as a denominator with the numerator of 7.

<table>
<thead>
<tr>
<th>girls</th>
<th>boys</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>5</td>
<td>14</td>
</tr>
</tbody>
</table>

9) **5/9.** Always good to make a quick table (above). Now that we’ve done so, can we make a fraction with the number of boys in the numerator and the number of girls in the denominator? If you gridded in “9/5,” slow down!

10) **16.** Here, a simpler ratio grid. Note that here, “loaves” serves as our “total” column:

<table>
<thead>
<tr>
<th>loaves</th>
<th>flour</th>
<th>baking powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>34</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>?</td>
<td>who cares?</td>
</tr>
</tbody>
</table>

We’re given the recipe for 17 loaves and asked to figure what the recipe would be for 8 loaves. Since the ratio of the first two columns in the first row is two cups of flour for each loaf, it becomes clear that, whatever row we’re in, we’ll need two cups for each loaf.
The following is excerpted from the autobiography of a Turkish-American playwright.

In the fifth grade, shortly after a class trip to see George Bernard Shaw’s play, Saint Joan, I embarked upon an aggressive reading program. “Give me the names of important novels and plays,” I would say to startled teachers. They soon found out that I had in mind “adult books.” I ignored their suggestion of anything I suspected was written for children. And whatever I read, I read for extra credit. Each time I finished a novel or a play, I reported the achievement to a teacher and basked in the praise my effort earned. Despite my best efforts, however, there seemed to be more and more books I needed to read. At the library I would literally tremble as I came upon whole shelves of books I hadn’t read. So I read and I read and I read. Librarians who initially frowned when I checked out the maximum eight books at a time started saving novels and plays they thought I might like. Teachers would say to the rest of the class, “I only wish that the rest of you took reading as seriously as Ajda obviously does.”

But at home I would hear my father, who was not an educated man, wondering, “What do you see in your books?” (Was reading a hobby like his darts? Was so much reading even healthy for a girl? Was it a sign of “brains”? Or was it just a convenient excuse for not helping around the house in the evenings?) Always, “What do you see?” What did I see in my books? I had the idea that they were crucial for my academic success, though I couldn’t have said exactly how or why. In the sixth grade I simply concluded that what gave a novel or play its value was some major idea or theme buried deep within. If that core essence could be mined and memorized, I would become learned like my teachers. I decided to record in a notebook the themes of the books that I read.

After reading Hamlet, I wrote that its theme was “learning to understand your place in the world.” When I completed Hucklberry Finn, I noted how “part of growing up is recognizing injustice.” Rereading these brief moralistic appraisals usually left me disheartened. I couldn’t believe that they were really the source of reading’s value. But for several more years, they constituted the only means I had of describing to myself the educational value of books.

In spite of that frustration, I found reading a pleasurable activity. I came to enjoy the lonely good company of books. Early on weekday mornings, I’d read in my bed. I’d feel a surreptitious comfort then, reading in the dawn quiet. On weekends I’d go to the public library to read, surrounded by old people and college students. Or, if the weather was fine, I would take my books to the park and read and recite in the shade of a tree.

I also had favorite writers. But often those writers I enjoyed most I was least able to value. When I read Dylan Thomas’s Under Milk Wood, I was immediately pleased by the narrator’s warmth and the charm of the play. But as quickly I became suspicious. A book so enjoyable couldn’t be very “important.” Another summer I determined to read all the novels of Umberto Eco. Reading his fat novels, I loved the feeling I got—after the first hundred pages—of being at home in a fictional world where I knew the names of the characters and cared about what was going to happen to them. And it bothered me that I was forced away at the conclusion, when the fiction closed tight, like a fortune-teller’s fist—the futures of all the major characters neatly resolved. I never knew how to take such feelings seriously, however. Nor did I suspect that these feelings could be part of a novel’s meaning. Still, there were pleasures to sustain me after I’d finished my books. Carrying a volume back to the library, I would be pleased by its weight. I’d run my fingers along the edges of the pages and marvel at the breadth of my achievement. Around my room, growing stacks of paperback novels and plays reinforced my assurance.

I entered high school having read hundreds of novels and plays. My habit of reading made me a confident speaker and writer of English and in various ways, books brought me academic success as I hoped they would. But I was not a good reader. Merely bookish, I lacked a point of view when I read. Rather, I read in order to acquire a point of view. I vacuumed books for epigrams, scraps of information, ideas, themes—anything to fill the hollow within me and make me feel educated. When one of my teachers suggested to her smirking tenth-grade English class that a person could not have a “complicated idea” until that person had read at least two thousand books, I heard the remark without detecting either its irony or its very complicated truth.
1. The author uses the phrase “embarked upon” (line 3) to emphasize which of the following?
   a. The transient nature of the fictional world
   b. Her sense of isolation from her classmates
   c. Her commitment to an exploration of the world of books
   d. Her realization that literature can change one’s outlook
   e. The fear she feels about leaving the familiar world of her parents

2. The author initially believed “important novels and plays” (lines 4-5) to be those that
   a. had been praised by critics
   b. were recommended by her mother
   c. did not contain any references to children
   d. were directed toward a mature audience
   e. were written by renowned authors

3. The author would “literally tremble” (line 14) at the library because she
   a. was worried that she would never be able to read all the books
   b. did not know which books were important
   c. was intimidated by the librarians
   d. felt a personal connection to all the authors represented there
   e. was excited by the idea of being allowed to borrow books

4. The father’s attitude toward the girl’s interest in reading (lines 23-30) can be best described as
   a. admiration
   b. exasperation
   c. indignation
   d. perplexity
   e. sympathy

5. In line 37, “mined” most nearly means
   a. dug out
   b. followed
   c. entrenched
   d. tunneled
   e. blown up

6. The author states that she was “disheartened” (line 45) because
   a. she was unable to find books that were of lasting value
   b. the tragic themes of the books she was reading were depressing her
   c. her ability to write descriptions was lagging behind her reading ability
   d. her teachers were not giving her as much encouragement as she needed
   e. her desire for meaning was not being met by the themes she wrote down

7. The fourth paragraph (lines 50-59) describes the author as
   a. comfortable only in the company of fellow scholars
   b. happy with her books despite her isolation from others
   c. dissatisfied with the rate at which her reading progressed
   d. lonely because she often had no other children around her
   e. determined to get outside and enjoy nature

8. The author uses the phrase “the fiction closed tight” (line 74) in order to
   a. demonstrate that the endings of the novels were not believable
   b. blur the distinction between fictional works and real life
   c. indicate how impenetrable some of the novels were
   d. criticize the artificiality of Eco’s characters
   e. show her unhappiness at having to part with a fictional world
9. The author uses the phrase “the breadth of my achievement” (lines 83-84) primarily in order to suggest that
   a. she believes every child should read as much as possible
   b. she was confusing quantity with quality
   c. the books she had read varied widely in difficulty
   d. she should have been prouder of herself than she was
   e. no one else knew how much she was reading

10. The author implies that “a good reader” (line 92) is one who
    a. engages in a structured reading program
    b. reads constantly and widely
    c. reads with a critical perspective
    d. makes lists of books to be read
    e. can summarize a book’s theme simply and concisely
CRITICAL READING—INTENTION AND CONTEXT A

In the Passages Companion, we have discussed how SAT authors pursue one of three agendas: to Inform, to Reveal, or to Persuade. Please keep the Companion nearby and refer to it when reviewing your answers.

Here, the author Reveals her inner life—which, if you think about it, is the only thing in an autobiography that could possibly be interesting. What's the alternative to the author baring her soul—do you think you could work up much enthusiasm for an author's discussion of the wide selection of cheeses she keeps in her refrigerator? Didn't think so. In this case, if the author merely compared the relative merits of Eco or Thomas, this wouldn't be an autobiography but a book review, right? So, since the author is revealing herself to us, let's see how many correct answer choices mirror that intention.

1. C. Remembering The Glass Wall, we can eliminate any choice, such as (b) and (e), that isn't discussed explicitly in the passage. Next, this entire Reveal essay is organized around the author's active relationship with literature. Which Reveals more about the author, that she realized something (d) or that she made a commitment (c)? Answer choice (a) is literary criticism (we'll see that particular characteristic in several incorrect answer choices).

2. D. Staying with the author's theme, she wants to read "the books that adults read." The most popular wrong answer choice here is (c). However, don't many "mature" books, such as The Lord of the Flies or The Catcher in the Rye, contain references to children? Now that you think about it, isn't (c) a pretty strange choice?

3. A. The clue here comes when the author writes in lines 12-13 that "there seemed to be more and more books I needed to read." You can put choice (b) aside because the author knew that "adult" books were important—also, she had enlisted the aid of the librarians.

4. D. If you've read the passage, including the italicized introduction, from the beginning, you can understand why the author's father, who is the product of a much different culture and tradition, might be perplexed by her very American decision. Remember The Reasonable Rule: Authors won't portray those who can't respond in a negative light. So, SAT authors don't vilify their Moms and Dads. If you chose (b) or (c), you said that she did.

5. A. Go to line 37. Blacken out the word mined. Now, substitute the answer choice words into the sentence. We know the author wanted to extract a kernel of truth "buried deep within" each book, so it makes sense that she'd have to dig that kernel out. While some find (d) attractive, "tunneled" doesn't really work because, although it has digging in common with (b), the reasons for digging a tunnel are different than those for digging a mine, wouldn't you say?
6. **E.** First, please note that only two of the five choices, (c) and (e), fit the author’s Intention to Reveal. The rest focus on the books, not herself. Next, what comes right before this sentence? An account of her attempt to reduce great fiction to bumper stickers. Such a practice could not possibly lead to long-term satisfaction—else we should throw out the Great Books. Choice (c) suggests a comparison between her descriptions and reading ability that just isn’t anywhere in the text.

7. **B.** “I came to enjoy the lonely good company of books.” Pretty much a restate-ment. Once again, this essay is about the author and her relationship with literature. So, (d) is irrelevant to the point of the essay, and (a) may be true but the author doesn’t say so anywhere in the passage.

8. **E.** Here’s where having made the effort to understand the author’s Intention pays off big time. During a conversation with a college counselor, after explaining the three Intentions, I asked her to answer this question without reading any part of the passage—telling her only that this was a Reveal passage. After laughing at the futility of choosing an answer based only on that knowledge, she scanned the choices for no more than ten seconds and looked up. “It’s (e), isn’t it?” she asked. It is (e). If you examine the choices, the rest don’t fit the Reveal theme.

9. **B.** Again, the correct choice here reveals the author’s Intention. Often, students are torn between (b) and (c), but while (c) assesses the books, (b) assesses the author. Interestingly, question 10 clarifies what this question is asking.

10. **C.** It’s clear that the author doesn’t fully approve of her youthful ambitions. Here, the context comes immediately after the reference: “I lacked a point of view when I read.”
Many zoos around the world have undergone sweeping changes in philosophy and design. Radical steps have been taken to reduce the stress of living in captivity. Cages and grounds are landscaped to make tigers feel immersed in vegetation, as they would be in an Asian jungle. Zebras gaze across vistas arranged to appear (to zoo visitors, at least) nearly as broad as the Great Rift in Africa.

Yet, stroll past animals in zoo after zoo and you notice the signs of hobbled energy that has found no release—large cats pacing in a repetitive pattern, primates rocking for hours in one corner of a cage. These abridged movements are known as cage stereotypes, and these movements seem to bring about no immediate physical or emotional effects in the captive animal. Indeed, many animal specialists believe that the movements are more troubling to the people who watch than to the animals themselves. Such restlessness is an unpleasant reminder that—despite the careful interior decorating and clever optical illusions—zoo animals are prisoners, being kept in elaborate cells.

The case for breeding endangered animals in zoos is nevertheless compelling. Once a species falls below a certain number, it is beset by inbreeding, the mating of offspring of the same parents, which often amplifies any genetic weaknesses a species may have, and other processes that nudge it closer and closer to extinction. If the animal also faces the wholesale destruction of its habitat, its one hope for survival lies in being transplanted to some haven of safety, usually a cage. In their role of guardians of rare fauna, zoos have committed millions of dollars to caring for animals. Many zoo managers have given great consideration to the psychological health of the animals in their care. Yet the more I learned about animals bred in enclosures, the more I wondered how their sensibilities differed from those of animals raised to roam free.

In the wild, animals exist in a world of which we have little understanding. They may communicate with their kind through “languages” that are indecipherable by humans. A few studies suggest that some species perceive landscapes much differently than people do; for example, they may be acutely familiar with the meanings of various movements on the faces of mountains or across the broad span of grassy plains. Also, their social structures may be complex and integral to their well-being. Some scientists believe they may even develop cultural traditions that are vital to the survival of populations.

But when an animal is confined, its environment is empty and cramped. If it is accustomed to covering long distances in its searches for food, it grows lazy or bored. It can make no decisions for itself; its intelligence and wild skills wither from lack of use. It becomes, in a sense, one of society’s charges, completely dependent on humans for nourishment and care.

How might an animal species be changed—subtly, imperceptibly—by spending several generations in a pen? I posed that question to the head keeper of birds at the San Juan Capistrano Wild Animal Park, which is a breeding center for the endangered Andean hawk. “I always have to chuckle when someone asks me that,” the zookeeper replied. “Evolution has shaped the behavior of the hawk for tens of thousands of years. If you think I can change it in a couple of generations, you’re giving me a lot of credit.”

Recently, the Andean hawk was reintroduced into the California skies—only a moment after its capture, in evolutionary terms. Perhaps the zookeeper was right; perhaps the wild nature of the birds would emerge unscathed, although I was not convinced. But what of species that will spend decades or centuries in confinement before they are released?

1. On the whole, the author’s attitude toward captive breeding is one of
   a. sympathy
   b. puzzlement
   c. indifference
   d. ambivalence
   e. outrage
2. The primary function of the second paragraph (lines 10-24) is to show that
   a. wild animals adapt to their cages by modifying their movements
   b. improvements in zoo design have not had their intended effects
   c. confined animals are not being seriously harmed
   d. zoos are designed with the reactions of spectators in mind
   e. people are overly sensitive to seeing animals in captivity

3. One of the major implications of the passage is that
   a. animals in captivity are as likely to survive in the wild as are wild animals
   b. zoos do a disservice to animals by trying to entertain zoo visitors
   c. animal extinctions can be mainly attributed to human activity
   d. present methods of protecting animal populations may be flawed
   e. public concerns about the extinction of species have been exploited by the media

4. In the fourth paragraph (lines 43-55), the author’s most important point is that animals in the wild
   a. perceive landscapes differently than do animals in captivity
   b. have modes of communicating that are very similar to those of humans
   c. are likely to live longer than animals kept in zoos
   d. depend on the care and support of others of their species
   e. may have highly developed sensibilities about which scientists know little

5. In line 62, “charges” most nearly means
   a. costs
   b. responsibilities
   c. demands
   d. accusations
   e. attacks

6. The head keeper’s primary point in lines 69-75 is that
   a. people’s ideas about the power of humans to alter animal behavior are presumptuous
   b. scientists should strive to mimic natural selection processes more closely
   c. animals have little trouble adapting their behavior to captive environments
   d. animals have been surviving for years without the intervention of humans
   e. captive breeding is essential to the survival of animals

7. The author’s attitude toward the head keeper’s statement in lines 69-75 can best be described as
   a. ironic
   b. objective
   c. despairing
   d. doubtful
   e. offended

8. The primary purpose of the passage is to
   a. highlight the improvements in the conditions of American zoos
   b. examine behavioral traits of animals living in zoos
   c. prompt scientists to conduct more research on animal behavior
   d. raise concerns about the confinement of wild animals in zoos
   e. suggest alternative ways of protecting endangered species.

9. It can be inferred from the passage that the author believes that wild animals
   a. should be removed from their natural habitats only in dire circumstances
   b. suffer few long-term consequences from changes in their habitat
   c. are pawns in a political battle over the protection of wildlife habitats
   d. provide an inadequate source of data for the experimental designs of captive breeding habitats
   e. fulfill the expectations of zoo visitors who hope to see animals behave as they would have before they were captured.
CRITICAL READING—INTENTION AND CONTEXT B

In the Passages Companion, we have discussed how SAT authors pursue one of three agendas: to Inform, to Reveal, or to Persuade. Please keep the Companion nearby and refer to it when reviewing your answers.

Here, the author is telling us a story. Is she doing so just to amuse us (Inform), or to Persuade us to think about the conditions under which wild animals are kept in zoos? Keep in mind that the author questions how well zoos can replicate wild conditions, and so help species survive without destroying their defining instincts. A passage can be a Persuade, even if the author is just trying to Persuade us to think about a subject more deeply.

1. **D.** This is a classic SAT question that quizzes us on the author’s attitude. The Reasonable Rule tells us that if the author becomes too emotional, her mental state becomes more interesting than the subject matter she’s discussing. Since her main concern is to keep our attention on the subject matter, she won’t distract us with her own personal emotions. So, that eliminates (e). As for (c), if the author doesn’t care, why did she take the time to write the piece? If considered (b), let me ask: If you’re puzzled, how long an essay can you write? If you chose (a), notice that the question concerns the author’s attitude toward captive breeding—not toward animals in general. That leaves us with The Scary Choice; as Sherlock Holmes said, “When we have eliminated the impossible, whatever explanation remains, however improbable, must be the truth.” [Look up ambivalent …]

2. **B.** First, the primary function of a body paragraph is to present a minor thesis that supports the author’s main thesis. Second, please examine the first word of the second paragraph. What does it tell us? That although zoos are doing their best to make captive animals’ environs more “wild,” because the animals are still hemmed in by walls all the zookeepers’ good intentions probably aren’t producing results. Since we understand that all sub-arguments and evidence support the author’s Intention, choices that don’t, like (c) and (e), can never be right because they contradict the author’s Intention. If you chose (a), you mistook evidence for argument. The primary purpose of any paragraph in a Persuade passage is to make a point; right answers to such questions will identify the author’s argument in that paragraph.

3. **D.** Here’s our chance to examine how much an author can prove in fewer than 100 lines. The short answer is: Not much. So, while the author may raise concerns and speculate, almost never will you find enough hard evidence in an SAT passage to support sweeping statements like (b) and (c). Notice in (d) the magic words “may be” (substitute “are” and note how different the answer becomes). As we’ll see
below in question 4, such mitigating* words are often components of correct SAT answer choices.

4. E. The author begins the fourth paragraph by stating, “In the wild, animals exist in a world of which we have little understanding.” If that’s the case, how can we select any answer choice that does not reflect this uncertainty? As in question 3, please note the value of softening language such as “may have” and “little.” Also notice that attractive answers like (a) cannot be right unless they actually restate the passage (and, in any case, who among us knows exactly how animals perceive anything?). Answer choice (b) is logical... until you get to “those of humans.”

5. B. Go to line 62. Blacken out the word charges. Now, read the answer choices into the sentence. Once an animal has lost its mental edge, what else is it but a replica of what it once was? If it can’t take care of itself, it becomes someone else’s responsibility.

6. A. Any Persuade author who quotes someone else does so in order to include that person’s opinion, which must be relevant to the author’s point. So, the quoted person can have one of two opinions: (1) Agreeing with the author; or (2) Disagreeing with the author. Which one do we have here? Right, the keeper disagrees, arguing that removing a species from its environment for a couple of generations is unlikely to change it in any meaningful way. So, we’re looking for a choice that says the author is wrong.

7. D. Another classic SAT answer—“doubtful,” which suggests “respectful but not convinced.” Of the other choices, (c) and (e) are way too strong; if in order to argue for choice (a), we have to believe that the author included the keeper just to sneer at him—such behavior would reflect badly on the author. On the other end of the scale, if (b) were correct, then the author would lack a point of view—and we know that this author wrote this piece not to amuse us but to urge us to think.

8. D. Time for a verb check. If this were in Inform passage, a verb such as “highlight” or “examine” would likely be part of the correct answer choice. The notion that a short SAT essay might “prompt scientists to conduct more research” is fairly absurd, since conducting research is part of any scientist’s job description. So, the question is: Is the author asking questions (raising concerns) or suggesting answers?

9. A. The correct choice here reflects the author’s “ambivalence” (reflected in the answers to questions 1 and 8). Answer choices (c), (d), and (e) are clearly included for those who didn’t finish reading the piece and are looking for a strongly-worded choice (although, as we are learning, strongly-worded choices are more likely to be wrong than right). And (b) is the keeper’s point, not the author’s.

* mitigate: to make milder
In the mid-nineteenth century Henrik Ibsen became fascinated with hypnotism, or “mesmerism” as it was then called. He attended mesmeric sessions, principally those conducted by Magnus Sorensen, a doctor of medical philosophy at Christiana University in what is now Oslo, Norway. “I am a believer,” Ibsen said some time later. “I became so against all my preconceived opinions and impressions.” Sorensen placed his subjects in a deep trance and, although he was primarily concerned with the curative powers of mesmerism, he sometimes emphasized its more sensational aspects by inducing his subjects to sing, dance, and prophesy. The manner and the work of this doctor so impressed Ibsen that he referred to Sorensen as “one of my dearest friends.” Sorensen eventually resigned his University position because of the criticism directed at his mesmeric demonstrations, and Ibsen made him his family’s physician. Typically, it was Ibsen who tried to help Sorensen when in later life the physician became despondent.

So what was it in the theory of mesmerism that so attracted the attention of Ibsen? The theory of mesmerism was intimately related to “animal magnetism,” the belief that the powers of the human body could be conducted and controlled by an invisible fluid, and that by careful management of this mesmeric fluid the sick human subject could be cured or revived. Mesmerism, which became a subject of debate and controversy in the late 1850’s and 1860’s, in a sense reflected the guiding principles of the era. During this period scientific research was often concerned with the dynamic nature of energy. The scientist Horst Bueller, for example, was investigating the association of electricity and magnetism, in particular the production of an electric current from a magnetic field. In the work of Bueller and in the idea of mesmerism, we see a strongly developed interest in similar “natural” forces. Sorensen believed there were energies and powers within the human body (as well as within the world) that could be harnessed by the human will and employed efficaciously. Of course all this was connected with nineteenth-century ideas of power and dominance of the strong over the weak, the more energetic over the less energetic. Everything, in every age, is of a piece.

Ibsen was fascinated by such developments and, as he said himself, became a professed believer in mesmeric powers. Sorensen taught him how to make use of mesmeric techniques. Ibsen proved himself to be an extraordinarily powerful magnetizer and experimented successfully with his own family and healed certain of his friends. What kind of healing it was we cannot of course know; whether it meant simply the relief from hysterical symptoms or the ability to promote rest, or whether some other occluded element was involved, is impossible to determine. It can only be said, with some degree of certainty, that the ills of any one period often find their most appropriate balm in the remedies invented during that period.

To some extent Ibsen’s fascination with mesmerism must be linked with his belief in phrenology,* his half-humorous interest in the occult, his liking for magical tricks, and his own successful appearances as a conjuror at children’s parties. Ibsen’s interest in mesmerism is congruent with everything else we know of his personality, his behavior, and his will. In later life, when he gave public readings in Germany and Norway, Ibsen always insisted that the audience should be able to see his face, and if the audience did not respond he complained that they were not “magnetic,” implying that Ibsen deliberately, and sometimes successfully, managed to induce in his audiences a highly suggestible state that in some ways resembled a mesmeric trance. The curious thing is that Ibsen never would allow himself to be mesmerized, an indication that his interest in mesmerism was in part a need to control and influence those around him.

* The study of the shape of the skull as an indicator of mental faculties and character traits
1. The first paragraph indicates that Ibsen’s attitude toward mesmerism changed from
   a. doubt to distaste
   b. skepticism to advocacy
   c. enthusiasm to obsession
   d. ambivalence to disapproval
   e. opposition to resignation

2. The passage most directly supports which statement about Sorensen’s career in mesmerism?
   a. He campaigned to have research on mesmerism conducted by the medical establishment.
   b. He thought the practice of mesmerism would earn him great prestige.
   c. He used mesmerism to meet famous authors.
   d. He endured sacrifices as a result of the publicity he gave mesmerism.
   e. He needed to fake sensational events to draw attention to mesmerism.

3. In line 25, “intimately” most nearly means
   a. familiarly
   b. secretly
   c. warmly
   d. privately
   e. closely

4. The passage implies that one of “the guiding principles of the era” (line 33) was the belief that
   a. harnessing a powerful force can result in benefits
   b. human powers are superior to those found in nature
   c. negative and positive forces are in constant conflict in nature
   d. practical uses for natural forces result from abstract theories
   e. highly energetic forces find their complement in less energetic forces

5. Lines 35-49 (“The scientist … of a piece”) most directly support which generalization about Sorensen’s work?
   a. His methods were comparable with Bueller’s.
   b. His lack of scientific rigor was his downfall.
   c. His acceptance by some of his contemporaries was deserved.
   d. His ability to harness the forces of nature was impressive.
   e. His work reflected the concerns of nineteenth-century science.

6. In lines 57-62, the statement about healing suggests that
   a. accounts by various authorities differ
   b. existing reports provide insufficient details
   c. Ibsen was an amateur healer
   d. mesmeric healing sessions were open to nonparticipants
   e. healing by mesmerism was a temporary rather than a permanent phenomenon

7. The author of the passage considers “phrenology,” “the occult,” and “magical tricks” (lines 68-69) significant as indications of
   a. why nineteenth-century Europeans were fascinated with mesmerism
   b. why nineteenth-century Europeans ignored Sorensen
   c. why Ibsen’s behavior varied from his stated beliefs
   d. a pattern of interests held by Ibsen
   e. a course of study pursued by Ibsen’s admirers

8. The last sentence suggests that Ibsen conceived of mesmerism as a
   a. diverting hobby
   b. scientific curiosity
   c. manipulative technique
   d. literary tool
   e. healing agent
CRITICAL READING—INTENTION AND CONTEXT C

In the Passages Companion, we have discussed how SAT authors pursue one of three agendas: to Inform, to Reveal, or to Persuade. Please keep the Companion nearby and refer to it when reviewing your answers.

Here, the author informs us about how Ibsen's and his contemporaries' attitudes were shaped by the discovery of new and powerful forces.

1. **B**. What is the author's Intention? Isn't it to Inform us about Ibsen's conversion to mesmerism? In lines 7-9, Ibsen chronicles his own change in attitude. Note the SAT's favorite Reasonable word for a less than positive attitude, skepticism. If you chose (c), “obsession” is an example of a very strong word that is unlikely to ever be part of a correct answer choice.

2. **D**. “Big picture” questions will show up only at the beginning and the end of the question set. Since the first question in this set asks about the first paragraph (making it, for our purposes, a line-referenced question), this question must refer to a nearby or subsequent portion of the passage. Our clue as to the limits of where we should look is given by question 3, which asks about line 25. So, the answer to this question must be somewhere before or around line 25. As it turns out, near the end of the first paragraph we learn that Sorensen resigned his position “because of … his mesmeric demonstrations,” and that later in life “the physician became despondent.” Answer choices like (b) can be dangerous, because you might decide (with no evidence from the passage to back your “hunch”) that (b) is true. However, no matter how true an answer choice might be, if it is not clearly discussed in the passage, it can’t be right!

3. **E**. Did you cross out intimately and plug the choices into the sentence? If so, you probably came to the right answer quickly. If not, will you do so next time you face a vocabulary in context question? Please?

4. **A**. Did it seem strange to you that all of a sudden a passage about mesmerism became a passage about physics? Next time you see a passage take an apparent left turn, will you remember that the author has but one Intention, and that however irrelevant any part of a passage might seem, the author will tie it into the major discussion? The author states that, “During this period scientific research was often concerned with the dynamic nature of energy.” People were harnessing mechanical and electrical energy—why should this power, so much of which was “unseen,” not also include power generated by the human mind?

5. **E**. Bueller was working on electricity and magnetism, both of which were physical, measurable forces, while Sorensen was claiming to control people’s brains, so we can’t even suggest that their methods were comparable (a); also, since it’s unlikely that either man’s method could be fully described in a passage this short, we have no way of knowing whether Sorensen’s method lacked rigor (which means a scientist doesn’t subject his methods to tough enough tests); choices (c) and (d) are for those who didn’t read the passage and thus think Sorensen succeeded; only choice (e) is
Reasonable, since it equates Bueller and Sorensen only in their concerns, not their methods or results.

6. B. “What kind of healing it was we cannot of course know; ... it is impossible to determine.” A tough choice to reject is (c), because Ibsen probably was an amateur (which means he hypnotized people for fun, not profit); however, since the passage doesn’t tell us explicitly that Ibsen was an amateur, we can’t assume that he was; similarly, choice (a) sounds good, but does the author even mention various (more than one) authorities (or are we assuming there were “various [unnamed] authorities”)?

7. D. What’s the author’s Intention again? Check out the italicized portion at the top of the passage. OK, so this passage is about Ibsen and mesmerism. Therefore, wouldn’t it be helpful for us to know about other 19th-Century “Psychic Hotline” fads Ibsen enjoyed? Choice (d) is so simple that you might reject it. If so: How many choices are right? Can a choice be too simple to be right?

8. C. Ibsen used mesmerism “in part ... to control and influence those around him.” The definition of manipulate is “to control and influence.” Please notice the importance of context; if choice (e) were correct, this question would have been asked about 30 lines earlier!
CRITICAL READING—INTENTION AND CONTEXT D

In a fictitious “memoir,” a character recalls her childhood home.

When I was put to bed, no one came up to check on me until much later. My parents were informed people. Television people. They watched the news; they watched commentary; they fell asleep in the television’s gray light. Our television was well placed, as are all good shrines, for maximum visibility, in the southeast corner of the living room, directly across from the stairs that led up to my bedroom. In fact, five steps down from the top was the best seat in the house. From that stair, one could see the television, look down on the top of my father’s head, read the headlines of the magazine he was holding (after I got the glasses I desperately needed, I could read picture captions), hear the living-room “adult” conversation, as well as all lectures to my older brother before he was sent to his room, and yet—and this was most important—not be seen. A support beam came right up on the side of the steps. Whenever I leaned back behind it, I was invisible to those sitting below.

I didn’t have to lean back very often. Any illusionist will tell you that people rarely notice what they don’t expect to see. Because I was a good girl, my parents never expected me to say good night from under my covers, count to 60 five times, then creep down five steps and watch for the next few hours what I came to think of as “my stories.”

I shared with my friend Judy the jokes and bits of popular culture I heard, but what she really loved were my word-for-word, blow-by-blow accounts of the battles between my fifteen-year-old brother and my parents. Tommy was what I as a parent have learned to call “creative and imaginative,” seeking his own identity and rebelling against conformity. At least that’s how I explain my own child’s Tommy-like behavior. My father, however, lacking a college degree and the bookshelf of today’s “involved” parents, called him a pathological liar. Dad would take off his glasses and listen patiently while Tommy explained why he needed five dollars or why Mom and Dad might be getting a call the next day about an absence from History class or why he needed to spend the night at a friend’s house to study for a big test. My father would usually sigh and nod, then ask a few probing questions, which would lead to a few inconsistent answers, which would lead to my Dad’s demand for full disclosure, which might or might not come only after much wrangling, yelling, and swearing from all present.

Occasionally my mother would shush everyone: “Be quiet, you’ll wake up Laura!”

I’d lean back, but no one even glanced up. “Don’t worry, Kate, she sleeps through everything,” my dad would shout and go back to the argument.

I’d reconstruct the entire scene for Judy the next day. I punctuated the story with some of my Dad’s sighs. I’d mop my brow and screw the heels of my hands into my eyes and groan, “Tommy, for once in your life just tell me the truth,” and Judy would howl with laughter. I learned to edit out the boring parts; the nights when my dad simply handed my brother a five-dollar bill and said, “Fine, here you go,” were hardly interesting enough to merit retelling. I took what I knew would work and put it up front. I embellished. I ended my version at the edgy crisis moment, rather than let it spin out into the same old family argument finale. I made our family stories funnier, richer, and deeper.

The frame through which I watched my family made them real to me—they weren’t reacting to me as mother, father, and brother. I wasn’t even in the picture. I saw them as whole people, unique. They carried around the baggage that comes with working twelve-hour days and still trying to be a good father, the perfect housewife; I even saw both sides of my brother Tommy—struggling to grow up and be cool and be a son and be a student and be a friend and be a brother. My vantage point allowed me to see the way all people struggle when they talk, when they argue—they try to listen, to be fair, but mostly they want to be understood themselves. They want to be acknowledged. They want to make sense.

I learned to listen and to tell stories on that step. The frame of beam and wall was my magic slate then, what my computer screen is now. I learned what made my parents laugh. I found out that what my parents said to my brother and what they later said to each other were different and often opposite things. I heard my parents fight, I saw my father cry. I learned to swear. I developed a sense of family and friendship and parenthood and childhood. I discovered home.
1. The reference to “good shrines” (line 6) primarily serves to  
a. excuse the family’s addiction to routine  
b. celebrate the central role of television in contemporary culture  
c. account for the family’s tolerance of differing viewpoints  
d. acknowledge the spiritual nature of many family units  
e. poke fun at the family’s great interest in television

2. The author refers to some conversations as “adult” (line 15) in order to  
a. imply that they were boring to her as a child  
b. indicate that they were not intended for her to hear  
c. suggest that they dealt with matters that she did not understand  
d. hint that they may have been upsetting for her  
e. insinuate that she wanted to be included in all family discussions

3. In line 25, the author mentions that she was a “good girl” primarily to explain her  
a. need to be praised by the adults around her  
b. parents’ assumptions about her likely behavior  
c. parents’ pride in her academic achievements  
d. parents’ recognition of the importance of discipline  
e. inability to conform to her parents’ expectations

4. The author refers to her own experience “as a parent” (line 35) primarily in order to  
a. demonstrate sympathy for both her parents  
b. note the inspiration for her own child’s behavior  
c. suggest that her brother was treated too leniently  
d. provide an alternative perspective on her brother’s behavior  
e. prove that she is a better parent than her father was

5. The author would probably regard the claim that Tommy was a “pathological liar” (line 41) as  
a. an unexpected, though highly appropriate, observation  
b. a distressingly widespread belief  
c. a mean-spirited accusation  
d. an accurate, though somewhat unorthodox, diagnosis  
e. an understandable exaggeration

6. The author makes the gestures mentioned in lines 61-62 (“I’d mop ... eyes”) primarily in order to  
a. dramatize her disgust  
b. produce a comic effect  
c. create an accurate representation  
d. express her anxiety  
e. convey her indifference

7. The author’s “version” (line 70) is one that  
a. displays thoroughness and accuracy of detail  
b. presents people in the most flattering light  
c. emphasizes the dramatic impact of a conflict  
d. attempts to elicit sympathy from Judy  
e. downplays the author’s role in family arguments
8. Which of the following best characterizes the attitude of the author toward her family made possible by the “frame” (line 74)?
   a. Indifference
   b. Amusement
   c. Nostalgia
   d. Objectivity
   e. Perplexity

9. In describing her mother, the author uses the phrase “perfect housewife” (lines 80-81) primarily to represent
   a. an undefined role
   b. an elusive ideal
   c. a short-lived notion
   d. a youthful goal
   e. a public achievement

10. Lines 82-84 (“grow up ... a brother”) mainly serve to
    a. illustrate differences among people
    b. indicate choices that people make
    c. enumerate competing social pressures
    d. prioritize a series of obligations
    e. account for unanticipated changes
In the Passages Companion, we have discussed how SAT authors pursue one of three agendas: to Inform, to Reveal, or to Persuade. Please keep the Companion nearby and refer to it when reviewing your answers.

Here, in a fictitious memoir, the author gives us a picture of herself as a child—specifically, episodes during which she watched unseen as her family interacted. Please note that, although the essay seems to be most concerned with her parents and her brother Tommy, what makes the essay worth reading (and so most appropriate for the SAT) is what the author Reveals about her own life and attitudes.

1. **E**. Authors who choose to Reveal can get away with more attitude. The author writes, “They watched the news; they watched commentary; they fell asleep in the television’s gray light.” Clearly, the author is telling us that the television was the centerpiece (as would be a shrine) of her family’s evening life. Choice (a) fails because, not only does the author never excuse her family’s “addiction” (which is way too strong a word in any case) to routine, she never suggests that watching news on television identifies her parents as people who also have other routines. Choice (b) would have us believe that the author is using her family as an example to prove a point (which would make this a Persuade passage, right?); choice (d) is from a very strange place.

2. **B**. Once again, a correct Reveal choice will include the author. She is part of this picture. If you chose (c) or (d), you have opted to interpret rather than report. Remember The Glass Wall. Your job is to notice what the author is doing, not to explain it. In fact, if she didn’t understand (c) what was going on, how could she relate it to Judy or recount it now?

3. **B**. Her parents assumed that she wasn’t likely to eavesdrop on their conversations; so, they never walked over to the stairs to check whether she was doing so. If you chose (e), you are looking way too deep psychologically.

4. **A**. In this paragraph, this Reveal author expounds on the difficulties her parents faced when her brother was less than truthful. She is now a parent. Should her having a child make a difference in her perspective? Sure, because now she can now understand how her parents felt (have your parents ever said, “Just wait until you have kids—then you’ll know!”)? If you chose (d)—which is the popular choice—consider the author’s Intention: Is it to Inform about Tommy’s behavior or Reveal how the author saw her family members then and how she sees them now?

5. **E**. The author doesn’t believe her father meant the accusation. Doesn’t she allude to how frustrated she can get by her own son’s behavior? Choice (b) suggests that the issue of Tommy’s pathology has been a topic outside the family group; choice (c), once again, could never be correct on the SAT because it paints her father, who cannot defend himself, in a very unflattering light; choice (d) suggests that (1) the author’s Intention is to analyze Tommy’s character (see the discussion accompanying
the previous question) and (2) her father’s diagnosis was supported by medical research.

6. **B.** Was the author traumatized by the interactions among her parents and her brother? Do you have any siblings? How upset would you be if your father yelled at one of them for screwing up? If you were to retell the yelling, would you make it comic or tragic? Since her friend is laughing …

7. **C.** What’s the character-author’s job? To highlight what’s interesting, right? If you chose (a), think about how much detail this author would have to bring to her story, and how such detail might cramp her comic style.

8. **D.** Although we know how amused the author was, Context can be very helpful here, for in this paragraph the author becomes serious again: “The frame through which I watched my family made them real to me—they weren’t reacting to me as mother, father, and brother. I wasn’t even in the picture. I saw them as whole people, unique. ... .” Her hidden presence gave her the ability to see her family as people (as if they were on TV—note the “frame”) rather than as Mom and Dad and Brother.

9. **B.** The author identifies with her parents (“trying to be a good father, the perfect housewife”), who were attempting to live up to the cultural ideal portrayed especially in the television shows of the time. If you chose (a), the role may not have been defined formally, but she makes clear that her parents were concerned with living up to their own standards.

10. **C.** Once again, the author Reveals her ability to sympathize with her brother, and here she speaks not only as the little sister from years ago but also as the mature woman and mother who observes her own son’s struggles. Note the difference between “prioritize” (put into order by importance) and “enumerate” (list).
Not long ago I visited a New Hampshire lake that has been preempted and civilized by human beings. All day long in the vacation season high-speed motorboats, driven with the reckless abandon common to the young of our society, speed back and forth. The shores echo to the roar of powerful motors and the delighted screams of young people with uncounted horsepower surging under their hands. If I had had some desire to swim or to canoe in the older ways of the great forest that once lay about this region, either notion would have been folly. I would have been gaily chopped to ribbons by young people whose eyes were always immutably fixed on the far horizons of space, or on the dials that indicated the speed of their passing. There was another world, I was to discover, along the lake shallows and under the boat dock, where the motors could not come.

As I sat there one sunny morning when the water was peculiarly translucent, I saw a dark shape moving swiftly over the bottom. It was the first sign of life I had seen in this lake, whose shores seemed to yield little but washed-in beer cans. By and by the gliding shadow ceased to scurry from stone to stone over the bottom. Unexpectedly, it headed almost directly for me. A furry nose with gray whiskers broke the surface. Below the whiskers, green water foliage trailed out in an inverted V as long as his body. A muskrat still lived in the lake. He was bringing in his breakfast. I sat very still in the strips of sunlight under the pier. To my surprise, the muskrat came almost to my feet with his little breakfast of greens. He was young, and it rapidly became obvious to me that he was laboring under an illusion of his own, that he thought animals and people were still living in the Garden of Eden. He gave me a friendly glance from time to time as he nibbled his greens. Once, even, he went out into the lake again and returned to my feet with more greens. He had not, it seemed, heard very much about people. I shuddered. Only the evening before I had heard my neighbor describe with triumphant enthusiasm how he had killed a muskrat in the garden because the creature had dared to nibble his petunias.

As he vanished in an oncoming wave, there went with him a natural world, distinct from the world of young people and motorboats. It was a world of sunlight he had taken down into the water weeds. It hovered there, waiting for my disappearance.

1. The passage as a whole can best be described as an expression of
   a. amusement at the behavior of muskrats
   b. scorn for the people who use the lake
   c. regret at the impact of humans on the lake
   d. optimism about the future of the lake
   e. irritation at the modern obsession with speed
2. Lines 3-9 indicate that the word “civilized” (line 2) is being used
   a. cautiously
   b. sarcastically
   c. humorously
   d. hopefully
   e. wistfully

3. The underlying sentiment in the sentence beginning “If I had” (lines 9-12) is the author’s
   a. nostalgia for experiences that are no longer possible
   b. grudging admiration for young people
   c. regret for something he had failed to do
   d. amusement at his own foolishness
   e. feeling of moral paralysis

4. In lines 12-16, the author suggests that the young people are
   a. competitive
   b. violent
   c. self-absorbed
   d. rebellious
   e. uninformed

5. In line 27, “broke” most nearly means
   a. destroyed
   b. surpassed
   c. weakened
   d. pierced
   e. tamed

6. In the sentence beginning in line 34 (“He was young ... Garden of Eden”), the author suggests that
   a. in this lake, few muskrats have the chance to reach maturity
   b. an older, wiser muskrat would have learned to fear people
   c. the muskrat was only one of several types of animals living in the lake
   d. at one time the lake had been a home to a variety of animals
   e. some parts of the lake had remained unchanged for generations

7. The author probably “shuddered” (line 42) because
   a. he was afraid of the muskrat
   b. he envisioned what would happen to the muskrat
   c. he was sitting in shade under the dock
   d. the behavior of the young people in the motorboats frightened him
   e. he wondered what else could happen to undermine the ecology of the lake

8. The phrase “dared to” in line 46 emphasizes the author’s belief that
   a. the muskrat was dangerous
   b. the muskrat was insolent
   c. humans will eventually destroy all life in the lake
   d. the neighbor’s behavior was uncalled for
   e. the author felt intimidated by his neighbor

9. The quotation in lines 61-65 primarily serves as a warning about the
   a. threat from the author
   b. behavior of humans in general
   c. predatory nature of many wild animals
   d. inevitable destruction of the natural world
   e. callousness of the young people in the motorboats

10. Which of the following best describes the author’s action in line 66 (“With this ... at his feet”) as compared to his words in lines 61-65?
    a. His action exaggerates his words.
    b. His action is more admirable than his words.
    c. His action reveals a hidden dimension to his words.
    d. His action parallels the severity of his words.
    e. His action is much less emphatic than his words.
CRITICAL READING—INTENTION AND CONTEXT E

In the Passages Companion, we have discussed how SAT authors pursue one of three agendas: to Inform, to Reveal, or to Persuade. Please keep the Companion nearby and refer to it when reviewing your answers.

Here, in a piece that discusses how natural habitats are being taken over by human beings, our author uses the first-person not to reveal anything about himself but rather to use his own experiences to Persuade us that we should pause and perhaps “shudder at” what people are doing to the natural world. Let’s see how often that theme shows up in correct answer choices.

1. C. “Big picture” questions will always appear first or last in the question set; in either case, you should answer them after you understand the author’s big picture. In this passage, every point the author makes underlines his frustration with some humans and his growing resignation that there’s little or nothing he can do slow their assault on the lake. Note that choice (c) is reflects only how the author feels, and doesn’t project the author’s emotion onto others—whereas choice (b) is so broad that we imagine there must be at least one or two people who use the lake whom the author doesn’t scorn. If you answered (e), it was probably after just reading the first paragraph.

2. B. Do you think that the author feels the lake would survive if the kids in the roaring motorboat and their parents just went away for a while? Because “civilized” is, in general, a positive word, it’s not hard to imagine that the author is using that word sarcastically. Remember, since patience is a virtue while Indexing, we don’t have to answer this question right at line 9. If we’re still mulling it at line 12, we’re told, “I would have been gaily chopped to ribbons by young people whose eyes were always immutably fixed on the far horizons of space, or on the dials which indicated the speed of their passing.”

3. A. The author mentions “in the older ways of the great forest,” which suggests that peaceful canoeing was once possible. What’s nostalgia? It’s longing for a world that survives only in one’s memory.

4. C. As pointed out in answer choice 2, above, the boaters wouldn’t have even seen him even if they ran him over. That doesn’t make them violent (b) or rebellious (d). In fact, do you see how including a choice like “rebellious” is likely to attract those who aren’t following the narrative, since “rebellious” and “young people” seem to go together so well?

5. D. Go to line 27. Blacken out the word broke. The animal was under water. After it “broke” (came through) the surface, it was above water.

6. B. Clearly, the author believes the muskrat has remained in this lake only because it hasn’t yet gotten the message. Remember lines 21-22: “It was the first sign of life I had seen in this lake ...” It’s also important to note here that since the question asks about the muskrat, the correct answer will focus on the muskrat itself rather than
what it represents, making choices (c), (d), and (e) much less attractive. In fact, choice (e) is worth examining because it represents a wrong answer type that’s easy to avoid once you know the ropes. Even if the statement in an answer choice may be true, if the author doesn’t discuss it explicitly, it can’t be right on the SAT.

7. **B.** SAT passages each have a single focus—the author’s Intention. They are too short for the author to take side trips. The entirety of the piece so far has been to lament the loss of the natural world. If you answered (d), you probably stopped paying attention after the first paragraph; if you answered (e), you made the kind of inference that will always be wrong on the SAT (see the explanation to question 6).

8. **D.** Quick question. Whose side has the author taken—that of the lake animals or the people who have taken over? However, the author doesn’t fear for his own safety (e) unless he goes canoeing, right? Choice (b) ascribes a human behavior to the muskrat, which is known as the “pathetic fallacy” and will always be wrong on the SAT (and in your writing too). Perhaps the neighbor views muskrats as “insolent,” but as far as we can tell the author thinks they’re just muskrats. As for choice (c), whoa! Anything that sounds like the plot summary from an end-of-the-world science fiction movie can be eliminated immediately.

9. **B.** The author (a) is unlikely to try to harm the muskrat. So who will? I like the way that (e) continues to encourage those who were distracted from the passage by dreams of motorboats; as for (d), see the explanation for 8(c).

10. **E.** The author tries to scare the muskrat away with his words, and drops a pebble at the muskrat’s feet. Surely, the action is less emphatic.* Choice (a) reverses the severity; (d) would require the author to stun the little muskrat with a stone, right? Choice (c) appeals to conspiracy theorists, and if you chose (b), you probably thought that choice (e) read, “His action is much less empathetic than his words.”

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*a emphatic: with emphasis (not empathetic)*
Critical Reading—Intention and Context F

Taken from the beginning of a short story by an early twentieth-century Lithuanian writer.

In the department of … but I had better not mention in what department. There is nothing in the world more readily moved to wrath than a department, a government office, in fact any sort of official body. And so, to avoid any unpleasantness …

In a certain department there was a government clerk, of whom it cannot be said that he was very remarkable; he was short, somewhat pockmarked, with dim, bleary eyes and a small bald patch on the top of his head. As for his grade in the service (for among us the grade is what must be put first), he was what is called a perpetual subsidiary councilor, a class at which, as we all know, various writers who indulge in the habit of attacking those who cannot defend themselves jeer and jibe to their heart’s content.

His name was Fedor Fedorevitch. No one has been able to remember when and how long ago he entered the department. However many directors and high officials of all sorts came and went, he was always seen in the same place, at the very same duty, so that they used to declare that he must have been born a perpetual clerk lieutenant in uniform all complete and with a bald patch on his head. The porters, far from getting up from their seats when he came in, took no more notice of him than if a simple fly had flown across the vestibule. His superiors treated him with a sort of domineering chilliness. The head clerk’s assistant used to throw papers under his nose without even saying “Copy this” or “Here is an interesting, nice little case,” as is usually done in well-behaved offices. And he would take it, gazing only at the papers without looking to see who had put them there and whether he had the right to do so; he would take the papers and at once set to work to copy them. The young clerks made jokes about him to the best of their clerkly wit, and told before his face all sorts of stories of their own invention about him. They would enquire when the wedding was to take place, or would scatter bits of paper on his head, calling them snow. In the midst of all this teasing, Fedor Fedorevitch never answered a word, but behaved as though there were no one there. Only when they jolted his arm and 50 prevented him from going on with his work would he cry out, “Leave me alone! Why do you insult me?” There was something strange in the words and in the voice in which they were uttered, so that one young scribe, new to the office, was cut to the heart, and in those words thought that he heard others: “I am your brother.”

It would be hard to find a man who loved his work as did Fedor Fedorevitch. In that copying, he found a varied agreeable world of his own. If rewards had been given according to the measure of zeal in the service, he might to his amazement have even found himself a civil councilor; but all he gained in the service, as the wits, his fellow clerks expressed it, was a buckle in his belly button and a pain in his back. It cannot be said, however, that no notice had ever been taken of him. One director, being a good-natured man and anxious to reward him for his long service, sent him something a little more important than his ordinary copying; he was instructed from a finished document to make some sort of report for another office; the work consisted only of altering the headings and in places changing the first person into the third. This cost Fedor Fedorevitch such an effort that it threw him into a regular perspiration: he mopped his brow and said at last, “No, better let me copy something.” From that time forth they left him to go on copying forever.
1. The word “unpleasantness” (line 6) most likely refers to
   a. possible consequences resulting from the strong language the author uses when angered
   b. repercussions that might result from identifying Fedor’s department
   c. arguments that inevitably occur between different government offices
   d. increased teasing to which Fedor would be subjected by his fellow workers
   e. discomfort that this story might cause for many Lithuanian citizens

2. The reference to how Fedor “must have been born” (line 25) indicates that he
   a. could not escape his basic nature even though he tried to do so continually
   b. would have been viewed differently by others if not for his uniform
   c. could not be imagined any way other than how he appeared at the department each day
   d. had not been working long in the department
   e. was older than he appeared to be

3. The “simple fly” (line 29) is used primarily as an image of something that is
   a. annoying
   b. uncomplicated
   c. fast-moving
   d. easily overlooked
   e. potentially harmful

4. The two quotations in lines 34-35 serve as examples of
   a. typical civilities
   b. superficial compliments
   c. unreasonable demands
   d. unappreciated small talk
   e. unnecessary explanations

5. In line 43, “invention” most nearly means
   a. creative experiment
   b. new device
   c. fabrication
   d. discovery
   e. adeptness

6. The narrator’s attitude toward the young clerks in Fedor’s office is primarily one of
   a. disapproval of their cruelty
   b. annoyance with their disrespect for supervisors
   c. dissatisfaction with their laziness
   d. mock sympathy for their lack of challenge
   e. amusement over their antics

7. The scribe who is “new to the office” (lines 54-55) responds to Fedor’s words with
   a. confusion
   b. sarcasm
   c. disbelief
   d. fear
   e. compassion

8. It can be inferred from the incident described in lines 68-81 that
   a. the director was not really trying to reward Fedor for his hard work
   b. the director understood Fedor better than anyone else in the office did
   c. Fedor was not really a hard worker
   d. Fedor wanted a promotion very much
   e. Fedor feared increased responsibility
CRITICAL READING—INTENTION AND CONTEXT F

In the Passages Companion, we have discussed how SAT authors pursue one of three agendas: to Inform, to Reveal, or to Persuade. Please keep the Companion nearby and refer to it when reviewing your answers.

Third-person fiction is always Inform if the story is not intended as propaganda (don’t worry—there’s no propaganda on the SAT). Next, “Exactly what is our author Informing us about?” Here, it’s the office life of a fictitious character.

1. **B**. The author states, “There is nothing in the world more readily moved to wrath than a department …” Please note that Fedor (choice (d)) has not yet appeared in the story, and any choice that generalizes as (e) does about the nation’s citizens is guaranteed to be wrong. If you chose (a), what strong language? If you chose (c), has the author mentioned more than one government office, or were you assuming that the author was attached to a different government office? Please don’t assume.

2. **C**. The passage states, “They used to declare that he must have been born a perpetual clerk lieutenant in uniform …” If you chose (a), you made two mistakes; the first was assuming that Fedor had any interest in escaping his basic nature, and the second was imagining that he tried to do so continually (or at all). While choice (b) might be true, the author never says so (and only choices that are fully supported by the passage can be right).

3. **D**. Those below Fedor in the office hierarchy “took no more notice of him than if a simple fly had flown across the vestibule.” While flies may be fast moving and annoying, we need to go with the choice that furthers the author’s Intention, right? Up until now, the author has made sure we understand that Fedor is a fixture in this department, so much so that he has begun to blend into the wallpaper.

4. **A**. More and more we get the author’s Intention to portray this man as a function of his job, a person whose humanity goes unacknowledged by those around him. While Fedor might not appreciate small talk (d), there is nothing in the passage that portrays him as someone who resents other people, just someone who doesn’t really notice them as he goes about his work.

5. **C**. Did you cross out “invention” in the text? Since Fedor is such a quiet mystery, the clerks make up “stories of their own invention” about him. To “fabricate” is to invent a false story.

6. **A**. The author chooses to tell us a story that focuses on the clerks and their campaign to “get a rise out of” Fedor. He could have told us other stories instead. So, since the chosen story is not random, the author must have included it to point out the clerks’ cruelty toward Fedor. How do we know that the author disapproves? Because at that point in the story he introduces a scribe “new to the office,” a possibly objective...

*In case you aren’t familiar with the “crossing out” technique, consult the Passages Companion.*
observer who doesn’t know Fedor’s history and thus can only see a human being tormented by the malevolence of the clerks’ games.

7. **E**. The scribe who is “new to the office” has no reason to fear (d) and doesn’t have the perspective to view the proceedings with sarcasm (b). While he may be confused (a) or feel disbelief (c), the author doesn’t say either of those things. In fact, the scribe is not intended to be a fully-realized character but rather a blank slate on which the author can declare his own attitudes and opinions; in any case, we should choose an answer choice that keeps the focus on Fedor, and (e) is the only choice that “bonds” the scribe to the main character. How would you feel if someone who was being tormented cried out, “I am your brother!”?

8. **E**. “In that copying, he found a varied agreeable world of his own.” The author has made it clear that Fedor loves his routine. When his director, thinking he’s doing Fedor a kindness, sends something more interesting Fedor’s way, Fedor is upset by this disruption. There’s no support of (a), since the author portrays the director in a positive light, or (c), since Fedor has not shied away from any other work, only this new routine that has made him uncomfortable.
Striped lemurs have at least three different categories of alarm calls. When a leopard or other large carnivorous mammal approaches, the lemurs give one type of alarm call; quite a different call is used at the sight of a martial eagle, one of the few flying predators that captures striped lemurs. A third type of alarm call is given when a large snake approaches the group. This degree of differentiation of alarm calls is not unique, although it has been described in only a few kinds of animals. When ethologists, who study animal behavior, interpret data of this kind, they require proof that variations in animal communication signals convey anything more than information about the communicator's internal state.

The first and relatively simple question is whether the striped lemur's three types of alarm calls convey to other lemurs information about the type of predator. Such information is important, because the animals' defensive tactics are different in the three cases. When a leopard approaches, the lemurs climb into trees. But leopards are good climbers, so the lemurs can escape them only by climbing out onto the smallest branches, which are too weak to support a leopard. When the lemurs see a martial eagle, they move into thick vegetation close to a tree trunk or at ground level. Thus the tactics that help escape from a leopard make them highly vulnerable to a martial eagle, and vice versa. In response to the threat of a large snake, they stand on their hind legs and look around to locate the snake, then simply move away from it, either along the ground or by climbing into a tree. Knowing that the lemurs give different alarm calls when they see different predators does not establish beyond a doubt that the calls actually describe the type of predator. When the lemurs, which are usually close to each other, hear an alarm call, each one quickly looks around at the caller. Like many other animals, they are adept at judging the direction in which another animal is looking, so they can easily see what the caller is looking at. This serves much the same function as pointing. When lemurs other than the caller take the appropriate action to avoid the danger, it is difficult to be sure whether they are acting solely on the basis of the call or whether the call simply led them to look at the source of the danger.

To clarify this situation, researchers conducted some carefully controlled playback experiments under natural conditions. The basic idea was to play from a concealed loudspeaker tape recordings of striped lemur alarm calls when the lemurs had just seen a leopard, a martial eagle, or a large python, and to inquire whether these playbacks, in the absence of a predator, would elicit the normal response. The experiments required many precautions and refinements. For instance, striped lemurs come to know each other as individuals, not only by visual appearance but by minor differences in their vocalizations. They might not respond even to an alarm call recorded from one of their own companions if that individual was in plain sight some distance from the vegetation concealing the speaker. In all experiments, the loudspeaker reproduced calls of a member of the group, and the speaker was hidden in a place where the lemurs would expect that individual to be. The experiments had to be prepared with tape recordings of a known member of a well-studied group of striped lemurs and a hidden speaker located where this individual frequently spends time.

When all these conditions were satisfied, the playbacks of alarm calls did indeed elicit the appropriate responses. The lemurs responded to the leopard alarm call by climbing into the nearest tree; the martial eagle alarm caused them to dive into thick vegetation; and the python alarm produced the typical behavior of standing on the hind legs and looking all around for the nonexistent snake.

Not all ethologists have accepted the straightforward interpretation that the alarm calls convey information about the type of predator. One alternative interpretation is that the alarm calls are injunctions to behave in certain ways. Thus the leopard alarm might mean, “Go climb into a tree.” But even this interpretation necessarily ascribes three specific types of injunction to the vocabulary of striped lemurs. Even such postulated injunctions would be more than a simple reflection of the internal state of the communicator.
1. The passage indicates that the calls described in lines 1-8 are significant primarily because they
   a. show that animals are capable of expressing emotion
   b. prompt questions about the potential extent of animal communication
   c. prove that some animals are more intelligent than others
   d. noticeably improve the lemurs’ rate of reproduction
   e. represent a departure from the lemurs’ predictable patterns of communication

2. In lines 11-15 (“When ... state”), the author’s observation about ethologists implies that they
   a. are dismissive of issues that concern other biologists
   b. limit themselves by their reliance on traditional explanations of animal behavior
   c. fail to account for discrepancies between field and laboratory observations
   d. try to avoid unjustified conclusions about the meaning of a phenomenon
   e. use an approach that sometimes arouses resentment

3. What is the relationship between the first paragraph (lines 1-15) and the “simple question” mentioned in lines 16-19?
   a. The first paragraph contains evidence that will answer the question.
   b. The question arises from information in the first paragraph.
   c. The question makes light of the view presented in the first paragraph.
   d. The first paragraph outlines the way the question will be answered in the rest of the passage.
   e. The question defines an unorthodox view that was discounted in the first paragraph.

4. In lines 21-27 (“When a leopard . . . level”), the author juxtaposes two kinds of behavior in order to
   a. show how the presence of more than one observer in the field yields conflicting information
   b. provide evidence that challenges an accepted theory about lemur communication
   c. compare a unique form of defense to a more common form of defense
   d. explain how the lemurs imitate behavior of other animals
   e. emphasize the usefulness of different responses in different situations

5. When designing the experiments described in lines 49-73, researchers had to consider all of the following EXCEPT
   a. the location of certain lemurs in the group
   b. the lemurs’ familiarity with one another
   c. the location of the equipment
   d. the vocalization of predators
   e. individual differences among the lemurs’ calls

6. According to lines 49-73, which action would likely keep the lemurs from responding to the recorded calls?
   a. Locating the loudspeaker far from where the individual whose voice it broadcasts can be seen
   b. Playing the calls during feeding or grooming periods
   c. Playing the calls so often that the lemurs become accustomed to them and fail to react
   d. Allowing the lemurs to detect the presence of the human observers
   e. Interfering with the hunting routines of the usual predators

7. In line 74, “satisfied” most nearly means
   a. convinced
   b. dispelled
   c. fulfilled
   d. appeased
   e. compensated
8. The experiments described in the passage provide evidence that most directly supports the conclusion that striped lemurs
   a. are highly adaptable to changing environmental conditions
   b. respond to the presence of predators with calls particular to each danger
   c. tolerate individuals who do not pose an immediate threat
   d. protect themselves by mimicking the calls of certain predators
   e. illustrate the ability of most mammals to communicate information

9. The author’s reaction to an “alternative interpretation” (line 86) is best characterized as
   a. offended, because it disregards the author’s own observations
   b. skeptical, because it perpetuates the falsehood that lemurs possess human traits
   c. supportive, because it provides proof for a hypothesis
   d. receptive, because it is consistent with the data
   e. respectful, because it is shared by many experienced field researchers

10. The final paragraph primarily serves to
    a. show how an objection to a hypothesis actually confirms one of its central elements
    b. introduce a personal interpretation of the findings
    c. suggest that responses to alarm calls are genetically determined
    d. cast doubt on the importance of a field of inquiry
    e. indicate the kinds of questions that are not susceptible to further study

11. The author uses striped lemurs to convey which point about animal communication?
    a. Animal vocalizations are modeled after human sounds.
    b. Some animals can impart vocally specific information about their observations.
    c. Most animals respond differently to different alarm calls.
    d. Animals vocalize primarily to communicate an internal state.
    e. Most animals exhibit an acute sense of hearing when sensing predators.
CRITICAL READING—INTENTION AND CONTEXT G

In the Passages Companion, we have discussed how SAT authors pursue one of three agendas: to Inform, to Reveal, or to Persuade. Please keep the Companion nearby and refer to it when reviewing your answers.

This author intends to Persuade us that striped lemurs communicate specific information about the outside world to members of their social group. The author limits herself to this Reasonable task: So, there is no comparison to humans or any suggestion that what is true of lemurs is necessarily true of any other animal group. The author is making a Reasonable claim about one species only.

Of further note is what the wrong answer choices in this passage can teach us about the Reasonable Rule. In the explanations, we will reference “hot words,” those unreasonable words that identify their respective answer choices as incorrect.

1. B. Whenever an author provides evidence, you must ask, “Why would the author choose this evidence?” Clearly, because it supports the author’s Intention—here, to Persuade us that striped lemurs communicate in more ways than scientists had previously imagined. In fact, the author explains that ethologists require proof that the communication relates to something other than, “I’m hungry,” or “Watch this!” Choice (c) can be eliminated in one of two ways: First, “prove” is a hot word (see the explanation above); second, in order to compare different sorts of animals (c) or even generalize about animals (a), the author would need to mention at least one other species. Choice (e), similarly, refers to lemurs’ “predictable” patterns, but there was no such reference in the passage.

2. D. In an essay of this length, the author must have modest aims. So, when you answer Persuade questions, look for the mildest Persuade choice, the one that states the author’s purpose without needing extensive proof. Hot words: In (a), scientists are very rarely “dismissive” of issues that concern other scientists; in (b), the author will never accuse the scientists of “limiting” themselves; in (c) the author will never claim that scientists “fail to account” for discrepancies; in (e), “resentment” is personal and thus has no place in an SAT passage.

3. B. Once again (see question 2), we’re looking for the mildest choice that accurately captures the author’s Intention. If you chose (a), how often will a question be answered by previous evidence? If it’s already been answered, why ask it? If you chose (e), an author will never introduce a view (even one that’s unorthodox) just to “discount” it. If you think about it, new information prompts us to pose questions that, if answered to our satisfaction, will allow us to reconcile that new information with our current world-view.

4. E. The referenced lines don’t discuss lemur calls at all. They merely describe how lemurs behave in the presence of various predators. If you chose (b), you were 20
lines ahead. That's the sort of bad Context choice that we can usually avoid if we Index.

5. **D.** The scientists are studying the extent of lemur communication. So, predator vocalizations, unless those predators are gifted impressionists, are irrelevant.

6. **A.** If we lemurs can all see Lenny (the Lemur) off to the left scratching his armpit while simultaneously we think we hear Lenny in the bushes to the right screaming about a snake, are we to believe our eyes or ears? While choice (c) is possible, the author never says so and so it cannot be the right answer.

7. **C.** Did you cross out “satisfied”? When we’ve “satisfied” conditions, haven’t we done everything we were supposed to? Kind of like “fulfilling” a contract, right?

8. **B.** Experiments that make it into print will usually support whatever premise the experimenter set out to prove. Choices (a) (“highly adaptable”) and (e) (Did this passage discuss all mammals?), which are very “big” and therefore unreasonable, can attract test takers who have ceased following the passage and are looking for a impressive-looking answer choice. Choice (d), in which the lemurs do leopard imitations (“Check this out! I have spots!”), is from a presumably funnier passage.

9. **D.** The author argues that lemur calls identify predators. The “alternative interpretation” argues that lemur calls command certain actions (which would be reasonable in the presence of certain predators). So, whether or not the “alternative interpretation” agrees with the author on every specific point, it does reinforce the author’s thesis that lemurs do more than tell each other about foot itch. Let’s look at some Hot Words: In choice (a), “offended” is personal; in (b), no correct SAT choice will ever contain “perpetrates the falsehood”; and in (c) watch out for “proof” (in your SAT essay, too!). While choice (e) may be true, the author doesn’t provide us with quotes from any field researchers.

10. **A.** Whether ethologists explain that the lemur calls impel the animals to “climb a tree” or “look at the big snake,” they concede that the call was meant to communicate information about the outside world rather than describe hunger or backache. Hot Words: In choice (b), we’re probably finding it easier to reject “personal,” aren’t we? In choice (d), authors never “cast doubt” on scientific fields of inquiry; and in choice (e), is anything in science “not susceptible to further study”?

11. **B.** Note how Reasonably this choice is worded: “Some animals” (as opposed to “Most animals” in (c) and (e) and “Animals” in (d)) is Reasonable. Choice (a) brings in the human comparison again (lemurs imitating Homer Simpson and Peter Griffin come to mind). As noted earlier, “Most animals” in (c) should put you off; the entire choice, “Most animals respond differently to different alarm calls,” should scare you to death, because it uses lemurs to generalize about “most” other animals. This is the kind of generalization that, when you rely on it, can sink your school essays. (“My dog has fleas; therefore, all animals have fleas” or, even worse, “all beings have fleas.”)

* Even, presumably, fleas.
It is May 1963, I’m standing at the railing of the M/S Estonia’s upper deck, and I feel that my life is ending. I’m looking out at the crowd that has gathered on the shore to see the ship’s departure from our port of Parnu—a crowd that, all of a sudden, is irrevocably on the other side—and I want to break out, run back, run toward the familiar excitement, the waving hands, the exclamations. We can’t be leaving all this behind—but we are. I am eleven years old, and we are emigrating. It’s a notion of such crushing, definitive finality that to me it might as well mean the end of the world.

My sister, two years younger than I, is clutching my hand wordlessly; she hardly understands where we are, or what is happening to us. My parents are highly agitated; they had just been put through a body search by the customs police. Still, the officials weren’t clever enough, or suspicious enough, to check my sister and me—lucky for us, since we are both carrying some silverware we were not allowed to take out of Estonia in large pockets sewn into our skirts especially for this purpose, and hidden under capacious sweaters.

When the brass band on the shore strikes up the mournful militaristic rhythms of the Estonian anthem, I am pierced by a youthful sorrow so powerful that I suddenly stop crying and try to hold still against the pain. I desperately want time to stop, to hold the ship still with the force of my will. I am suffering my first, severe attack, of nostalgia, or polvata—a word that adds to nostalgia the tonalities of sadness and longing. It is a feeling whose shades and degrees I’m destined to know intimately, but at this hovering moment, it comes upon me like a visitation from a whole new geography of emotions, an announcement of how much an absence can hurt. Or a premonition of absence, because at this divide, I’m filled to the brim with what I’m about to lose—images of Tallinn, which I loved as one loves a person, of the sunbaked villages where we had taken summer vacations, of the hours I spent poring over passages of music with my violin teacher, of conversations and escapades with friends.

Looking ahead, I come across an enormous, cold blankness—a darkening, and erasure, of the imagination, as if a camera eye has snapped shut, or as if a heavy curtain has been pulled over the future. Of the place where we’re going—British Columbia—I know nothing. There are vague outlines of the far half of a continent, a sense of vast spaces and strange languages. When my parents were hiding in a branch-covered forest bunker during the war, my father had a book with him called Vancouver Fragrant with Resin that, in his horrible confinement, spoke to him of majestic wilderness, of animals roaming without being pursued, of freedom. That is partly why we are going there, rather than to Israel, where most of our Jewish friends have gone. But to me, the word “Canada” has ominous echoes of the “Sahara.” No, my mind rejects the idea of being taken there, I don’t want to be pried out of my childhood, my pleasures, my safety, my hopes for becoming a violinist. The dock pulls away, the foghorn emits its lowing, shofar sound, but my being is engaged in a stubborn refusal to move.

My parents put their hands on my shoulders consolingly; for a moment, they allow themselves to acknowledge that there’s pain in this departure, much as they wanted it.

Many years later, at a stylish party in New York, I met a woman who told me that she had an enchanted childhood. Her father was a highly positioned diplomat in an Asian country, and she had lived surrounded by sumptuous elegance. No wonder, she said, that when this part of her life came to an end, at age twelve, she felt she had been exiled from paradise, and had been searching for it ever since.

No wonder. But the wonder is what you can make a paradise out of. I told her that I grew up in a lumpen apartment in Tallinn, squeezed into three rudimentary rooms with four other people, surrounded by squabbles, dark political rumblings, memories of wartime suffering, and daily struggle for existence. And yet, when it came time to leave, I, too, felt I was being pushed out of the happy, safe enclosures of Eden.

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1 A trumpet made from a ram’s horn and sounded in the synagogue on the Jewish High Holy Days.
2 Pertaining to dispossessed, often displaced, individuals who have been cut off from the socioeconomic class with which they would ordinarily have been identified.
1. This passage serves mainly to
a. provide a detailed description of what the author loved most about her life in Estonia
b. recount the author’s experience of leaving Tallinn
c. explain why the author’s family chose to emigrate
d. convey the author’s resilience during times of great upheaval
e. create a factual account of the author’s family history

2. In lines 2-3, “I feel that my life is ending” most nearly reflects the author’s
a. overwhelming sense of the desperate life that she and her family have led
b. sad realization that she is leaving a familiar life
c. unsettling premonition that she will not survive the voyage to Canada
d. severe state of depression that may lead her to seek professional help
e. irrational fear that she will be permanently separated from her family

3. In lines 5-6, the author’s description of the crowd on the shore suggests that
a. her family does not expect to find a warm welcome in Canada
b. her relatives will not be able to visit her in Canada
c. her family’s friends have now turned against them
d. she will find it difficult to communicate with her Estonian friends
e. the step she is taking is irreversible

4. In lines 33-39, the author indicates that “nostalgia” differs from “polvata” in that
a. polvata cannot be explained in English
b. polvata denotes a gloomy, bittersweet yearning
c. polvata is a feeling that never ends
d. nostalgia is a more painful emotion than polvata
e. nostalgia connotes a greater degree of desire than polvata

5. By describing her feelings as having “shades and degrees” (line 35), the author suggests that
a. she is allowing herself to grieve only a little at a time
b. she is numb to the pain of her grief
c. she is overwhelmed by her emotion
d. her sadness is greatest at night
e. her emotional state is multifaceted

6. In lines 35-36, the phrase “I’m destined to know intimately” implies that the author
a. cannot escape the path her father has chosen for the family
b. believes that the future will bring many new emotional experiences
c. will be deeply affected by the experience of emigrating
d. must carefully analyze her conflicting emotional reactions
e. has much to learn about the experience of emigrating

7. The author refers to the “camera eye” (line 49) and the “heavy curtain” (line 50) in order to suggest
a. the difference between reality and art
b. the importance of images to the human mind
c. the difference between Estonia and British Columbia
d. her inability to overcome her fear of death
e. her inability to imagine her future life
8. The description of the author as “engaged in a stubborn refusal to move” (line 69) suggests her
   a. determination to claim her space on the crowded deck of the ship
   b. refusal to accept the change in her life
   c. wish to strike back at her parents for taking her away from Estonia
   d. resolve not to become a Canadian citizen
   e. need to stay in close proximity to her family

9. In lines 70-73, the author suggests that her parents’ comforting gesture indicates
   a. a recognition of feelings of distress over their departure
   b. their exhilaration and relief at the thought of personal freedom
   c. a great deal of ambivalence regarding their decision
   d. pain so great that they can feel no joy in their departure
   e. a complete loss of feeling due to the stressful events

10. The author mentions the anecdote about the person she met at a “stylish party in New York” (lines 74-75) in order to
    a. prove that the author had become less childlike and more sophisticated
    b. demonstrate that the author’s parents had become affluent in Canada
    c. describe how wealthy children are raised in Asian countries
    d. make an important point about childhood happiness
    e. show that the author had ultimately lived in the United States as well as in Canada
In the Passages Companion, we have discussed how SAT authors pursue one of three agendas: to Inform, to Reveal, or to Persuade. Please keep the Companion nearby and refer to it when reviewing your answers.

Here, in an autobiographical piece, the author Reveals her thoughts and feelings—which, since we know nothing about her or her situation, is the only thing that could be immediately interesting to us. Do you think that if the author went on and on about how poor her family was in Estonia (“My family was so poor ...” “How poor were they? ...”) or how much she liked Canadian bacon, we might have drifted off even faster?

1. B. The author is telling us a story about a moment in her childhood. If a choice is correct, as (b) is here, can we reject it because it’s too simple or obvious? Remember, there is one right answer and four very wrong answers; so, if you picked something other than (b), why isn’t (b) right? The SAT loves to hide wrong answers by making them look dull and ordinary. So, don’t fool yourself into thinking that right answers need to look impressive.

2. B. As in question 1, the correct choice is dull and simple. While it may be true, as stated in choice (a), that the desperate life she and her family have led has caused them to want to leave, but the author doesn’t say so—and she would have to say so in order for that answer choice to be correct. Similarly, she may suffer from premonitions (c), but unless she explicitly tells us about them .... Make sense? Also, note that the word “irrational” in choice (e) is a word you love to see—because it is unreasonable and, as such, eliminates that answer choice.

3. E. “A crowd that, all of a sudden, is irrevocably on the other side” tells us that she no longer identifies with a group she’s felt a part of up until now. There’s nothing to support (c); looking at (d) reminds us that if anything in a passage can be taken literally, it should be taken literally—any metaphor on the SAT will be very obvious.

4. B. This is the Estonian version of the “vocabulary in context” question. Clearly, if the test maker is going to ask you the definition of a foreign word, the author must have provided you with the definition (line 33)—“a word that adds to nostalgia the tonalities of sadness and longing.”

5. E. The author contrasts the “shades and degrees” she will feel as time passes with the overwhelming shock she feels at the moment. While (c) might summarize what’s going on at the moment, the question isn’t about the moment—it’s about the future. If you chose (b), you’ve broken The Glass Wall by coming to your own conclusions. A choice like (d) can only be right if it restates the passage.

6. C. Indexing will alert us when to several questions refer to the same neighborhood in the passage—which will encourage us to take a few extra seconds to comprehend

* The Glass Wall is the transparent barrier between you and the passage. You can look but you can’t touch. This means that, unlike your English teacher, the test maker will never ask you to interpret the passage.
what's going on in those lines. This is a reprise of question #3 about polvata; she'll know this feeling intimately—why? Once again, the simple choice looks almost too simple because it so clearly reflects the author's Intention. If you picked (d) or (e), you followed the story pretty well but then broke The Glass Wall (see footnote on previous page) somewhere along the way.

7. E. “Looking ahead, I come across an enormous, cold blankness...” She has no idea what's coming “as if a heavy curtain has been pulled over the future.” Note once again that every correct answer choice in this passage reflects essentially the same theme, her fear of emigrating and inability to imagine what's to come.

8. B. In that every image the author has used until now has communicated her momentary fear and sadness, is it any surprise that she wanted to stop time so she wouldn't have to go forward, away from comfort and warmth and toward the cold and the unfamiliar? If you chose (c), you're foreseeing her days on a Vancouver psychiatrist's couch.

9. A. There are some pretty outrageous choices here. My favorite is (e): a complete loss of feeling due to the stressful events, although honorable mention goes to (d) pain so great that they can feel no joy in their departure. There's nothing to suggest that her parents either are overwhelmed or leaning on her for emotional support. Rather, they are acting like parents: They're comforting their child's pain and assuaging her fear. NOTE: Authors of non-fiction passages will often describe how people behave. However, the best of them will never interpret and ascribe motives to specific behavior. So you shouldn't either.

10. D. What do the author and the woman at the party have in common? Not much, except that they both remember their childhoods as having been special. Remember that this author's focus is on a transitional moment in her childhood; as such, choices like (b) and (e) are truly irrelevant to her story.
TEN FOR TEN

CRITICAL READING—INTENTION AND CONTEXT J

This excerpt is the beginning of a memoir, published in 1980, by a woman who emigrated with her family from Estonia to British Columbia when she was eleven years old.

It is May 1963, I’m standing at the railing of the M/S Estonia’s upper deck, and I feel that my life is ending. I’m looking out at the crowd that has gathered on the shore to see the ship’s departure from our port of Parnu—a crowd that, all of a sudden, is irrevocably on the other side—and I want to break out, run back, run toward the familiar excitement, the waving hands, the exclamations. We can’t be leaving all this behind—but we are. I am eleven years old, and we are emigrating. It’s a notion of such crushing, definitive finality that to me it might as well mean the end of the world.

My sister, two years younger than I, is clutching my hand wordlessly; she hardly understands where we are, or what is happening to us. My parents are highly agitated; they had just been put through a body search by the customs police. Still, the officials weren’t clever enough, or suspicious enough, to check my sister and me—lucky for us, since we are both carrying some silverware we were not allowed to take out of Estonia in large pockets sewn into our skirts especially for this purpose, and hidden under capacious sweaters.

When the brass band on the shore strikes up the mournful militaristic rhythms of the Estonian anthem, I am pierced by a youthful sorrow so powerful that I suddenly stop crying and try to hold still against the pain. I desperately want time to stop, to hold the ship still with the force of my will. I am suffering my first, severe attack, of nostalgia, or polvata—a word that adds to nostalgia the tonalities of sadness and longing. It is a feeling whose shades and degrees I’m destined to know intimately, but at this hovering moment, it comes upon me like a visitation from a whole new geography of emotions, an annunciation of how much an absence can hurt. Or a premonition of absence, because at this divide, I’m filled to the brim with what I’m about to lose—images of Tallinn, which I loved as one loves a person, of the sunbaked villages where we had taken summer vacations, of the hours I spent poring over passages of music with my violin teacher, of conversations and escapades with friends.

Looking ahead, I come across an enormous, cold blankness—a darkening, and erasure, of the imagination, as if a camera eye has snapped shut, or as if a heavy curtain has been pulled over the future. Of the place where we’re going—British Columbia—I know nothing. There are vague outlines of the far half of a continent, a sense of vast spaces and strange languages. When my parents were hiding in a branch-covered forest bunker during the war, my father had a book with him called Vancouver Fragrant with Resin that, in his horrible confinement, spoke to him of majestic wilderness, of animals roaming without being pursued, of freedom. That is partly why we are going there, rather than to Israel, where most of our Jewish friends have gone. But to me, the word “Canada” has ominous echoes of the “Sahara.” No, my mind rejects the idea of being taken there, I don’t want to be pried out of my childhood, my pleasures, my safety, my hopes for becoming a violinist. The dock pulls away, the foghorn emits its lowing, shofar sound, but my being is engaged in a stubborn refusal to move.

My parents put their hands on my shoulders consolingly; for a moment, they allow themselves to acknowledge that there’s pain in this departure, much as they wanted it.

Many years later, at a stylish party in New York, I met a woman who told me that she had an enchanted childhood. Her father was a highly positioned diplomat in an Asian country, and she had lived surrounded by sumptuous elegance. No wonder, she said, that when this part of her life came to an end, at age twelve, she felt she had been exiled from paradise, and had been searching for it ever since.

No wonder. But the wonder is what you can make a paradise out of. I told her that I grew up in a lumpen apartment in Tallinn, squeezed into three rudimentary rooms with four other people, surrounded by squabbles, dark political rumblings, memories of wartime suffering, and daily struggle for existence. And yet, when it came time to leave, I, too, felt I was being pushed out of the happy, safe enclosures of Eden.

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1 A trumpet made from a ram’s horn and sounded in the synagogue on the Jewish High Holy Days.

2 Pertaining to dispossessed, often displaced, individuals who have been cut off from the socioeconomic class with which they would ordinarily have been identified.
1. This passage serves mainly to
   a. provide a detailed description of what the author loved most about her life in Estonia
   b. recount the author’s experience of leaving Tallinn
   c. explain why the author’s family chose to emigrate
   d. convey the author’s resilience during times of great upheaval
   e. create a factual account of the author’s family history

2. In lines 2-3, “I feel that my life is ending” most nearly reflects the author’s
   a. overwhelming sense of the desperate life that she and her family have led
   b. sad realization that she is leaving a familiar life
   c. unsettling premonition that she will not survive the voyage to Canada
   d. severe state of depression that may lead her to seek professional help
   e. irrational fear that she will be permanently separated from her family

3. In lines 5-6, the author’s description of the crowd on the shore suggests that
   a. her family does not expect to find a warm welcome in Canada
   b. her relatives will not be able to visit her in Canada
   c. her family’s friends have now turned against them
   d. she will find it difficult to communicate with her Estonian friends
   e. the step she is taking is irreversible

4. In lines 33-39, the author indicates that “nostalgia” differs from “polvata” in that
   a. polvata cannot be explained in English
   b. polvata denotes a gloomy, bittersweet yearning
   c. nostalgia is a feeling that never ends
   d. nostalgia is a more painful emotion than polvata
   e. nostalgia connotes a greater degree of desire than polvata

5. By describing her feelings as having “shades and degrees” (line 35), the author suggests that
   a. she is allowing herself to grieve only a little at a time
   b. she is numb to the pain of her grief
   c. she is overwhelmed by her emotion
   d. her sadness is greatest at night
   e. her emotional state is multifaceted

6. In lines 35-36, the phrase “I’m destined to know intimately” implies that the author
   a. cannot escape the path her father has chosen for the family
   b. believes that the future will bring many new emotional experiences
   c. will be deeply affected by the experience of emigrating
   d. must carefully analyze her conflicting emotional reactions
   e. has much to learn about the experience of emigrating

7. The author refers to the “camera eye” (line 49) and the “heavy curtain” (line 50) in order to suggest
   a. the difference between reality and art
   b. the importance of images to the human mind
   c. the difference between Estonia and British Columbia
   d. her inability to overcome her fear of death
   e. her inability to imagine her future life
8. The description of the author as “engaged in a stubborn refusal to move” (line 69) suggests her
   a. determination to claim her space on the crowded deck of the ship
   b. refusal to accept the change in her life
   c. wish to strike back at her parents for taking her away from Estonia
   d. resolve not to become a Canadian citizen
   e. need to stay in close proximity to her family

9. In lines 70-73, the author suggests that her parents’ comforting gesture indicates
   a. a recognition of feelings of distress over their departure
   b. their exhilaration and relief at the thought of personal freedom
   c. a great deal of ambivalence regarding their decision
   d. pain so great that they can feel no joy in their departure
   e. a complete loss of feeling due to the stressful events

10. The author mentions the anecdote about the person she met at a “stylish party in New York” (lines 74-75) in order to
    a. prove that the author had become less childlike and more sophisticated
    b. demonstrate that the author’s parents had become affluent in Canada
    c. describe how wealthy children are raised in Asian countries
    d. make an important point about childhood happiness
    e. show that the author had ultimately lived in the United States as well as in Canada
In the Passages Companion, we have discussed how SAT authors pursue one of three agendas: to Inform, to Reveal, or to Persuade. Please keep the Companion nearby and refer to it when reviewing your answers.

Here, in an autobiographical piece, the author Reveals her thoughts and feelings—which, since we know nothing about her or her situation, is the only thing that could be immediately interesting to us. Do you think that if the author went on and on about how poor her family was in Estonia (“My family was so poor...” “How poor were they...”) or how much she liked Canadian bacon, we might have drifted off even faster?

1. **B.** The author is telling us a story about a moment in her childhood. If a choice is correct, as (b) is here, can we reject it because it’s too simple or obvious? Remember, there is one right answer and four very wrong answers; so, if you picked something other than (b), why isn’t (b) right? The SAT loves to hide wrong answers by making them look dull and ordinary. So, don’t fool yourself into thinking that right answers need to look impressive.

2. **B.** As in question 1, the correct choice is dull and simple. While it may be true, as stated in choice (a), that the desperate life she and her family have led has caused them to want to leave, but the author doesn’t say so—and she would have to say so in order for that answer choice to be correct. Similarly, she may suffer from premonitions (c), but unless she explicitly tells us about them.... Make sense? Also, note that the word “irrational” in choice (e) is a word you love to see—because it is unreasonable and, as such, eliminates that answer choice.

3. **E.** “A crowd that, all of a sudden, is irrevocably on the other side” tells us that she no longer identifies with a group she’s felt a part of up until now. There’s nothing to support (c); looking at (d) reminds us that if anything in a passage can be taken literally, it should be taken literally—any metaphor on the SAT will be very obvious.

4. **B.** This is the Estonian version of the “vocabulary in context” question. Clearly, if the test maker is going to ask you the definition of a foreign word, the author must have provided you with the definition (line 33)—“a word that adds to nostalgia the tonalities of sadness and longing.”

5. **E.** The author contrasts the “shades and degrees” she will feel as time passes with the overwhelming shock she feels at the moment. While (c) might summarize what’s going on at the moment, the question isn’t about the moment—it’s about the future. If you chose (b), you’ve broken The Glass Wall by coming to your own conclusions. A choice like (d) can only be right if it restates the passage.

6. **C.** Indexing will alert us when to several questions refer to the same neighborhood in the passage—which will encourage us to take a few extra seconds to comprehend

* The Glass Wall is the transparent barrier between you and the passage. You can look but you can’t touch. This means that, unlike your English teacher, the test maker will never ask you to interpret the passage.
what’s going on in those lines. This is a reprise of question #3 about polvata; she’ll know this feeling intimately—why? Once again, the simple choice looks almost too simple because it so clearly reflects the author’s Intention. If you picked (d) or (e), you followed the story pretty well but then broke The Glass Wall (see footnote on previous page) somewhere along the way.

7.  **E.** “Looking ahead, I come across an enormous, cold blankness...” She has no idea what’s coming “as if a heavy curtain has been pulled over the future.” Note once again that every correct answer choice in this passage reflects essentially the same theme, her fear of emigrating and inability to imagine what’s to come.

8.  **B.** In that every image the author has used until now has communicated her momentary fear and sadness, is it any surprise that she wanted to stop time so she wouldn’t have to go forward, away from comfort and warmth and toward the cold and the unfamiliar? If you chose (c), you’re foreseeing her days on a Vancouver psychiatrist’s couch.

9.  **A.** There are some pretty outrageous choices here. My favorite is (e): a complete loss of feeling due to the stressful events, although honorable mention goes to (d) pain so great that they can feel no joy in their departure. There’s nothing to suggest that her parents either are overwhelmed or leaning on her for emotional support. Rather, they are acting like parents: They’re comforting their child’s pain and assuaging her fear. **Note:** Authors of non-fiction passages will often describe how people behave. However, the best of them will never interpret and ascribe motives to specific behavior. So you shouldn’t either.

10. **D.** What do the author and the woman at the party have in common? Not much, except that they both remember their childhoods as having been special. Remember that this author’s focus is on a transitional moment in her childhood; as such, choices like (b) and (e) are truly irrelevant to her story.
CRITICAL READING—INTENTION AND CONTEXT

This essay on Zuni sand-drawing, which was published in 2003 by a cultural historian, interprets sand-drawing, which is made by trickling fine, multi-colored sands onto a prepared base of neutral-colored clay.

In order to fully appreciate some Native American objects we perceive as art, we must appreciate the contexts in which they are produced. When our understanding of creativity is heavily focused on objects, we may focus less on a creative act itself than on the leavings or by-products of a creative process.

The concerns I have are deepened as I begin to compare how we, as outsiders, view sand-drawings with how the Zuni view them, even just from a physical perspective. Let me list several points of comparison. We have only representations of sand-drawings drawn or painted on paper or canvas, which we enjoy as objects of art. The Zuni strictly forbid making representations of sand-drawings, and they are never kept as aesthetic objects. Even the use of figures from sand-drawings in the sand-glue craft has not met with the approval of most Zuni traditionalists. Sand-drawings must be destroyed by sundown on the day they are made. They are not aesthetic objects; they are instruments of a ritual process. The sand-drawing rite is a rite of re-creation in which a person in need of healing is symbolically remade in a way corresponding to his or her ailment. This person sits at the center of the very large drawing and identifies with the images depicted, experiencing the complexity and the diversity, the dynamics and the tension, represented in the surrounding drawing. The illness is overcome when the person realizes that these tensions and oppositions can be balanced in a unity that signifies good health and beauty.

In terms of a visual perspective, we traditionally view sand-drawing from a position as if we were directly above and at such a distance that the whole drawing is immediately graspable, with each side equidistant from our eyes. This view is completely impossible for the Zuni. I got a laugh when I asked some Zuni if anyone ever climbed on the roof of a Zuni dwelling to look at a sand-drawing through the smoke hole. When a drawing 6 feet in diameter, or even larger, is constructed on the floor of a dwelling only 20 feet in diameter, the perspective from the periphery is always at an acute angle to the surface. A sand-drawing cannot be easily seen as a whole. The most important point of view is that of the person for whom the drawing is made, and this person sees the drawing from the inside out because he or she sits in the middle of it. These differences are basic and cannot be dismissed. The traditional Zuni view is inseparable from the significance that sand-drawing has for the Zuni.

I think we can say that for the Zuni the sand-drawing is not the intended product of the creative process in which it is constructed. The product is a healthy human being or the re-creation of a well-ordered world. The sand-drawing is but an instrument for the creative act, and perhaps it is the wisdom of the Zuni that it be destroyed in its use so that the obvious aesthetic value of the instrument does not supplant the human and cosmic concern. The confinement of our attention to the reproduction of sand-drawings is somewhat analogous to hanging paint-covered artists’ palettes on the wall to admire, not acknowledging that these pigment-covered boards are not drawings but the means to create them. There is a certain aesthetic value in artists’ palettes, I suppose, but surely most would think of this action as foolishly missing the point.
1. As used in line 8, “deepened” most nearly means
   a. darkened
   b. heightened
   c. immersed
   d. made distant
   e. made obscure

2. What would happen if Zuni practices regarding sand-drawings (lines 14-21) were strictly observed?
   a. Only the Zuni would be permitted to exhibit sand-drawings as works of art.
   b. All sand-drawings would be destroyed before the rite of re-creation.
   c. The sand-drawings could be viewed only during the sand-drawing rite.
   d. The sand-glue craft would be the only art form in which figures from sand-drawings could appear.
   e. The Zuni would be able to focus exclusively on the sand-drawings’ images of unity.

3. According to Zuni tradition, the most significant perspective on a sand-drawing is that of the
   a. group that requests the sand-drawing’s creation
   b. persons represented by the sand-drawing figures
   c. Zuni leader conducting the sand-drawing rite
   d. artists who conceive and design the sand-drawing
   e. person for whom the sand-drawing is made

4. Why did the Zuni listeners mentioned in line 40 laugh?
   a. It would be dangerous for a person to climb onto the roof of such a fragile structure.
   b. The view from the periphery is more amusing than the view from the center of the drawings.
   c. Only the person in need of healing should act in the way suggested by the author.
   d. Critical details in the sand-drawings would be imperceptible from such a distance.
   e. A bird’s-eye perspective is irrelevant to the intended function of the drawings.

5. The phrase “obvious aesthetic value” (lines 62-63) suggests that
   a. despite an attempt to separate sand-drawings from the realm of art, the author recognizes their artistic qualities
   b. imposing artistic rules on sand-drawings diminishes their symbolic value
   c. the Zuni believe the sand-drawings’ artistic qualities to be as important as their function
   d. the author discourages artistic elitism, yet acknowledges the esteemed reputation that sand-drawings enjoy within the Zuni community
   e. aesthetic value should be associated with objects of natural beauty as well as with things created by humans
6. The author’s discussion of artists’ palettes (lines 64-70) emphasizes the
   a. array of colors in the creation of sand-drawings
   b. insight required to appreciate technically unique art
   c. growing legitimacy of sand-drawing reproductions
   d. value of sand-drawings as a means rather than an end
   e. benefit of combining several components to produce a single drawing

7. The information in the passage suggests that a museum’s exhibition of reproduced Zuni sand-drawings would
   a. undermine the effectiveness of sand-drawings in the healing process
   b. help to safeguard the traditions and treasures of Zuni civilization
   c. devalue the representations of sand-drawing figures in the sand-glue craft
   d. discourage non-Zuni people from preserving actual sand-drawings
   e. perpetuate the importance of a drawing’s form rather than its function

8. Which of the following would the author consider to be most similar to a non-Zuni person’s appreciation of sand-drawing, as it is discussed in the passage?
   a. Savoring the taste of a cake that someone else has baked
   b. Enjoying a book written by an anonymous author
   c. Admiring an ancient structure without comprehending its historical context
   d. Praising a concert performance without knowing how to play a musical instrument
   e. Appreciating a building without having contributed to its construction

9. Which statement best summarizes the author’s perspective on the appreciation of sand-drawing?
   a. We should not revere ceremonial art because such reverence is a kind of tyranny that stifles the full expression of ideas.
   b. We must understand that the materials of the object and the design it takes are at the core of its meaning.
   c. We cannot fully understand sand-drawings until we witness their healing powers.
   d. We must understand the process by which an object was created and the purpose it serves in order to grasp its significance.
   e. Our usual way of looking at art objects should be augmented by knowledge of the artists’ personal history.
CRITICAL READING—INTENTION AND CONTEXT K

In the Passages Companion, we have discussed how SAT authors pursue one of three agendas: to Inform, to Reveal, or to Persuade. Please keep the Companion nearby and refer to it when reviewing your answers.

Here, the author attempts to Persuade us that exhibiting Zuni sand-drawings as art misrepresents the purpose of sand-drawing.

In case you pegged this passage as one that attempts to Inform, what exactly is the difference between Inform and Persuade? In an Inform passage, the author shares a nice story with you. In a Persuade passage, the author tells you a story to change your point of view, and thus your opinion about something. This author wants to cure you of your never-ending quest to admire sand-drawing as art. (You don’t? Oh. Well, somebody must.)

1. B. Go to line 8. Blacken the word deepened. Now, read the answer choices into the sentence. Aren’t the concerns made more intense?

2. C. The Zuni regard sand-drawings as single-use therapeutic instruments that have no further role after the healing process. (Imagine that art-lovers in another culture collect used syringes as sculpture, not realizing that those syringes are used by our culture for healing, not artistic, purposes.) If you answered (b), you misunderstood that the sand-drawing rite is the rite of re-creation (line 23).

3. E. In a doctor’s office, who is the center of attention? Has to be the patient, right? So, if sand-drawing is a healing art, then the person who’s being healed must be the most important person. While the patient might be one of the persons depicted (b), that answer choice is much less direct.

4. E. Please refer to question 3: Since each sand-drawing is designed to be viewed by the patient in its center, any other perspective would be, as the answer choice says, “irrelevant” and thus, possibly, amusing. Please note how consistent SAT correct choices are with each other—they really are “on message.”

5. A. Would the author have written this piece if sand-drawings were not prized as aesthetic (beautiful) objects? No, so it’s only logical for the author to acknowledge the sand-drawings’ artistic qualities. If you answered (b) here, consider what the choice is actually saying—that if we “impose artistic rules” in Maine, we’ll definitely mess up the healing process in Arizona. That would be pretty remarkable, right? Compare 5(b) to 7(a), and if you chose both answers, review The Reasonable Rule. Big, outrageous things just don’t happen on the SAT.

* In case you aren’t familiar with the “crossing out” technique, consult the Passages Companion.
6. **D.** What is an artist’s palette? It’s the hand-shaped board with a thumbhole on which an artist blends paint before applying it to a canvas. Can we agree that exhibiting Monet’s palettes would be a bit bizarre, since how the paint is arranged on the palette is not relevant to what Monet intended to create?

7. **E.** Like question 5, this question dares you to go too far—to claim, as does choice (a), that exhibiting a sand-drawing would lessen its therapeutic value—in other words, the patient’s shingles would come back. Choice (e), on the other hand, is totally consistent with the author’s argument—in order to understand Zuni sand drawing, we need to view the process as medicine rather than the residue as art.

8. **C.** Context is all-important. The author’s entire point in this passage is that we need to appreciate that, notwithstanding how beautiful sand-drawings might be, their purpose is not to delight but to heal. If you drew a picture in family therapy that was intended to explain your unresolved feelings toward turbaned wolverines in nurses’ uniforms, and subsequently that picture was bought as art, isn’t it likely that those who bought it are missing the point?

9. **D.** When in doubt, go for the simple choice. Whereas choice (c) tells us that we cannot learn about sand-drawing unless we see their healing powers, choice (d) merely repeats the author’s Intention: In order to fully appreciate Zuni sand drawings, we must understand why the Zunis create them.
CRITICAL READING—INTENTION AND CONTEXT

The following is excerpted from a 1992 article from Perfumerie magazine on the history and production of fragrances.

The word “perfume” probably comes from the Carpathian word perfumar: to spread smoke. The first perfumes were incense, an unfurling plume of hope directed at the gods. The seductive power of perfume is as old as Penelope, who, not wanting to underplay her hand, welcomed home her husband Odysseus on a barge with sails soaked in fragrance “so perfumed,” Homer tells us, “that the winds were lovesick with them.”

For Penelope—and many of us—fragrance taps into deep wells of memory and desire. Memory and fragrance are intertwined, some biologists insist, because the sense of smell plugs smack into the limbic system, the seat of emotion in the brain. No other sense has such immediate access.

In the calibrated world of chemistry, a fragrance is a mix of oils in a 75 to 95 percent alcohol solution. Perfume has a concentration of oils greater than 22 percent. Eau de parfum has a 15 to 22 percent concentration; the less heady eau de toilette, 8 to 15 percent. The even more dilute cologne contains less than 5 percent oils. The heart of a fragrance lies in the fraction of oils that evaporates off the skin, hits the sensors in the lining of the nose, and triggers a chemical signal that shoots up to the olfactory bulb to pluck a chord of delight in the mind.

“In the 1920s,” says Marc Sandescu, president of fragrances worldwide at Schiaparelli Ltd., “a perfume might be 85 percent natural, 15 percent chemical. Today, it’s the opposite. Before 1880 perfumes were totally natural: simple floral waters with names like Coeur de Rose.” Synthetics allow the replication of scents that do not extract well, such as lilac. They allow the use of scents from flowers too rare to be picked, or products like musk that involve the killing of a wild animal.

“Good fragrance is a balance between naturals and synthetics,” says perfumer Anthony Rizzoli. “Naturals give richness and roundness; synthetics, backbone and sparkle.”

To make a perfume, take four or five or hundreds of ingredients, known as notes, and add one perfumer. The world of perfumery uses about 3,000 notes, but many are simply variations on a theme. There are light, sparkling citrus notes like lemon or bergamot. Dark, resinous notes like balsam or olibanum (frankincense). Fragrant, woody notes like sandalwood or cedar. Bracing, herbal ones like lavender or basil. The perfumer acts as composer. The arrangement of a perfume is not unlike a three-part fugue. The part of a perfume known as the top note, or head, spins off the skin immediately; it’s a fanfare and vanishes in minutes. The middle note, or heart, compounded of a heavier material that lasts for hours, sets the theme. The base note, or dry down, gives depth and, like a resonating chord, can persist for a day or two. “You dream your perfume before you write the formula,” says Saul Ganz, chief perfumer for Prince Matchabelli. “You begin as a composer. You finish as a sculptor.”

1 Daughter of Icarus, wife of Odysseus
2 Heart of Rose
3 A musical composition in which one or two themes are repeated and developed throughout

1. The description of Penelope’s use of perfume (lines 4-9) serves primarily to
   a. demonstrate how fragrant even small amounts of perfume were in the past
   b. illustrate how ancient people used perfume to appease the gods
   c. provide some insight into a well-known literary work
   d. reveal why perfume is still considered a luxury today
   e. underscore the association of perfume with romantic love

2. The second paragraph (lines 10-16) primarily serves to
   a. qualify the idea that all of us react to stimuli in the same way
   b. provide a scientific explanation for a particular human response
   c. summarize current scientific research on the mechanics of smell
   d. consider an issue that the author dismisses in the next paragraph
   e. examine the various emotional reactions that fragrance elicits
3. The author’s reference to “some biologists” (lines 12-13) primarily serves which purpose?
   a. It lends authority to the author’s claim about the effects of fragrance on people.
   b. It alludes to a scientific debate about which of the senses is dominant in humans.
   c. It establishes an argument about emotion that the author later counters.
   d. It allows the author to argue that fragrance influences memory but not desire.
   e. It furthers the author’s claim that smell is our most important sense.

4. In line 21, “heady” most nearly means
   a. reckless
   b. willful
   c. giddy
   d. powerful
   e. intelligent

5. Lines 23-28 (“The heart ... mind”) chiefly concern the
   a. development of a fragrance from its first scent to subsequent changes in smell
   b. difference between enjoying several fragrances and favoring a particular scent
   c. interplay between the physical and intellectual considerations of wearing a scent
   d. deterioration of a fragrance from initial intensity pleasures to subsequent faintness
   e. progression from a chemical reaction to a psychological response to a scent

6. Lines 43-45 (“To make ... perfumer”) present a
   a. precise formula
   b. humorous recipe
   c. known impossibility
   d. routine command
   e. revealing anecdote

7. The quote from Saul Ganz in lines 60-61 (“You dream ... formula”) suggests that perfume-making is a process in which
   a. fantasy outweighs reality
   b. wishfulness entails responsibility
   c. inspiration precedes execution
   d. idealism gives way to compromise
   e. creativity leads to profit
CRITICAL READING—INTENTION AND CONTEXT L

In the Passages Companion, we have discussed how SAT authors pursue one of three agendas: to Inform, to Reveal, or to Persuade. Please keep the Companion nearby and refer to it when reviewing your answers.

Here, the author informs us about perfume—its history, chemistry, and production. As is often the case when the author is informing, she incorporates quotes to let others tell part of the story.

1. **E.** Authors provide evidence in order to prove the most recent argument. Usually, that argument can be found either in the previous sentence or at the beginning of the current paragraph. The author claims, “The seductive power of perfume is as old as Penelope,” by citing as evidence that, according to Homer, the winds “were lovesick.” Choice (c) would be more attractive if the author’s Intention were to discuss The Odyssey. As you know, it’s not.

2. **B.** The author’s Intention is to explain to us the connection between perfume’s chemistry and its effects on people; so, rather than claim that perfume is magic or spiritual (and so beyond the realm of science), the author explains why fragrance can be so powerful: “[T]he sense of smell plugs smack into the limbic system, the seat of emotion in the brain.” Choice (e) is a great example of the “safe” looking choice that isn’t at all safe, since “various emotional reactions” means more than one.

3. **A.** An author brings authorities like scientists, professors, studies, economists, etc. into the discussion for one of two reasons: (1) to establish that the author knows what she’s talking about; or (2) to present the “other side’s” point of view. Here, the author has opted for (1). Choice (e) is unreasonable because, while the author clearly appreciates the importance of the sense of smell, never does she argue that smell is the most important sense.

4. **D.** Did you cross out heady in the passage? If so, did you then plug the choices into the sentence? Since eau de toilette is less concentrated fragrance, it makes sense that it is the less strong, non?

5. **E.** What’s the author’s Intention again? Isn’t it still to describe how a fragrance is constructed in order to deliver an emotional wallop? Here, the fragrance “evaporates off the skin, hits the sensors in the lining of the nose, and triggers a chemical signal ... to pluck a chord of delight in the mind.” While the author does discuss the deterioration of a fragrance (d), is the author’s Intention to discuss chemical breakdown or perfume?

6. **B.** Blending the perfumer in with all those “notes” could be messy. If you chose (a) or (c), please note that the words like precise and impossibility in SAT answer choices should scare you silly because they are so strong; if you chose (e), it’s clear that you think these people are even weirder than they probably are.

*In case you aren’t familiar with the “crossing out” technique, consult the Passages Companion.*
7. **C.** In any creative undertaking, inspiration (thinking) must precede execution (writing or producing) and Ganz's comment does use a word ("before") that suggests another ("after"), right? Choice (a) assigns different values to the inspiration and the execution; Ganz merely lists them as steps in a process. If you chose (d), you were reading another passage.
CRITICAL READING—INTENTION AND CONTEXT M

This passage is excerpted from an essay about the author Mary Wollstonecraft Shelley (1797-1851).

When I read collections of letters by eminent authors, I am now and then disposed to suspect that the writers had at the back of their minds the notion that one day the letters might find their way into print. When I learn that they had kept copies of their letters, the suspicion is changed into certainty. When Voltaire wished to publish his correspondence with Denis Diderot, and Diderot, who perhaps didn’t wish it to be published, told him that the letters had been destroyed, Voltaire answered that it was no matter since he had kept copies of them. Whenever author William Makepeace Thackeray went on a journey, he wrote long letters to his friends in which he eloquently described the sights he had seen, and which, as his first biographer justly observes, might well have been printed without the alteration of a single word. People were more patient in those days. Still, one would have thought it a disappointment to receive a letter from a friend only to find that it provided word pictures of mountains and monuments when you would have been glad to know whether your friend had run across anyone of interest, had been to any interesting parties, and had been able to get you the books you wanted.

Most of the letters of Mary Shelley, author of Frankenstein, that have survived were written to her half-sister Leandra. Many of Shelley’s warmest admirers have found her letters to be paltry. These people have said they showed that she was cold and unfeeling and that her interests were trivial. I am surprised. The letters are very natural. Shelley never imagined that anyone but Leandra would read them, and she told her sister just the sort of things she knew would interest her. She wrote about what people were wearing, how much she had paid for the flowered gingham she had bought, what acquaintances she had made, what old friends she had met, and what gossip she had heard.

In one of her letters, Shelley said, “I have now attained the true art of letter writing, which we are always told is to express on paper exactly what one would say to the same person by word of mouth. I have been talking to you almost as fast as I could the whole of this letter.” Of course, she was right. That is the art of letter writing. She attained it with consummate ease. Since she says that her conversation was exactly like her letters, and her letters are full of witty, ironic, and malicious remarks, we can be pretty sure that her conversation was delightful.

1. The “suspicion” mentioned in line 6 refers to
   a. an uncertainty about how the letter will end
   b. a doubt about the literary merit of some authors
   c. a belief about the way a certain group of people behaves
   d. a skepticism about Shelley’s letters to her sister
   e. a feeling about how a particular event will turn out

2. The list in lines 23-26 (“whether ... wanted”) provides examples of
   a. individual insight
   b. personal information
   c. embarrassing revelations
   d. eloquent musings
   e. dramatic statements

3. The author of the passage discusses Mary Shelley (lines 27-41) primarily to
   a. compare the novels of Shelley to those of Thackeray and Voltaire
   b. contrast letters written by ordinary people with those written by celebrities
   c. explain why letters written by eminent authors are usually interesting to read
   d. emphasize the distinctive style of Shelley’s novels
   e. champion a particular kind of letter writing

4. The “people” mentioned in line 31 would probably consider the subjects listed in lines 37-41 (“what ... heard”) to be
   a. representative of Shelley’s artistry
   b. worthy of more detailed investigation
   c. witty and ironic critiques
   d. interesting only to academic specialists
   e. boring and mundane matters
5. The author of the passage demonstrates which attitude toward the “malicious remarks” (lines 51-52)?
   a. Appreciation
   b. Curiosity
   c. Puzzlement
   d. Regret
   e. Cynicism

6. The author of the passage suggests that an important difference between the letters of Voltaire and Thackeray and the letters of Shelley is the
   a. ultimate intended audience of the letters
   b. era during which the letters were written
   c. gender and nationality of the letter writers
   d. number of surviving letters by each author
   e. influence of the letters on each author’s novels
CRITICAL READING—INTENTION AND CONTEXT M

In the Passages Companion, we have discussed how SAT authors pursue one of three agendas: to Inform, to Reveal, or to Persuade. Please keep the Companion nearby and refer to it when reviewing your answers.

Here, in a piece that discusses the private correspondence of a great author, our author questions other critics' assessment of Mary Shelley's letters and tries to Persuade us that her view of Shelley's letters is right.

1. **C.** If you're Indexing, you haven't reached a discussion of (d), and (b) is off topic when commenting on an essay about letter writing. Also, since the author is discussing events that happened long ago, choices (a) and (e) are not appropriate.

2. **B.** The author celebrates that Shelley wrote letters rather than literature disguised as letters. What do real people put into letters? Choice (a) is just too deep—reread the lines quoted and notice whether the author prizes insight or information.

3. **E.** How many Intentions can an author have? Right, one. What's this author's Intention? To discuss letter writing, so (a) and (d), which focus on novels, are irrelevant. The author is preparing her case: Contrary to opinions expressed by some critics, Shelley, because she wrote as people would converse, was a more interesting letter writer than was either Voltaire or Thackeray. Since all three were celebrities, choice (b), which suggests a nonexistent comparison, has no relevance.

4. **E.** Here's a hint: When any author refers to an opinion expressed by “people,” the author is unlikely to agree with that opinion. Go ahead: Start a sentence, “Some people say ....” Now finish the sentence. See what I mean? The author likes Mary Shelley's letters. So, what view of them do you figure the “people” have? Something negative, right?

5. **A.** Question: Who made the remarks? Mary Shelley. What's the author's view of Mary Shelley? Likes her. It's a short piece—is the author likely to flip-flop? No! So, choose an answer choice that's consistent with the author's view of the subject. Also, note the author's last statement: “[W]e can be pretty sure that her conversation was delightful.”

6. **A.** Right from the beginning when she says, “I am now and then disposed to suspect that the writers had at the back of their minds the notion that one day the letters might find their way into print. When I learn that they had kept copies of their letters, the suspicion is changed into certainty,” the author clues us in to the difference between some authors and her chosen subject, Mary Shelley. If you chose (e), you assumed that somewhere in this passage novels were discussed. Were they?
During the 1830’s, Parisians began to refer to artistic individuals who pursued unconventional life-styles as Bohemians. The Bohemian world—Bohemia—fascinated members of the bourgeoisie, the conventional and materialistic middle class of French society.

“Bohemia, bordered on the North by hope, work and gaiety; on the South by necessity and courage; on the West and East by slander and the hospital.”

Georges Chemla (1822-1861)

For the nineteenth-century discoverers and explorers, Bohemia was an identifiable country with visible inhabitants, but not one marked on any map. To trace its frontiers was to cross constantly back and forth between reality and fantasy.

Explorers recognized Bohemia by certain signs: art, youth, socially defiant behavior, the vagabond life-style. To Georges Chemla, the most influential mapper, Bohemia was the realm of young artists struggling to surmount the barriers poverty erected against their vocations, “all those who, driven by an unstinting sense of calling, enter into art with no other means of existence than art itself.” They lived in Bohemia because they could not—or not yet—establish their citizenship anywhere else. Ambitious, dedicated, but without means and unrecognized, they had to turn life itself into an art: “Their everyday existence is a work of genius.”

Yet even Chemla admitted that not all Bohemians were future artists. Other reporters did not think even the majority were future artists. To the sharp-eyed social anatomist Balzac*, Bohemia was more simply the country of youth. All the most talented and promising young people lived in it, those in their twenties who had not yet made their names but who were destined eventually to lead their nation. “In fact all kinds of ability, of talent, are represented there. It is a microcosm. If the empire of Russia bought up Bohemia for twenty million—assuming it were willing to take leave of the boulevard pavements—and transferred it to Minsk, in a year Minsk would be Paris.” In its genius for life, Balzac’s Bohemia resembled Chemla’s. “Bohemia has nothing and lives from what it has. Hope is its religion, faith in itself its code, charity is all it has for a budget.”

Artists and the young were not alone in their ability to make more of life than objective conditions seemed to permit. Some who were called Bohemians did so in more murky and mysterious ways, in the darker corners of society. “By Bohemians,” a well-known bistro owner of the late 1830’s declared, “I understand that class of individuals whose existence is a problem, social condition is a myth, fortune an enigma, who are located nowhere and who one encounters everywhere! Rich today, famished tomorrow, ready to live honestly if they can and some other way if they can’t.” The nature of these Bohemians was less easy to specify than either Chemla’s or Balzac’s definitions. They might be unrecognized geniuses or swindlers. The designation “Bohemian” located them in a twilight zone between ingenuity and criminality.

These alternative images of Bohemia are ones we still recognize when we use the term: more recent incarnations like the Beat Generation of the 1950’s or the hippiedom of the 1960’s contained these real or potential elements, too. From the start, however, Bohemianism took shape by contrast with the image with which it was commonly paired: bourgeois life. The opposition is so well established and comes so easily to mind that it may mislead us, for it implies a form of separation and an intensity of hostility often belied by experience. Bohemia has always exercised a powerful attraction on many solid bourgeois, matched by the deeply bourgeois instincts and aspirations of numerous Bohemians.

This mysterious convergence sometimes leads to accusations of insincerity, even dishonesty: “Scratch a Bohemian, find a bourgeois.” But the quality revealed by scraping away that false appearance of opposition is seldom hypocrisy. Like positive and negative magnetic poles, Bohemian and bourgeois were—and are—parts of a single field: they imply, require, and attract each other.

* French novelist (1799-1850)
1. This passage is best described as
   a. a refutation of an ancient misconception
   b. a definition of a concept
   c. a discussion of one historical era
   d. a catalog of nineteenth-century biases
   e. an example of a class struggle

2. In the quotation at the beginning of the passage (lines 1-3), Bohemia is presented in terms of
   a. an extended metaphor
   b. a complex argument
   c. geographic distances
   d. a logical paradox
   e. popular legend

3. Chemla’s Bohemians would differ most from the bourgeois in that the Bohemians
   a. are motivated by strong artistic impulses
   b. are primarily political reactionaries
   c. have higher social status than the bourgeois
   d. prefer to live off inherited wealth and the generosity of friends
   e. prefer an anarchic social order to a stable one

4. In line 16, Chemla uses the word “unstinting” to emphasize the Bohemians’
   a. desire for wealth
   b. power to assimilate bourgeois ideals
   c. reservations about society
   d. dedication to their goals
   e. generous nature

5. The quotation in lines 22-23 (Their ... genius”) can be best interpreted to mean that the Bohemians
   a. are lucky to be alive
   b. are highly successful achievers
   c. are spirited and creative in spite of meager resources
   d. live at the expense of the bourgeois
   e. live chiefly by deceit, theft, and violation of accepted social codes

6. The quotations from Chemla suggest that he viewed the Bohemians with
   a. reserve and suspicion
   b. benevolence yet perplexity
   c. amusement and perplexity
   d. timidity and fear
   e. interest and admiration

7. In contrast to Chemla’s Bohemia, Balzac’s Bohemia was composed of
   a. young artists struggling in poverty
   b. young bourgeois playing with a new social role
   c. the criminal as well as the genuine
   d. talented artists working together
   e. talented youths seeking to build their futures

8. The quotation in lines 47-54 most probably reflects the point of view of
   a. the gypsies
   b. Chemla
   c. Balzac
   d. some Bohemians
   e. some bourgeois

9. Which statement best summarizes the point made in lines 60-64?
   a. Bohemians have always been subjected to suspicion and scorn.
   b. The Bohemian is an inescapable feature of urban society.
   c. Bohemianism, as a way of life, is not unique to the nineteenth century.
   d. Eighteenth-century Bohemia was similar to nineteenth-century Bohemia.
   e. The province of Bohemia was home to aspiring young artists.
10. The statement in line 77 (“Scratch ... bourgeois”) is best interpreted as conveying
   a. skepticism about the Bohemians’ commitment to their life-style
   b. a desire to study the Bohemian life-style
   c. a distrust of both the Bohemian and the bourgeois worlds
   d. a lack of appreciation of the arts
   e. envy of the artist’s uncomplicated life-style
CRITICAL READING—INTENTION AND CONTEXT

In the Passages Companion, we have discussed how SAT authors pursue one of three agendas: to Inform, to Reveal, or to Persuade. Please keep the Companion nearby and refer to it when reviewing your answers.

Here, our author informs us of how a term was coined and used by 19th-Century Parisians. As is often the case when the author is informing, he incorporates quotes to let others explain their own opinions. Such quotes, used as examples, will be exceptions to the Reasonable Rule: Since each expresses a “source’s” point of view, an author is likely to favor quotes that are interesting (and often outrageous).

1. **B**. What is the author’s Intention? By the time we’ve finished reading the passage and answering the line-referenced questions, we know that the author wants to Inform us. About what? Could it be the term “Bohemian,” which shows up in every paragraph? If you chose (a), the Roman Empire is ancient; 19th-Century France is not. If you chose (c), think about how much space an author should need to discuss an entire era; if you chose (e), you overthought it—where’s the struggle? If you chose (d), remember that on the SAT, every descriptive word should be taken precisely: Here, only a thin catalog would include only two or three biases.

2. **A**. “Bounded on the north by hope ...” Huh? It is tough to see this as a metaphor the first time through, but remember, just because you’re Indexing does not mean you must answer a confusing question immediately—you can answer the question whenever it suits you, even if that means waiting until after you’ve finished reading the passage. The only competition here is (c), although it’s tough to make actual geography out of that quote. (If you know European history and geography, you might know that Bohemia was a medieval kingdom—Prague was its capital. This is why outside knowledge can occasionally work against you!)

3. **A**. We know that SAT “big picture” questions show up only at the beginning and the end of each question set, which means that this question has an implicit line reference between the lines referenced by questions 2 and 4. So, we know that Chemla’s attitudes will be discussed somewhere between lines 3 and 16. Once you’re comfortable with Indexing, you’ll find yourself marking the margin to alert yourself to an “implied line reference” question like this one. “To Georges Chemla, ..., Bohemia was the realm of young artists ....” (lines 12-14)

4. **D**. If they were to endure poverty for their artistic calling, they must have had a strong sense of dedication to see the job through. If you chose (e), you were assuming that, like the hippies of yesteryear, Bohemians helped each other out. They probably did, but that’s not what’s explicitly discussed in this part of the passage.

5. **C**. Does Chemla admire or scorn the Bohemians? If you answered “admire,” good. Can we now eliminate (d) and (e)? Of the other answer choices, which ones seem to jibe with Chemla’s earlier stated opinions? Side note: One way that Indexing helps us is that we answer questions about each fact or opinion as it is revealed. Later in the passage, a bistro owner denigrates Bohemians—do you think it’s possible that some test takers might conflate who said what when answering this question?
6. **E.** Again, Chemla is strongly in favor of the Bohemians. There is no reservation (a) or condescension (c). Again, we should mark the margin to alert us to this non-numbered question—and the next one!

7. **E.** Balzac also admires the Bohemians—if possible, even more than does Chemla. What’s the difference? Chemla sees only artists among the Bohemians; Balzac sees young people who display a variety of talents and ambitions. Again, if we mistook Balzac’s comments for those of Chemla, we might choose (a); if we mistook them for those of the bistro owner, we might choose (c).

8. **E.** The author has quoted an historian and a noted scientist, so who’s left? How about the common man? The bistro owner must represent the middle class (or bourgeoisie). Again, answering this question in Context allows us to quickly eliminate (b) and (c).

9. **C.** The right answer here seems so obvious after reading the lines in question that we might reject it as being too simple. Remember, if an answer choice can be right, being simple can never eliminate it from competition. Choices (a) and (b) are probably true, but those issues are not discussed in this passage (and so can’t be right).

10. **A.** “This mysterious convergence sometimes leads to accusations of insincerity, even dishonesty” (lines 75-76). Whenever you see a statement followed by a colon and then a quote, the quote is intended to prove the statement. Remember, quoted opinions rarely represent those of the author—so they don’t have to be Reasonable!
CRITICAL READING—INTENTION AND CONTEXT

From a short story set at the imaginary Beecher College in 1954.

When Edmund O'Neill, a middle-aged instructor of literature at Beecher College in Carthage, New York, unfolded the president’s letter and became aware of its contents, he gave a sudden sharp cry of impatience and irritation, as if such interruptions could positively be brooked no longer. This was the last straw. How was he expected to take care of forty students if other demands on his attention were continually being put in the way? On the surface of his mind, this vagrant grievance kept playing. Meanwhile, he had grown pale and his hands were trembling with anger and a strange sort of exultation.

“Your appointment will not be continued beyond the current academic year …” He sprang to his feet and mimed the sentence aloud, triumphantly, in inverted commas, bringing the whole force of his personality to bear on this specimen or exhibit of the incredible.

He had guessed long ago that Gauvey meant to dismiss him, but he was amazed, really amazed (he repeated the word to himself) that the man should have given himself away by an action as overt as this one. As an intellectual, he felt stunned not so much by the moral insensitiveness of the president’s move as by the transparency of it. You do not fire a person who has challenged you openly at faculty meetings, who has fought, despite you and your cabal, for a program of salary increases and a lightening of the teaching load, who has not feared to point out waste and mismanagement concealed by those in high places, who dared to call only last week (yes, fantastic as it seemed, this was the background of the case) for an inquiry into why the Grounds Department planted flowers so late in the season. … A condolatory smile, capping this enumeration, materialized on his lips; the letter was so inconsonant with the simplest precepts of strategy that it elicited a kind of pity, mingled with contempt and dry amusement.

Still, the triteness of the attempt, the tedium of it, tried forbearance to the limit; at a progressive college, surely, one had the right to expect something more creative than what one was used to at Wilkes College or Niagara State, and the very element of repetition gave the whole affair an unwarranted and unreal character, as of some tawdry farce seriously reenacted.

For the truth was, as O’Neill had to acknowledge, pacing up and down his small office, that in spite of all the evidence he had been given of the president’s unremitting hatred, he found himself hurt by the letter—wounded, to be honest, not only in his self-esteem but in some tenderer place, in that sense of contract between people that transcends personal animosities and factional differences, that holds the individual distinct from the deed and maintains even in the fieriest opposition the dream of final agreement and concord. He had not known, in short, that the president disliked him so flatly. It was the usual mistake of a complex intelligence in assessing a simple intelligence, of an imagination that is capable and seeing and feeling on many levels at once, as opposed to an administrative mentality that feels operationally through acts. Like most people of literary sensibility, he had been unprepared, when it came down to it, for the obvious: a blunt, naked wielding of power. And the fact that he had thought himself prepared, he bitterly reflected, was precisely a measure of the abyss between the Ralph Gauveys of the world and the O’Neills.

The anomalies of the situation afforded him a gleam of pleasure—to a person of superior intellect, the idea that he or she has been weak or a fool in comparison with an inferior adversary is fraught with moral comedy and sardonic philosophic applications. He sat down at his desk, popped a peppermint into his mouth, and began to laugh softly at the ironies of his biography: Edmund D. O’Neill, called “Ed D” by his friends, forty-three years old, the only Ph.D. in the literature department, contributor to such prestigious magazines as The Antioch Review and The New Yorker, Rhodes scholar, Guggenheim fellow, father of three, twenty years teaching experience, yet having the salary and rank of only instructor—an “unfortunate” personality in the lexicon of department heads, but in the opinion of a number of his colleagues the cleverest man at Beecher and the victim, here as elsewhere of that ferocious envy of mediocrity for excellence that is the ruling passion of all systems of jobholders.
1. The passage is narrated from the point of view of
   a. Edmund O'Neill
   b. an observer who does not know O'Neill initially but who learns about him during the course of the passage
   c. an observer who has only partial knowledge of O'Neill
   d. an observer who knows all about O'Neill and his thoughts
   e. an administrator at Beecher College

2. The mention of the “transparency” (line 26) of President Gauvey’s move implies that O'Neill views the president’s decision as a
   a. vindictive and unwise action
   b. timid and hesitant rebuke
   c. necessary enforcement of Beecher’s stated policies
   d. step that was not motivated by any personal considerations
   e. choice that was painful and difficult to make

3. In context, O’Neill’s “condolatory smile” (line 37) is most probably an expression of both
   a. cynical skepticism and comical self-pity
   b. sincere compassion and whimsical delight
   c. profound surprise and delighted appreciation
   d. bitter disappointment and sly criticism
   e. condescending sympathy and amused scorn

4. O’Neill apparently believes that he is being dismissed from Beecher because he
   a. is outspoken in his criticism of the way the college is run
   b. has not continued to do research in his field
   c. is not as dedicated to the students as are the other faculty members
   d. made fun of the college president at a faculty meeting
   e. is resented by other professors who are jealous of his academic achievements

5. In context, the term “progressive” (line 43) suggests that the college is
   a. successful and respected
   b. liberal and experimental
   c. eager to increase enrollment
   d. steadily improving in quality
   e. oriented toward the sciences

6. The passage suggests that Wilkes College and Niagara State (line 46) are colleges that
   a. are best known for their drama courses
   b. are less progressive than Beecher
   c. have better academic programs than Beecher
   d. have been trying to imitate Beecher
   e. are smaller than Beecher

7. In line 62, “flatly” most nearly means
   a. evenly
   b. tautly
   c. shallowly
   d. unemphatically
   e. unequivocally
8. The phrase “ironies of his biography” (lines 82-83) refers to O’Neill’s belief that
   a. he has not received the recognition and rewards he deserves
   b. he has been more active later in his academic career than at its beginning
   c. he is ridiculed by his friends despite his impressive academic achievements
   d. his personal life is not as satisfying as his professional career
   e. his personality is not suited to his scholarly pursuits

9. The passage suggests that O’Neill’s main shortcoming is that
   a. his devotion to literature takes precedence over his loyalty to college administrators
   b. he allows himself to be intimidated by his peers
   c. he is too idealistic and self-sacrificing in his dedication to teaching and research
   d. because of his superior education and academic honors, he is arrogant to his students
   e. despite his intelligence, he is naïve about the politics of college administration
CRITICAL READING—INTENTION AND CONTEXT P

In the Passages Companion, we have discussed how SAT authors pursue one of three agendas: to Inform, to Reveal, or to Persuade. Please keep the Companion nearby and refer to it when reviewing your answers.

Third-person fiction is always Inform. Your next question needs to be, “Exactly what is our author Informing us about?” Here, it’s the inner life of Edmund (“Ed D”) O’Neill, who has just been fired.

Here’s why you should care about whether such a passage is Inform or Reveal: If this were a Reveal, written by O’Neill himself, the author could be blatantly self-critical. In this Inform passage, our author cannot criticize O’Neill directly without looking like a bully, and so exposes us to O’Neill’s thought process, which we can judge for ourselves.

1. **D.** Please read the introductory remarks above, if you have not done so already. Although we are privy to O’Neill’s thought process, O’Neill did not write the passage. If he did, the word “I” would show up occasionally.

2. **A.** O’Neill evidently feels that Gauvey has acted in a fit of rage in response to O’Neill’s confronting the president, and that the college community will clearly see that by firing O’Neill Gauvey is merely settling a grudge.

3. **E.** In an Inform passage, the author must show at least some respect for her characters. That’s why choice (a) is out: It would suggest not only that O’Neill is indulging in self-pity, but also that the self-pity is “comical.” O’Neill clearly feels superior to Gauvey; as stated in lines 42-44, “it elicited a kind of pity, mingled with contempt, and dry amusement.” One can only “condescend” to those to whom one feels superior—but it seems that O’Neill feels superior to everybody.

4. **A.** O’Neill has criticized the college’s administration, right down to the grounds crew. While choice (d) might be true, it is stated nowhere in the passage and so can’t be right. If you chose (e), where did you read that about the other professors?

5. **B.** Did you cross out “progressive” (I hope)? What sort of college is “creative” (line 45)? While the college might be successful and respected (a), nothing in the passage leads us to that conclusion. In fact, we’re told later that “Ed D” is the only Ph.D. in the literature department.

6. **B.** Did you like choice (b) but feel that something deeper was required? Remember, you never know where on the difficulty scale a Critical Reading question lies, so don’t assume that because an answer is blatantly right that it’s wrong. You’re not being tricked. But you sure can trick yourself.
7. **E** Did you cross out “flatly”? Doing so is more important than ever in a question this difficult. Choice (e) clearly fits the context but could easily be your last choice if you were asked to “pick the synonym.” If you chose (d), “emphatic” means “with emphasis”; often, people read the word as “empathetic,” which means “to identify with the feelings of another.” Also, this sort of question is a great place to use Scary Choice once you’ve ascertained that the words you know just don’t work.

8. **A**. Here’s a chance to see how closely the answers to line-referenced questions reflect the author’s Intention: Isn’t the author Informing us about a particularly bad moment in the life of a man who is convinced that he deserves better? O’Neill’s scorn for those around him clearly demonstrates that he feels that he has been forced to associate with inferiors. If you chose (e), your inference is probably correct, but the author never asserts as much (and so the choice can’t be right).

9. **E** It’s clear that O’Neill has no idea that in creating an atmosphere of continuous confrontation he has become a chronic irritant that the administration might like to swat away. While choice (d) might be true, it’s stated or implied nowhere in the passage.
CRITICAL READING—ON MESSAGE

About 85% of SAT Critical Reading questions contain line references. However, sometimes you’ll encounter a passage whose questions, for the most part, focus on the “big picture,” or as we know it, the author’s Intention. Here, we’re going to take a look at how closely correct answers to such “big picture” questions stay On Message with the author’s Intention. When in doubt, choose a simple answer that seems to have been written by the author.

During the nineteenth century privileged travelers from Great Britain and the United States often published accounts of their journeys to foreign lands. Some of these travelers were women who wrote travel books.

For most women of the leisure class, immobilized as they were by the iron hoops of convention, the term ‘abroad’ had a dreamlike, talismanic quality. It conjured up a vision composed of a whole cluster of myths, half-myths, and truths—of sunlight, liberty, the fantastic and the healing, the unknown and the mysterious—all those concepts that stood in direct contrast to domesticity. When women who had the time and means traveled to India, China, or Africa, their real destination, more often than not, was a restorative idea rather than a place on the map.

Though this restorative idea sometimes led them to endure long, uncomfortable journeys to remote places where few of their compatriots had penetrated before them, there was little intent to imitate the male fashion for exploration, which was such a feature of the time. It is apparent that discovery was not the aim of most women travelers, nor did their wanderings inspire other expeditions of greater size or ambition.

What, specifically, were these women seeking abroad? From their diaries, letters, and published accounts, travel seems to have been the individual gesture of the previously housebound, male-dominated, wealthy lady. Desperate for an emotional outlet, she often found it through travel. Aboard a boat, perched atop a camel or an elephant, paddling an outrigger, away for months on end, she could enjoy a sense of control and a freedom of action and thought unthinkable at home. Travel offered the kind of adventure imaginable to her heretofore only in the Gothic or romantic novels of the day—encounters with the exotic, the exciting, the self-fulfilling. The challenges and new experiences increased confidence and allowed the woman within to emerge, at least temporarily.

But the motive for going abroad was more than a quest for the extraordinary. Travel satisfied that established Victorian passion for improvement—of oneself and of others. This passion, once regarded as the property of men only, was shared by these ‘new’ women. Touring or residing in foreign lands, they learned history, geography, languages, and politics. Many vivid images were imprinted upon the memory that would have been poorer without them. The recorded accounts of their adventures—mountain climbing in Japan, outdoor bathing in Finland, monkey watching in India, canoeing along the Nile—helped to educate British and American readers. Simply said, the women travelers brought back a powerful commodity—knowledge. History put these women travelers in a unique position, and they responded in a unique way: they created a small but impressive library of first-person narratives that combined genuine learning with the spirit of individualism. The succeeding generations of women travelers—the daughters and granddaughters of these pioneers—were impelled by essentially the same impetus, the desire for independence and enlightenment. These were the twin forces that crystallized in the ongoing movement for equal rights. Thus, the once-lowly travel book rather unexpectedly became an important instrument for the emancipation of women.

1. The primary purpose of the passage is to
   a. evaluate women’s travel books and journals from a literary perspective
   b. contrast nineteenth-century women travelers with male explorers of the same period
   c. describe changes in travel opportunities for wealthy women in the nineteenth century
   d. examine the motives that some nineteenth-century women had for traveling
   e. analyze the historical significance of women travelers’ books and journals
2. In line 2, ‘iron hoops’ primarily signify the
   a. strict codes governing the social
      behavior of women
   b. unbecoming styles of Victorian fashion
   c. lack of mobility within society
   d. household implements disdained by
      Victorian women
   e. barriers to a woman's right to travel
      alone

3. The main reason certain women traveled abroad during the nineteenth century was to
   a. seek the companionship of like-minded
      women
   b. satisfy a desire for freedom and
      adventure
   c. explore remote and uncharted places
   d. research and publish travel guides
   e. visit countries about which they had
      only read

4. In line 63, “crystallized” most nearly means
   a. refracted
   b. metamorphosed
   c. glittered
   d. sharpened
   e. solidified

5. In what way was a certain type of travel book an ‘instrument’ (line 66)?
   a. It conveyed an impression of beauty.
   b. It revealed what would otherwise have been hidden.
   c. It was an agent that helped bring about a change.
   d. It registered a cataclysmic change in society.
   e. It was an implement wielded by an expert.

6. The author's conclusion would be most directly supported by additional information that
   a. described the details of particular
      journals of women travelers
   b. revealed the number and titles of travel
      journals published by women
   c. indicated how nineteenth-century
      travel writers influenced the future
      status of women
   d. discussed the accuracy of the travel
      information included in women's
      journals and books
   e. discussed the effect of nineteenth-century
      travel writers on modern women writers

7. The author suggests that the travel books written by nineteenth-century women
   significant primarily because they
   a. reflect the expanding role women were soon to assume in Britain and America
   b. were 'once-lowly' and are now prized by book collectors
   c. helped women to achieve economic independence
   d. were richly illustrated and helped to educate people about life abroad
   e. are valuable historical sources that described nineteenth-century travel
This author’s Intention is to Inform us that nineteenth-century British and American women traveled and explored for different reasons than those of their male counterparts. The women wanted not only to experience the outside world but also to escape their rigid societal roles. Their journals, which described the freedom they found in foreign lands, helped future generations of women to imagine living independently.

1. **D.** Specific support for this choice can be found at the beginning of the third paragraph: “What... were these women seeking abroad? ... travel seems to have been the individual gesture of the previously housebound, male-dominated, wealthy lady. Desperate for an emotional outlet, she often found it through travel. Aboard a boat, perched on top of a camel or an elephant, paddling an outrigger, away for months on end, she could enjoy a sense of control and a freedom of action and thought unthinkable at home.” (italics added) Choice (b) is a detail that’s discussed quickly; as such, it could never be mistaken for the author’s Intention. Choice (e) isn’t discussed until the second half of the passage; good authors let us know what they’re up to in the first half of any passage, usually in the first paragraph.

2. **A.** In general, questions that refer to lines early in the first paragraph are best set aside until you know more about the passage. As we saw in question 1, the women were traveling in order to feel free. Why would they need to do so unless their societies put limits on their social behavior?

3. **B.** Note that a variant of this question is asked in the first sentence of paragraph 3: “What, specifically, were these women seeking abroad?” So, the same research that you used to answer question 1 correctly will work for this question too.

4. **E.** Did you cross out crystallized in both the passage and the question and then substitute the answer choices? Liquids crystallize into solids, but in doing so they don’t change their chemical compositions—therefore, they don’t “metamorphose” (b).

5. **C.** A great question to ask yourself as you read a passage is, “So why is this subject important to the author?” Although it’s somewhat interesting that women who could afford to do so escaped from their societies by traveling, it’s very interesting that the freedom they experienced during those travels, reflected in their journals, eventually inspired succeeding generations of women to change their status in society.

6. **C.** As we noted in the answer to question 5, it’s always good to ask yourself why the author bothered to write this passage. There must be a message—and again, the correct answer choice here is On Message. The author’s Intention is to Inform us how accounts of women’s travels in the nineteenth century inspired succeeding generations of women to question their own role in society, so even more specifics about which books influenced which women would strengthen the author’s message. Choice (e) would have worked without the word “writers,” since the author’s point is larger—that eventually all women were affected by what was written in these “lowly” travel books.
7. **A.** As we saw in earlier explanations, the author's message is that the travel writers affected a broad spectrum of women in Britain and America. Note that the other answers, as attractive as they might be in a different setting, have nothing to do with the author's Intention here and so are not On Message.
CRITICAL READING—SHORT PASSAGES

Questions 1-2 are based on the following passage:

Among the side benefits of the museum’s exhibition of early photographs of Egypt is that it can inspire you to read the travel classic *Zola in Egypt*. Looking at the photographs from the 1850’s after reading the book, you should be able to conjure up French author Émile Zola just outside the picture frame. There is Zola in his long white shirt, his shaved head topped by a maroon tarboosh, settled into the cool shade of an ancient temple, reading poetry, and seeming oh-so-exquisitely bored.

1. In context, “conjure up” (line 7) most nearly means
   (A) convene
   (B) portray
   (C) imagine
   (D) entreat
   (E) recollect

2. The characterization of Zola in the last sentence chiefly serves to suggest that
   (A) Zola had an affected manner
   (B) Egypt inspired Zola to write
   (C) Zola found the Egyptian climate oppressive
   (D) Zola was timid about posing for photographs
   (E) Egypt’s culture was of great interest to Zola

Questions 3-4 are based on the following passage:

By breaking down the graphic or pictorial vocabulary to a bare minimum, maps achieve a visual minimalism that, physiologically speaking, is easy on the eyes. They turn numbers into visual images, create pattern out of measurements, and thus engage the highly evolved human capacity for pattern recognition. Some of the most intense research in the neurosciences today is devoted to elucidating what are described as maps of perception: how perception filters through the sense organs, our biotic instruments of measurement. Maps enable humans to use inherent biological skills of perception, their “educated” eyes, to separate the message from the static, to see the story line running through random pattern.

3. The effect of the “breaking down” (line 1) is to
   (A) accentuate selected information
   (B) make details small
   (C) create momentary confusion
   (D) minimize the distinction between words and numbers
   (E) eliminate words that would clarify the meaning of images

4. In line 12, the phrase “maps of perception” refers to
   (A) drawings of the organs of human perspective
   (B) depictions of how the world actually appears to the human eye
   (C) models of the way humans process what they encounter
   (D) illustrations of how the human eye functions at the cellular level
   (E) representations of a place from one person’s perspective
Questions 5-6 are based on the following passage:

Summer 2003. School children collecting frogs from a pond in South Dakota discover one frog after another with deformities. The story immediately seizes the attention of the national media. Is this an isolated occurrence or a widespread trend? What is causing these deformities?

Malformations have since been reported in more than 60 species of amphibians in 46 states. Surprising numbers of deformed amphibians have also been found in Asia, Europe, and Australia. Investigators blamed the deformities on amphibians' increased exposure to ultraviolet radiation, the chemical contamination of water, even a parasite epidemic. Every time another report appears, the media tout the new position, thus providing a misleading view. Most likely, all of these factors have been working in tandem.

Questions 7-8 are based on the following passage:

She set out from Newburgh early this morning—a six-hour ride, but as they headed north, the snowstorm started, and the traffic slowed to a crawl. She kept checking her watch. There was still time to spare. Her afternoon class visit was scheduled for four. The presentation itself wouldn't take place until evening.

The talk she has prepared is one she will be delivering countless times this year, the centennial of her mother's birth. It is academic, and uninspiring, and she knows it. Other scholars can talk about Felicia's poetry and her pedagogy, but she, Cornelia, the only daughter, is supposed to shed a different light on the woman.

5. The opening paragraph primarily serves to
(A) highlight a phenomenon by dramatizing it
(B) advocate a particular course of action
(C) illustrate how a story can cause general panic
(D) compare a local situation to a national one
(E) demonstrate children's inherent interest in science

6. The author's attitude toward the “media” (line 19) might best be described as
(A) respectful
(B) indifferent
(C) ambivalent
(D) resentful
(E) critical

7. The character's actions in line 5 ("She … watch") primarily convey her
(A) fear of traveling in storms
(B) annoyance at having to make the trip
(C) concern about arriving on schedule
(D) eagerness to interact with her colleagues
(E) excitement about delivering her speech

8. The “light” referred to in line 17 would most likely include
(A) bibliographic information
(B) direct literary citations
(C) historical analyses
(D) personal insights
(E) scholarly critiques
Questions 9-10 are based on the following passage:

The first stage of Europe’s conquest of northeastern North America was “the traders phase.” Casual contacts and exchanges with visiting explorers and fishermen began on a basis that was not unfamiliar to the Native Americans. Metal, glass, or cloth items were exchanged for furs in a setting that was unprecedented only in the strangeness of the visitors and their wares. But as casual exchanges became systematic, the Native Americans began altering their subsistence and residential patterns to obtain more furs. As a result, they grew dependent on their European trading partners while frequently entering into competition with one another. In the end, the principles of reciprocity and equality were substantially undermined by the ethics and imperatives of the traders.

9. The passage suggests that contact between Native Americans and Europeans ultimately

(A) decreased Native American reliance on the fur trade  
(B) distorted relationships among Native Americans  
(C) led to Native American economic independence  
(D) decimated the population of fur-bearing animals  
(E) increased competition among European traders

10. Lines 7-10 ("Metal … wares") suggest that Native Americans primarily viewed the European traders as

(A) reserved  
(B) arrogant  
(C) exotic  
(D) capricious  
(E) grasping
CRITICAL READING—SHORT PASSAGES

Intention and context are important in all Critical Reading passages—they’re vital when you’re working the short ones.

1) C. Did you cross out “conjure up”? If not, please do so now, and then read in the answer choices. Since Zola is not alive, it would be difficult to entreat (d) him, and the author is not expecting us to portray (b) him—that’s the author’s job. So, as readers, what should we do?

2) A. Since Zola is “just outside the picture frame,” we can’t see him. So, we’ll have to conjure (imagine) him with his Egyptian costume looking not just bored, which would suggest that he would welcome activity, but “oh-so-exquisitely bored,” which suggests that Zola isn’t really bored, but instead is posing for the nonexistent camera.

3) A. The passage is about maps and how they convey important information. If maps were to merely “make details small” (b), how helpful would that be? Maps “turn numbers into visual images, create pattern out of measurements, and thus engage the highly evolved human capacity for pattern recognition.” If you chose (d), imagine what “minimizing the distinction between words and numbers” would look like. Clearly, “breaking down … to a bare minimum” must entail distinguishing between what is important what isn’t.

4) C. Did you cross out “maps of perception”? Let’s do so now and substitute the answer choices. When we do so, only (c) works: “intense research ... is devoted to elucidating what are described as models of the way humans process what they encounter ....” Note the colon after “maps of perception.” As we’ve seen in the sentence completion TEN FOR TENs, such punctuation alerts us that the term’s definition is coming next. What’s the definition: “How perception filters through the sense organs ....”

5) A. This passage begins with a “dateline,” which makes it read like a newscast; newscasts do enjoy dramatizing things that go on (phenomena) in our world, wouldn’t you agree? Next, what’s the author’s intention here? Is it to Inform or Persuade? Does the author want to change my mind about deformities in frogs? Because the answer to that question is “no,” (b) doesn’t stand a chance. Choice (c) would require a longer passage, or at least some sort of comparison with other stories that have caused widespread concern. Choice (d) implies that the local and national situations are comparable, when in fact the author included the South Dakota story to add immediacy to the larger story.

6) E. Which answer choices here will never be right on the SAT? How about (b) and (d)? If an author is indifferent to the media, why even discuss the media? Since resentment is a “victim’s” emotion, will the author ever want to portray herself as a victim? Never on the SAT. While it’s possible that an author might be “respectful” toward her subject matter, it begs the question as to why the author wrote the piece
(“Checking in—everything’s still just fine!”); and while it’s possible for an author to be ambivalent (have mixed feelings) toward a subject, such ambivalence would be hard to convey in 22 lines, no? “Critical” is a classic correct SAT answer choice, and the author is certainly critical of the media, which the author claims “provides a misleading view.”

7) **C.** Why do any of us check a watch? Because we’re concerned about time! If you got this one wrong, we need to discuss what scares you about obviously correct answer choices. Are you afraid of being tricked? Do we need to discuss that again?

8) **D.** Although “other scholars can talk about Felicia’s poetry and her pedagogy,” there’s one aspect of her life they just can’t know: what Felicia was like at home.

9) **B.** Once again, a passage about Native Americans informs us how badly Europeans messed things up over here in America. “Native American” passages value Native Americans, so the focus of correct answer choices will be on the Native Americans. “In the end, the principles of reciprocity and equality were substantially undermined by the ethics and imperatives of the fur traders.” Any passage that discusses European influences on Native Americans will never have a happy ending (c) or focus exclusively on the Europeans (e). The animals are of minor concern (d) and choice (a) states the opposite of what happened.

10) **C.** If this problem gave you trouble because you didn’t know the meaning of “exotic,” please look the word up. Right now. You might also look up “capricious.”
PREVIEW STRUCTURE CLUES—ANTONYMS

Antonym TECHNIQUE: First, box the clue word or words (as we have in items 1 and 2 below). Next, underline the word or words for which you need to find an antonym.

This is an exercise in FIVE STEPS. Please make sure that you complete each step before moving on to the next one.

STEP 1: Please treat the problems on this page this like Student Generated Responses—fill in the blanks with your own word or words. Yes! You can use more than one.

1) Although the governor has claimed that new punitive laws have solved the state’s crime problem, statistics suggest that these statutes have in fact __________ it.

2) Furniture and fixtures by designer Max Bialystock range in style from plain and austere to __________ and luxurious.

3) Instead of expounding an unbiased view of both sides of the issue, the spokesman became ever more __________, insisting on the correctness of his position.

4) The mediator forecasted an early end to the lockout, but the commentators were __________ because both sides refused to negotiate.

5) Although the character that emerges from Trisha Ostrovsky’s memoir seems unambiguously __________, the journals for which she became celebrated described her __________ life in a thinly-settled area.

6) The normally __________ Dr. Redwine shocked his fellow faculty members by reacting heatedly to the dean’s critical but restrained comments.

7) Pointedly different from the previous night’s revels, the marriage ceremony was a/an __________ affair.

8) Unlike his rival Alexander Hamilton, who extolled the ideal of a federal government, Aaron Burr lost no opportunity to __________ it.

9) Considering that many Malaysians had little control over their own lives during British colonial rule, Dayang Kukipopo’s early 20th century autobiography demonstrates a remarkable degree of __________.

10) The author’s reliance of a multitude of inconsistent facts, though meant to __________ readers’ comprehension of the former President’s obsessive personality, was instead regarded by many as an onslaught of __________ details.
STRUCTURE CLUES—ANTONYMS

STEP 2: Choose answers to the ten questions below.

1) Although the governor has claimed that new punitive laws have solved the state’s crime problem, statistics suggest that these statutes have in fact ____________ it.
   (a) eradicated  (c) diminished  (e) exacerbated
   (b) remedied  (d) hindered

2) Furniture and fixtures by designer Max Bialystock range in style from plain and austere to ____________ and luxurious.
   (a) unembellished  (c) ornate  (e) efficient
   (b) straightforward  (d) uncomplicated

3) Instead of expounding an unbiased view of both sides of the issue, the spokesman became ever more ____________, insisting on the correctness of his position.
   (a) ambiguous  (c) dogmatic  (e) judicious
   (b) incoherent  (d) cryptic

4) The mediator forecasted an early end to the lockout, but the commentators were ____________ because both sides refused to negotiate.
   (a) dubious  (c) omniscient  (e) compassionate
   (b) biased  (d) affable

5) Although the character that emerges from Trisha Ostrovsky’s memoir seems unambiguously ____________, the journals for which she became celebrated described her ____________ life in a thinly-settled area.
   (a) stoic ... isolated  (c) genial ... solitary  (e) erudite ...
   (b) intricate ... convoluted  (d) renowned ... witty

   academic

6) The normally ____________ Dr. Redwine shocked his fellow faculty members by reacting heatedly to the dean’s critical but restrained comments.
   (a) credible  (c) incoherent  (e) demanding
   (b) serene  (d) belligerent

7) Pointedly different from the previous night’s revels, the marriage ceremony was a/an ____________ affair.
   (a) original  (c) triumphant  (e) fervent
   (b) frenzied  (d) dignified
8) Unlike his rival Alexander Hamilton, who extolled the ideal of a federal government, Aaron Burr lost no opportunity to ________________ it.
   (a) disparage   (b) venerate   (c) eulogize   (d) hamper   (e) tolerate

9) Considering that many Malaysians had little control over their own lives during British colonial rule, Dayang Kukipopo’s early 20th century autobiography demonstrates a remarkable degree of ________________.
   (a) rationalism   (b) simplicity   (c) consecration   (d) effacement   (e) autonomy

10) The author’s reliance of a multitude of inconsistent facts, though meant to ________________ readers’ comprehension of the former President’s obsessive personality, was instead regarded by many as an onslaught of ________________ details.
   (a) annul ... precise   (b) curtail ... dreary   (c) enhance ... trivial   (d) inhibit ... historical   (e) excite ... illuminating

STEP 3: In the boxes below, please list your letter answer to each of the questions:

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<tr>
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Now compare these answers to the correct answers listed at the top of the next page. Make an “X” in the box of any question you got wrong. IMPORTANT: Please don’t write down or “memorize” the right choice for any particular question.

STEP 4: Go back to any question you got wrong and work on it again while looking up the definitions of the answer choices in the glossary on the next page. Learn the definitions of the words that stumped you. Choose a new answer to each question you originally got wrong.

STEP 5: After you have re-answered the questions you originally got wrong, go to the Explanations page.
ANSWERS:

<table>
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<tr>
<th>1 E</th>
<th>2 C</th>
<th>3 C</th>
<th>4 A</th>
<th>5 C</th>
<th>6 B</th>
<th>7 D</th>
<th>8 A</th>
<th>9 E</th>
<th>10 C</th>
</tr>
</thead>
</table>

academic: learned but inexperienced in practical matters
affable: approachable; pleasant
ambiguous: two (plus) possible interpretations; unclear
annual: yearly
austere: severe in manner or appearance; uncompromising; strict; forbidding
autonomy: independence or freedom
belligerent: prone to fight or argue
biased: favoring one side in an argument
compassionate: describing a person who cares or pities
consecration: solemn dedication to a service or goal
convoluted: intricate; complicated
credible: believable
cryptic: mysterious in meaning; puzzling
curtail: stop
demanding: requiring or claiming more than is generally felt by others to be due
dignified: stately; proper in manner
diminished: lessened; reduced
disparage: belittle; reduce in esteem
dogmatic: asserting strong opinions
dreary: dull; boring
dubious: characterized by uncertainty or doubt
effacement: obliteration
efficient: performing or functioning in the best possible manner with the least waste of time and effort
enhance: make greater; augment
eradicating: torn up by the roots; destroyed
erudite: learned; educated
eulogize: praise highly
exacerbated: made worse
excite: arouse or stir up
extol: praise highly
fervent: burning with intense enthusiasm
frenzied: wildly excited or enthusiastic
genial: friendly
hamper: hold back; hinder; impede
heatedly: with passion
hindered: delayed or stopped
historical: having to do with history
illuminating: enlightening; clarifying
incoherent: disjointed; rambling; making no sense
inhibit: restrain; hinder; repress
intricate: entangled; complex; hard to understand
isolated: separated from other people
judicious: discreet; prudent; wise and sensible
multitude: a large grouping of things or people
omniscient: all-knowing
original: new; fresh; inventive
ornate: flashy; ornamented; showy
precise: firmly defined or fixed
rationalism: doctrine that reason alone is a source of knowledge and is independent of experience
remedied: cured; relieved; fixed
renowned: celebrated; famous
repugnance: strong aversion or objection
revels: parties; celebrations
serene: calm
simplicity: absence of luxury; plainness
solitary: alone
stoic: unaffected by joy, grief, pain, etc.
straightforward: direct; not roundabout
tolerate: put up with; endure without repugnance
trifling: of very little importance
triumphant: victorious; successful
unambiguously: clearly
uncomplicated: simple
unembellished: lacking ornamentation; plain; simple
venerate: revere; put on a pedestal
witty: amusingly clever in perception and expression
ANSWERS AND EXPLANATIONS

STRUCTURE CLUES—ANTONYMS

First, this: The correct answer choice will be charged or descriptive in some way, so any choice for which you can’t think of an antonym is likely to be wrong.

1) **E**. What’s the opposite of solved? Even if you don’t know the right answer, you can eliminate (a), (b), and (c).

2) **C**. From what? Plain. Next, shouldn’t we look for “the opposite of plain”?

3) **C**. Did you box instead of unbiased? We’re looking for something “biased,” which, even if you don’t know the right answer, eliminates any wrong choices you can define.

4) **A**. Did you box but? Next, which word should we underline so we can look for its opposite? How about forecasted? So, the reporters could make no forecast, probably because, unlike the negotiators, they weren’t sure. Even if this process didn’t get you to “dubious,” it should have eliminated at least choices like “biased” and “compassionate.”

5) **C**. Did you box although? Next, notice that the comma separates the sentence into two halves, each of which contains one blank. In this problem, as is often the case in two-blank sentences, it’s easier to figure out the second blank first. In the second half, we want an adjective that describes how one might live “in a thinly-settled area.” Looking for words that mean something like “alone” for the second blank, we can eliminate all the choices except (a) and (c). Now, which “first blank” word is the opposite of “solitary” or “isolated”?

6) **B**. Did you box normally and underline by reacting heatedly? Let’s find the opposite of easily angered.

7) **D**. Did you box pointedly different and underline revels? If you don’t know what “revels” might be, you have a fallback strategy. The SAT writes clichés—have you ever attended a wedding? What sort of activities went on the night before—a bit of a party? How about the wedding itself? A little more restrained?

8) **A**. Did you box unlike and extolled? Do you know what “extol” means? Did you figure it was a negative word because of the “ex”? As you work through SAT problems and tests, please note how seldom you can judge words by their prefixes and suffixes. Next, choices like (d), and (e), which are not particularly strongly charged, can be safely eliminated. Also, if you have paid attention in American History class, you remember that Hamilton was a Federalist, which means he really liked the idea of a federal government. The SAT will never state something that’s clearly not true, such as “Rush Limbaugh is a liberal.”

9) **E**. Did you box considering that and then underline little control over their lives? Any word such as “simplicity” that clearly doesn’t have anything to do with how much control one has over one’s life can safely be eliminated. Next, if you don’t know the meaning of one or more words, what’s Plan B? Right. Eliminate the words you do know (because if you know a word, you know if it’s right) and then pick the Scariest remaining answer choice.

10) **C**. Did you box meant to and instead? So, what would any author want to do? Help the reader? So, at this point we are concentrating on (c) and (e), right? Let’s go back and notice “though meant”: If you say, “I meant to be helpful,” were you indeed helpful? No, because you wouldn’t ever have to make such an excuse. So, understanding that the sentence is telling us that the author failed, let’s compare “an onslaught of illuminating information” to “an onslaught of trivial information.” Which is negative?
PREVIEW SENTENCE COMPLETION—THE SCARY CHOICE

More often than you’d like, you can be stumped by the logic of a sentence or the vocabulary in
the answer choices. When that’s the case, your only hope is that your test-taking savvy will steer
you away from wrong choices that look comforting, to strange-looking, scary choices that
happen to be right.

Say what? Picking a word you’ve never seen before feels crazy—I’d rather pick one I think I
kinda know, you’d probably reply. Congratulations! You just told yourself why, when you’re
answering a difficult problem (one that most people are expected to get wrong), the scariest-
looking choice is likeliest to be right—and it’s going to be shunned by people who don’t know
how to play the game.

All SAT answer choices are valid English words.

Here we have a bunch of answer choices without sentences. Pick the choice that makes you
least comfortable—the one that, if you were in a cave, would be way in the back, in the
deepest, darkest corner.

1) [Sentence]
   (a) condemnation       (c) plaudits       (e) pathos
   (b) sarcasm            (d) irony

2) [Sentence]
   (a) condensed          (c) exterminated  (e) transcribed
   (b) delineated          (d) expurgated

3) [Sentence]
   (a) imaginary          (c) elusive        (e) circumscribed
   (b) repetitive          (d) eclectic

4) [Sentence]
   (a) irrationality      (c) temerity       (e) anthropocentrism
   (b) humanity            (d) serendipity

5) [Sentence]
   (a) aesthetic          (c) decorous       (e) avant-garde
   (b) partisan           (d) cerebral
6) [Sentence]
   (a) summary
   (b) fabrication

7) [Sentence]
   (a) synergistic
   (b) naturalistic

8) [Sentence]
   (a) felicitous
   (b) inevitable

9) [Sentence]
   (a) idealists
   (b) well-wishers

10) [Sentence]
   (a) harassed
    (b) sullied

          (c) consensus
          (d) trove

          (c) competitive
          (d) retroactive

          (c) anachronistic
          (d) nitpickers

          (c) bilked
          (d) investigated

          (e) replication

          (e) neutralizing

          (e) exemplary

          (e) debunkers

          (e) incriminated
SENTENCE COMPLETION—THE SCARY CHOICE

After the test maker writes each sentence, including the correct answer, somebody has to write the wrong answers, right? We’ll call that person Julia.

The problem is sent down the hall to Julia’s office. She’s the one who writes tempting wrong answer choices, the ones that make you feel good when you choose them. Julia laughs a lot.

So, now that we’ve seen Julia at work, what does that suggest about the right answer choices? Well, since they’re right, nobody wants to pretty them up or sugarcoat them. Therefore, they’ll often be the strangest, meanest-looking choices on the page—the choices that will be a struggling test taker’s last choice. Because they’re scary!

One more thing: As we will discover and prove during our work together, the right answer in each Sentence Completion problem is perfect: If you know what a word means, and that word doesn’t fit perfectly into the sentence, it’s wrong. So, as you work through these Sentence Completion problems, if you don’t know the right answer, try staying with The Scary Choice you picked in the preview—and choose it confidently. Doing so here will convince you that Plan B—Scary Choice—is better than anything you’re using now.

1) Blanchard’s sculpture has generated only enthusiastic response: praise from the general public and _______________ from the major critics.
   (a) condemnation  (c) plaudits  (e) pathos
   (b) sarcasm  (d) irony

2) Alanna thoroughly _______________ the text to avoid any lawsuits that might arise because of the new obscenity law.
   (a) condensed  (c) exterminated  (e) transcribed
   (b) delineated  (d) expurgated

3) The art collection of the children’s museum is quite _______________, ranging from furniture to sculpture to finger painting.
   (a) imaginary  (c) elusive  (e) circumscribed
   (b) repetitive  (d) eclectic

4) It has been suggested that the detailed listings of animals, plants, and minerals by their usefulness to humans indicate the ________________ of the ancient Egyptians.
   (a) irrationality  (c) temerity  (e) anthropocentrism
   (b) humanity  (d) serendipity
5) Artists who are described as ________________ are the first to experiment with new forms or concepts.
   (a) aesthetic  (c) decorous  (e) avant-garde
   (b) partisan  (d) cerebral

6) The library’s collection is a ________________ of Asian American historical documents, including rare materials about race relations.
   (a) summary  (c) consensus  (e) replication
   (b) fabrication  (d) trove

7) When two chemical compounds are combined, a ________________ effect can be achieved; the resulting combination can be more potent than either of the individual components alone.
   (a) synergistic  (c) competitive  (e) neutralizing
   (b) naturalistic  (d) retroactive

8) The use of gospel music in the modern production of the ancient Greek tragedy is effective, in spite of seeming ________________ to critics interested only in historic accuracy.
   (a) felicitous  (c) anachronistic  (e) exemplary
   (b) inevitable  (d) timeless

9) Contemptuous of official myths about great men and women that had been taught to them in school, many postwar writers, with the skepticism expected of ________________, advanced the idea that there is no such thing as greatness.
   (a) idealists  (c) dissemblers  (e) debunkers
   (b) well-wishers  (d) nitpickers

10) According to the report, the investment firm had ________________ several hundred customers, swindling them out of millions of dollars.
    (a) harassed  (c) bilked  (e) incriminated
    (b) sullied  (d) investigated
SENTENCE COMPLETION— THE SCARY CHOICE

Here are the right answers with minimal comment. I hope that you used either Plan A (you knew the meaning of the right choice and it was perfect) or Plan B (you eliminated every choice you knew wasn’t perfect and then chose the scarriest of the remaining choices).

1) C. I would imagine that you know (a), (b), and (d).

2) D. No, she did not exterminate the text. If you chose (e), your reasoning went something like this: In order to take out the dirty words, she would rewrite (a very loose interpretation of transcribe, which means “to copy”) the text. However, if (e) were correct, the sentence would have read, “Alanna __________ the text so readers wouldn’t be confused by her bad handwriting.”

3) D. If you chose (e), remember this: circum (like circumference) refers to a circle. And no, there isn’t a “full circle” of artwork.

4) E. You might have liked temerity or serendipity, but where the heck did (e) come from? (Actually, it means “centered on humans.”) Do you think Julia inserts scary wrong choices in order to attract you away from the right answer?

5) E. Would Julia include avant-garde to tempt you away from the right answer? Does she figure you’re French?

6) D. Tell me you’ve seen trove before. Where? (It means “collection of valuables.”)

7) A. We know it’s not any of the others, as long as you’ve used the expression “retro” (and knew what it meant) sometime in your life.

8) C. Try to give the longest unknown word just a little extra attention.

9) E. Whether you remember what it means or not, I know you’ve seen dissemblers before (it means “liars”).

10) C. If a choice causes you to doubt that it’s even a real word, it’s probably right.
Look at how short these sentences are! There is no room for subtlety. The clues must be blatant and very clear.

This is an exercise in FIVE STEPS. Please make sure that you complete each step before moving on to the next one.

STEP 1: Please treat the problems on this page this like Student Generated Responses—fill in the blanks with your own word or words. Yes! You can use more than one.

1) Displays in the Mexican exhibition on dinosaurs are designed to be touched, offering visitors ______________ experience.

2) Our debate team argued that every popular movement needs ______________; without this public declaration of motives, there can be no cohesive organization.

3) Someday, technology may make door-to-door mail delivery seem ______________, that is, as incongruous as Pony Express delivery would seem now.

4) He was always ______________ in performing his tasks, waiting until the last moment to finish them.

5) Disappointingly, the researchers’ failure was a direct result of their ______________; we had not expected that their focus would be so indistinct.

6) From classic fiction to the latest journalism, the theme of the typical plague story is one of ______________: whenever a writer describes an epidemic as a plague, an extremely fatalist view is implied.

7) Many linguists believe that our ability to learn language is at least in part ______________, that it is somehow woven into our genetic makeup.

8) The biologist’s discovery was truly ______________: it occurred not because of any new thinking or diligent effort but because she mistakenly left a few test tubes out of the refrigerator overnight.

9) Florida Congresswoman Ileana Ros-Lehtinen chose to focus on how national issues affect her own ______________, those voters she represents.

10) The student’s feelings about presenting the commencement address were ______________; although visibly happy to have been chosen, he was nonetheless ______________ about speaking in public.
STEP 2: Choose answers to the ten questions below.

1) Displays in the Mexican exhibition on dinosaurs are designed to be touched, offering visitors _____________ experience.
   (a) an aural   (c) an archaic   (e) a tactile
   (b) a rustic   (d) an odiferous

2) Our debate team argued that every popular movement needs _____________; without this public declaration of motives, there can be no cohesive organization.
   (a) a mandate   (c) a ratification   (e) an invocation
   (b) an arbitration   (d) a manifesto

3) Someday, technology may make door-to-door mail delivery seem _____________, that is, as incongruous as Pony Express delivery would seem now.
   (a) recursive   (c) predictable   (e) revered
   (b) contemporaneous   (d) anachronistic

4) He was always _____________ in performing his tasks, waiting until the last moment to finish them.
   (a) dilatory   (c) extroverted   (e) obtrusive
   (b) incompetent   (d) surreptitious

5) Disappointingly, the researchers’ failure was a direct result of their _____________; we had not expected that their focus would be so indistinct.
   (a) egoism   (c) relevance   (e) hindsight
   (b) irreverence   (d) vagueness

6) From classic fiction to the latest journalism, the theme of the typical plague story is one of _____________: whenever a writer describes an epidemic as a plague, an extremely fatalist view is implied.
   (a) eccentricity   (c) inevitability   (e) excitement
   (b) tedium   (d) mystery

7) Many linguists believe that our ability to learn language is at least in part _____________, that it is somehow woven into our genetic makeup.
   (a) innate   (c) empirical   (e) incremental
   (b) accidental   (d) transitory
8) The biologist's discovery was truly ______________: it occurred not because of any new thinking or diligent effort but because she mistakenly left a few test tubes out of the refrigerator overnight.

(a) assiduous  (b) insightful  (c) fortuitous  (d) exemplary  (e) ominous

9) Florida Congresswoman Ileana Ros-Lehtinen chose to focus on how national issues affect her own ______________, those voters she represents.

(a) opponents  (b) constituents  (c) successors  (d) mentors  (e) colleagues

10) The student's feelings about presenting the commencement address were ______________; although visibly happy to have been chosen, he was nonetheless ______________ about speaking in public.

(a) positive ... insecure  (b) euphoric ... hopeful  (c) unknown ... modest  (d) ambivalent ... anxious  (e) restrained ... confident

STEP 3: In the boxes below, please list your letter answer to each of the questions:

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Now compare these answers to the correct answers listed at the top of the next page. Make an “X” in the box of any question you got wrong. IMPORTANT: Please don’t write down or “memorize” the right choice for any particular question.

STEP 4: Go back to any question you got wrong and work on it again while looking up the definitions of the answer choices in the glossary on the next page. Learn the definitions of the words that stumped you. Choose a new answer to each question you answered incorrectly.

STEP 5: After you have re-answered the questions you originally missed, go to the Explanations page.
ANSWERS:

| 1 | E | 2 | D | 3 | D | 4 | A | 5 | D | 6 | C | 7 | A | 8 | C | 9 | B | 10 | D |
| accidental: unexpected, unintentional
ambivalent: experiencing opposing feelings or emotions; mixed feelings
anachronistic: out of time order
anxious: full of mental distress or uneasiness
arbitration: informal way to settle a dispute
archaic: antiquated; primitive
assiduous: diligent, unceasing, persistent
aural: relating to hearing or the ear
cohesive: unified
colleagues: associates
confident: having strong belief or assurance
constituents: voters represented by elected officials
contemporaneous: existing or happening during the same period of time
dilatory: tending to delay, postpone
eccentricity: a personal tendency to deviate from the norm
egoism: conceit; selfishness
empirical: derived from observation
exultation: feeling great happiness
exemplary: worthy of imitation
extroverted: outgoing (not shy)
fatalist: the acceptance of all things as inevitable
fortuitous: happening by accident
genetic: inborn; innate
hindsight: perception of reality only in retrospect
hopeful: full of hope
incompetent: lacking skill or knowledge
incongruous: inconsistent; inappropriate; unbecoming
incremental: changing consistently
inevitability: sure to occur, happen, or come
innate: possessed at birth; inborn
insecure: subject to fears and doubts
insightful: perceptive; displaying insight
invocation: petitioning or supplicating a higher power
irreverence: lack of reverence or respect
mandate: an authoritative command or instruction
manifesto: a public declaration of intentions
mentor: wise and trusted counselor or teacher
modest: free from vanity, egotism, and boastfulness
PUNCTUATION CLUES—DEFINITION

1) E. Every descriptive word is vital. The exhibit is notable because visitors can touch the exhibits; therefore, the experience is tactile.

2) D. Why didn’t the writer end the sentence at the semi-colon (by making it a period)? We need the second half of the sentence to define what goes in the blank, a public declaration of motives.

3) D. Any time you see a comma followed by “that is,” what follows next has to define what’s in the blank. Here, incongruous as Pony Express Delivery leads us to the idea that today’s mail delivery will seem like something out of the past. If you don’t know “anachronistic,” consider the root, chron: You use that root when you speak about “chronological order,” that is, order determined by time.

4) A. As we saw on the previous page, dilatory people tend to wait until the last minute to do things. By the way, if you chose (b), remember that the SAT is written precisely, so if the writer had wanted to define incompetent, she would have used a word that means incompetent. Just because you do everything at the last minute doesn’t mean that you’re not good at what you do.

5) D. “Their focus would be so indistinct” can only define “vagueness.”

6) C. When the blank is followed by a colon, you need to look only at what comes next. In this sentence, fatalistic view should push us in the right direction. Even if you don’t know the meaning of “inevitable,” however, how many choices can you eliminate just knowing that you’re looking for something that cannot be escaped?

7) A. Remember, a comma following a blank indicates that the definition, in this case, woven into our genetic makeup, comes next.

8) C. Another colon: find the definition (mistakenly).

9) B. A blank followed by a comma, followed by those voters she represents. You don’t even have to learn how to pronounce the Congresswoman’s name—great!

10) D. Here the second half of the sentence begins with the word “although,” which means that what follows will be made up of two opposing parts or ideas. Thus, we know that the second blank will visibly contrast with the notion that he was happy (and so, on the “Good/Bad” scale, will be bad). Only two answer choices are “bad”—(A) and (D). Next, to choose between “insecure” or “anxious,” we need only to compare the words with which each is paired. Was the student “positive” if he had such mixed feelings, or is it more likely that the other answer, which is pretty Scary, is correct?
PREVIEW GOOD/BAD

Good/Bad TECHNIQUE: This is an exercise in FIVE STEPS. Please make sure that you complete each step before moving on to the next one.

STEP 1: Often, we can determine that a word with a “good” or “bad” meaning should fill a blank. Please fill in each blank on this page with either the word “good” or the word “bad” (yes, you can predict “good” or “bad” for either or both blanks in each sentence).

1) In earlier ages, a dilettante was someone who delighted in the arts; the term had none of the ______________ connotations of superficiality that it has today and, in fact, was ______________.

2) The ______________ act was ______________ even to Mr. Branch, who regretted his deed to the end of his life.

3) Although Jack and Mary McCoy are often ______________ to strangers, they show only ______________ to a pack of nearly extinct buffalo wolves, working seven days a week to help save the endangered species.

4) Ironically, the same executives who brought bankruptcy to the coalfields were ______________ by their contemporaries, who ______________ the notion that these people were industrial heroes.

5) As an architect who rehabilitates older buildings, Anita VanBuren objected to a city policy that resulted in the mass ______________ of clearly ______________ structures.

6) Author George Wong portrays research psychologists not as disruptive ______________ in the field of psychotherapy but as effective ______________ working ultimately toward the same ends as psychotherapists.

7) Farming had been profitable on the Great Plains for many decades, but by 1938 ______________ agricultural practices and years of inadequate precipitation had ______________ the land.

8) Although it stayed in business for several months, the company was actually ______________ and met its financial obligations only by engaging in ______________ activities.

9) The treasurer was intimidated by the ______________ demeanor of the auditors who neither spoke nor smiled when they arrived.

10) Critics say that the autobiographical work Abel’s Keeper by Leonard Briscoe is surprising in that it celebrates and yet ______________ his own role in the life of his brother.
GOOD/BAD

STEP 2: Choose answers to the ten questions below.

1) In earlier ages, a dilettante was someone who delighted in the arts; the term had none of the ____________ connotations of superficiality that it has today and, in fact, was considered ____________ .
   (a) implicit ... disreputable      (c) patronizing ... complimentary
   (b) romantic ... threatening      (d) irritating ... presumptuous
   (e) entertaining ... prestigious

2) The ____________ act was ____________ even to Mr. Branch, who regretted his deed to the end of his life.
   (a) vulgar ... unaffected          (c) vengeful ... acceptable
   (b) timorous ... intrepid          (d) heinous ... offensive
   (e) forgettable ... offensive

3) Although Jack and Mary McCoy are often ____________ to strangers, they show only ____________ to a pack of nearly extinct buffalo wolves, working seven days a week to help save the endangered species.
   (a) gracious ... disdain           (c) gruff ... kindness
   (b) rude ... exasperation          (d) amiable ... concern
   (c) vengeful ... acceptable
   (d) heinous ... offensive

4) Ironically, the same executives who brought bankruptcy to the coalfields were ____________ by their contemporaries, who ____________ the notion that these people were industrial heroes.
   (a) celebrated ... cherished      (c) ignored ... belied
   (b) respected ... doubted         (d) condemned ... rejected
   (e) antagonized ... enjoyed

5) As an architect who rehabilitates older buildings, Anita VanBuren objected to a city policy that resulted in the mass ____________ of clearly ____________ structures.
   (a) demolition ... inconsequential
   (b) renovation ... derelict
   (c) razing ... salvageable
   (d) scouring ... grimy
   (e) protection ... venerable

6) Author George Wong portrays research psychologists not as disruptive ____________ in the field of psychotherapy but as effective ____________ working ultimately toward the same ends as psychotherapists.
   (a) proponents ... opponents
   (b) antagonists ... pundits
   (c) interlocutors ... surrogates
   (d) meddlers ... usurpers
   (e) intruders ... collaborators
7) Farming had been profitable on the Great Plains for many decades, but by 1938 ___________ agricultural practices and years of inadequate precipitation had ___________ the land.

(a) conscientious ... despoiled  
(b) incompetent ... sustained  
(c) shrewd ... debilitated  
(d) innovative ... fertilized  
(e) improvident ... denuded

8) Although it stayed in business for several months, the company was actually ___________ and met its financial obligations only by engaging in ___________ activities.

(a) insolvent ... fraudulent  
(b) prudent ... speculative  
(c) autonomous ... subordinate  
(d) bankrupt ... charitable  
(e) stable ... manipulative

9) The treasurer was intimidated by the ___________ demeanor of the auditors who neither spoke nor smiled when they arrived.

(a) amiable  
(b) ethical  
(c) glacial  
(d) taunting  
(e) nondescript

10) Critics say that the autobiographical work Abel’s Keeper by Leonard Briscoe is surprising in that it celebrates and yet ___________ his own role in the life of his brother.

(a) censures  
(b) exacerbates  
(c) explores  
(d) duplicates  
(e) delineates

STEP 3: In the boxes below, please list your letter answer to each of the questions:

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STEP 4: Go back to any question you got wrong and work on it again while looking up the definitions of the answer choices in the glossary on the next page. Learn the definitions of the words that stumped you. Choose a new answer to each question you originally got wrong.

STEP 5: After you have re-answered the questions you originally got wrong, go to the Explanations page.
GOOD/BAD—GLOSSARY

ANSWERS:

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amiable: agreeable; cordial
antagonist: opponent; adversary
antagonized: made hostile or unfriendly
appalling: causing dismay or horror
autonomous: self-sufficient
bankrupt: insolvent; broke
belied: contradicted
celebrated: praised widely
censure: disapproves strongly
charitable: generous in donations or gifts to relieve the needs of those less fortunate
collaborators: associates in labor
complimentary: flattering
condemned: indicated strong disapproval of
condescending: displaying a superior attitude
connotation: associated or secondary meaning of a word or expression
conscientious: meticulous; careful
debilitated: made weak or feeble
delineate: draw or trace; sketch out
demeanor: conduct; behavior; deportment
demolition: destruction
denuded: stripped (as land)
derelic: abandoned or deserted
despoiled: stripped of value
dilettante: a person who takes up a subject merely for amusement, especially in a superficial way; dabbler
disdain: despise; treat with contempt
disreputable: lacking respectability
disruptive: tumultuous; turbulent
ethical: consistent with principles of morality
exacerbate: increase in severity; make worse
exasperation: irritation; extreme annoyance
forgettable: fit or apt to be forgotten
fraudulent: dishonest
glacial: coldly detached
grimy: covered with grime; dirty
gruff: rough, brusque, or surly
heinous: wicked or reprehensible
hostility: animosity; hatred
implicit: implied rather than expressly stated
improvident: incautious; unwary
incompetent: incapable
inconsequential: insignificant; trivial
insolvent: penniless; broke
interlocutor: participant in a conversation
intimidated: frightened
intrepid: courageous; fearless
intruder: one who enters without right
ironically: poignantly contrary to what was expected or intended
irritating: annoying; provoking
kindness: friendly feeling; liking
manipulative: managing in an unfair way
meddlers: those who interfere in areas where they are not wanted
nondescript: lacking distinctive qualities
offensive: causing resentful displeasure
patronizing: condescending; superior
prestigious: honored; esteemed
presumptuous: impertinently bold
proponents: those who are in favor of an idea or policy
prudent: careful in providing for the future
pundit: expert
razing: knocking down; destroying
renovation: rebuilding; renewing
salvageable: capable of being saved
scouring: removing dirt or grease
shrewd: astute or sharp in practical matters
speculative: relating to investing in risky assets
stable: able or likely to continue or last
subordinate: subservient or inferior
superficiality: shallow; not profound or thorough
surrogates: substitutes
sustained: maintained
taunting: reproaching in a mocking manner
timorous: frightened
unaffected: not pretentious; real
usurper: one who seizes and holds by force
venerable: worthy of reverence
vengeful: desiring revenge
vulgar: crude; coarse; unrefined
GOOD/BAD

1) C. Two clues point us to a correct interpretation: (1) The first clause tells us about “in earlier ages” (rather than today); then, (2) “superficiality” means “acting in a superficial way,” which isn’t a compliment. So, back then, the word had none of its present “bad” connotations and was considered “good.”

2) D. This is not a tricky test. If you put anything other than “bad” and “bad” into the blanks, you were trying to outwit the test. Please stop doing that, OK? Once we have “bad” and “bad,” there’s only one choice.

3) C. They’re “bad” to people but “good” to animals (“working seven days a week …”). Just like a made-for-TV movie.

4) A. Here’s where mastering this technique really pays off. It’s hard enough to follow this sentence’s twists and turns without also trying to plug in ten words. So, taking “ironically” into account, we can figure that these execs were treated in a way (“good”) that was inconsistent with the bad way they should have been treated.

5) C. She rehabilitates older buildings, so would she object to the mass “rebuilding” (“good”) of clearly “bad” structures? I didn’t think so—how about the mass “doing bad stuff to” clearly “savable” (“good”) structures. Yes? If you chose (a), you grabbed the Poison Apple: Yes, “demolition” is beautiful (like the aforementioned Apple), but you know that inconsequential (did you look it up in the Glossary?) doesn’t mean anything good.

6) E. Not as disruptive “bad” guys, but as effective “good” guys. The SAT will never say that a group of citizens is secretly evil.

7) E. “Bad” farming practices did “bad” stuff to the land. Choice (c) was the Poison Apple (see the explanation to #5 above).

8) A. Although the business kept running, it was in “bad” shape, and engaged in “bad” practices. If you thought “charitable” was defined as “taking charity,” ... You didn’t really, did you? But you talked yourself into it. Remember, the right answer is perfect. Even during your self-talk, you never told yourself that “charitable” was perfect, did you?

9) C. Have you ever been intimidated by a “nondescript” demeanor? Does “nondescript” even sound threatening? And yet it’s the most popular wrong answer to this question. If you put “bad” into the blank, are you more likely to come up with something chilling?

10) A. Celebrates (“good”) and yet ... has to be “bad,” right? This might not get you all the way to the right answer, but it will get rid of (c) and (d). By the way, to censure is not the same thing as to censor (to examine and expurgate).
SENTENCE COMPLETION PRACTICE

Instructions: Please look up the meaning of every word you don’t know. If you do so, you will strengthen your vocabulary as you practice; if you don’t, you’re not likely to get much benefit out of this exercise.

1) The ballet room is a bright, seemingly weightless world where gravity is continually being _____________ by the dancers.
   (a) unbalanced     (b) defied     (c) prolonged     (d) reapportioned     (e) reflected

2) Meals can be _____________ element in family life, bringing us together in times of trouble and in times of joy.
   (a) a unifying     (b) a residual     (c) an addictive     (d) a conflicting     (e) an inconsistent

3) Because she has a great need for _____________, she loathes the public appearances demanded of her as a leading urban planner.
   (a) reward     (b) devotion     (c) luxury     (d) privacy     (e) distraction

4) Researchers have discovered that our sense of smell is surprisingly _____________, capable of distinguishing thousands of chemical odors.
   (a) erratic     (b) keen     (c) rigid     (d) inert     (e) innate

5) Unlike the politician, who must spend his or her energy in public show or endless meetings, the writer needs _____________ for significant efforts.
   (a) approval     (b) prudence     (c) motivation     (d) solitude     (e) perseverance

6) The research is so _____________ that it leaves no part of the issue unexamined.
   (a) comprehensive     (b) rewarding     (c) sporadic     (d) economical     (e) problematical

7) Although it seems to have been a fixture of the square since the city’s origin, the farmer’s market actually opened only _____________.
   (a) enthusiastically     (b) recently     (c) frequently     (d) illegally     (e) graciously

8) A group of Black American fighter pilots known as the Birds of Paradise has the _____________ of never having lost any of the bombers it escorted on missions over the Pacific islands in the Second World War.
   (a) onus     (b) distinction     (c) imperative     (d) potential     (e) misfortune
9) According to Swift, a novelist should not __________, for sermonizing has no place in good fiction.
   (a) invent         (c) preach         (e) inform
   (b) offend         (d) distort

10) Professor Abenaki believes that the universal character of art refutes the prevailing notion that art is a __________ of civilization, a cultural fluff, a social veneer.
    (a) record         (c) guarantee      (e) depiction
    (b) luxury         (d) hallmark

11) Paradoxically, this successful entrepreneur is sometimes __________ and at other times gregarious.
    (a) autonomous      (c) ingratiating    (e) reclusive
    (b) dispassionate   (d) unthinking

12) To Maxine, traveling was __________; her mother, however, looked upon each trip as an __________ experience.
    (a) confusing ...  (c) exhilarating ...
                   unnerving        interminable unhapp
    (b) tiring ... exhausting        (d) joyous ... exciting

13) Their conversation was unsettling to her, for the gravity of his topic contrasted so oddly with the __________ of his tone.
    (a) uniqueness      (c) lightness       (e) reverence
    (b) rapidity        (d) precision

14) Very few adults boast that no one can understand a word they say, but quite a few seem proud of __________ handwriting.
    (a) elegant         (c) indecipherable    (e) legible
    (b) stylized        (d) unusual

15) Although often victims of circumstance, the heroines of Wendy Wasserstein’s comedies tend to be __________ women, usually ready with a clever stratagem or verbal ploy for getting out of a difficult situation.
    (a) imperious       (c) excitable        (e) precocious
    (b) suffering       (d) resourceful

16) The jellyfish’s slow pulsing action propels it in a graceful, seemingly __________ drift, but its tentacles contain a poison potent enough to stun a swimming human.
    (a) sinister        (c) murky           (e) patient
    (b) rhythmic        (d) harmless
17) Grace was stunned that her neighbor had the ___________ to inquire about borrowing her new lawnmower, considering the fact that he had broken her old one.

(a) foresight  (b) temperament  (c) conviction  (d) audacity  (e) integrity

18) The radio show's host seemed genial, but he often turned ___________ when provoked by guests who challenged his opinions.

(a) surly  (b) intrusive  (c) lenient  (d) convincing  (e) giddy

19) The painter was ___________ over his lack of funds and his inability to sell any of his paintings, and his letters to his brother reflected his unhappiness.

(a) prudent  (b) encouraged  (c) despondent  (d) supercilious  (e) fortified

20) Laboratories have been warned that provisions for water protection that in the past were merely ___________ will now be mandatory; ___________ of this policy will lose their federal funding.

(a) disregarded ... proponents  (b) recommended ... violators  (c) comprehensive ... adversaries  (d) nominal ... advocates  (e) compulsory ... resisters

21) Scientists are studying the birth and growth of thunderstorms to discover what causes the difference between showers that enable crops to ___________ and ___________ storms that cause floods and erosions.

(a) grow ... harmless  (b) parch ... severe  (c) flourish ... violent  (d) wither ... damaging  (e) multiply ... essential

22) Many of the misconceptions about Princess Diana were created by those who ___________ her most; in their efforts to ___________ her as a model of all virtues, they lost sight of the real woman.

(a) challenged ... delineate  (b) admired ... depict  (c) esteemed ... discredit  (d) idolized ... disparage  (e) censured ... represent

23) The ___________ of trees in Southeast Asia has caused the number of native tigers to ___________ sharply because they can live only where the forest is most dense.

(a) felling ... decrease  (b) abundance ... dip  (c) planting ... decline  (d) destruction ... grow  (e) protection ... drop
24) Ignoring the growing accusations of __________, Mayor Curley appointed yet another of his personal friends to a well-compensated government position.
   (a) cronyism  (c) propriety  (e) nepotism
   (b) sensationalism  (d) indolence

25) The rumor was of the __________ variety, spreading slowly and almost imperceptibly until, finally, everyone seemed to have heard the story.
   (a) insidious  (c) manifest  (e) expeditious
   (b) aggressive  (d) dilatory

26) Mrs. Foster found it ironic that her eleven-year-old son, who made all A’s on his report card, was so __________ at home, apparently unable to follow her most basic instructions concerning such commonsense matters as tidiness.
   (a) candid  (c) stubborn  (e) sullen
   (b) obtuse  (d) astute

27) Tantra paintings from Ceylon are not only beautiful but __________: in addition to their aesthetic value, they are used to facilitate meditation.
   (a) numerous  (c) garish  (e) functional
   (b) ornate  (d) valuable

28) Suellen Byers’ character Sydney Rose appears __________ but feels great anger: she __________ her emotions with a mask of compliance.
   (a) docile ... camouflages  (c) responsive ... echoes  (e) invincible ... catapults
   (b) uncontrolled ... belies  (d) nonchalant ... exposes

29) George Foreman was __________ fighter: he inspired fear in many of his opponents.
   (a) a serene  (c) an insipid  (e) a redoubtable
   (b) an impetuous  (d) a malleable

30) The visually captivating nature of Ludwig Mies van der Rohe’s designs suggests that the architect is a true __________, infusing his designs with beauty as well as functionality.
   (a) instigator  (c) intellectual  (e) aesthete
   (b) nonconformist  (d) minimalist

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 21 THROUGH 30 NOW

31) Although the scientist claimed to have made a major breakthrough in his research, the evidence he offered as proof of his assertion was __________ at best.
   (a) conclusive  (c) paltry  (e) extensive
   (b) indubitable  (d) copious
32) There was no denying the candidate’s __________, but her arguments were unsophisticated and __________.

(a) bravura ... precise  (c) charisma ... vapid  (e) indifference ...
(b) boorishness ... (d) competence ...  benign
unoriginal infallible

33) The idea that people __________ their own reality or shape their experience based on previous subjective events is one of the fundamental __________ of social psychology.

(a) instill ... (c) construct ... (e) extricate ...
archetypes axioms privileges
(b) avoid ... desires (d) fortify ... goals

34) The notoriously temperamental American actor John Barrymore was known for his __________ both on stage and off.

(a) apologies (c) inequities (e) philosophies
(b) musings (d) histrionics

35) Rafael Kahlo’s novel consists of discrete vignettes, so the reader must supply the invisible __________ binding such apparently __________ parts.

(a) emotions ... (c) descriptions ... (e) connections ...
impersonal related independent
(b) interpretations ... (d) categories ... somber cohesive

36) Many of today’s physicians and patients are __________ high technology, captivated by computer-designed drugs and laser surgery.

(a) nervous about (c) tolerant of (e) overwhelmed by
(b) defensive about (d) enamored of

37) The filmmaker was known for choosing __________ projects, so many critics were surprised that her latest effort was uncharacteristically __________.

(a) innovative ... (c) unusual ... (e) rewarding ...
hackneyed refreshing suspenseful
(b) risky ... (d) cerebral ... controversial complex

38) Refuting the claim that the surest way to reduce anger is to express it, the psychologist asserts that __________ anger can actually increase its __________.

(a) denying ... impact (c) overcoming ... (e) voicing ... benefits
(b) understanding ... likelihood importance (d) venting ... intensity
39) The language of Arnsley Finn’s poetry conveys an impression of ___________ that can be misleading: just when a poem seems to be echoing routine feelings, the diction suddenly sharpens to embody fresh and unexpected ideas.

(a) frivolity 
(b) tinniness 
(c) diversity 
(d) lyricism 
(e) precision

40) The world, accustomed to ___________ whenever governments change hands, expected anarchy and bloodshed; but the transition of power was remarkably ___________.

(a) turmoil ... chaotic 
(b) violence ... uneventful 
(c) ceremony ... solemn 
(d) harmony ... orderly 
(e) splendor ... unpopular

41) Steven Jay Gould’s main criticism of the artist’s rendering of the ancient mammal’s physical appearance was that, unsupported by even a ___________ of fossil evidence, the image was bound to be ___________.

(a) modicum ... speculative 
(b) particle ... supplemented 
(c) perusal ... substantiated 
(d) fabrication ... obsolete 
(e) recapitulation ... exhausted

42) There has been little ___________ criticism written about Warhol’s art; indeed, that which has been expressed is at the two extremes, either appallingly ___________ or bitterly antagonistic.

(a) hostile ... ambiguous 
(b) objective ... sycophantic 
(c) fervent ... complimentary 
(d) recent ... illogical 
(e) temperate ... censorious

43) Although the acreage involved in a national boundary dispute may seem insignificant, even the slightest ___________ in a country’s alleged border appears ___________ to that nation, a threat to its security.

(a) breach ... ominous 
(b) variation ... trivial 
(c) rigidity ... traumatic 
(d) change ... favorable 
(e) inconsistency ... felicitous

44) Currently rising temperatures in the Arctic and Antarctic are ___________ of a still warmer world that could result from an excess of atmospheric carbon dioxide produced by the burning of oil, gas, and coal.

(a) polarities 
(b) harbingers 
(c) vestiges 
(d) counterexamples 
(e) aftereffects
45) Their ideal was to combine individual liberty with material equality, a goal that has not yet been realized and that may be as ________ as changing lead into gold.

(a) chimerical (c) historical (e) inharmonious
(b) indispensable (d) cynical

46) He maintains that racial and cultural ________ are generalizations no more related to what an individual is actually like than are the ________ representations of constellations to the actual nature of a star.

(a) details... (c) traditions... (e) specimens... 
    figurative chemical graphic
(b) heritages... (d) stereotypes... 
    prophetic pictorial

47) The CFO of the brokerage house, who had quit school at the age of 15, was a noted ________, having taught himself everything he needed to know about securities and business, in addition to working to gain proficiency in such subjects as international finance.

(a) demagogue (c) pedant (e) disputant
(b) ambassador (d) autodidact

48) The teacher asked the students to make sure they read the entire treatise, both the fourteen regular chapters and the extensive ________ materials that the author included at the beginning of the book.

(a) prefatory (c) prophetic (e) conjunctive
(b) orthographic (d) redacted

49) Because he felt intimidated in his new position, he was ________ divulging his frank opinions of company proposals.

(a) fervid about (c) scurrilous about (e) candid in
(b) precipitate in (d) chary of

50) The test of truth is not ________, for we have often felt firmly convinced of many things that were not so.

(a) originality (c) implication (e) moderation
(b) impartiality (d) certitude

51) Contemporary novelist Ruta Arledge is quite the opposite of ________; through the ability of her heroines to rise above tragic setbacks, she expresses the belief that people can take charge of their own destinies.

(a) a moralizer (c) an optimist (e) a competitor
(b) a fatalist (d) an idealist
52) His inclination to succumb to flattery made him ___________ to the ___________ of people who wished to take advantage of him.

(a) immune ... (c) susceptible ...
    predilection                          cajolery
(b) resistant ... (d) prejudicial ...
    blandishments                        intentions
(e) amenable ...

53) The ___________ of Margaret Thatcher impressed her contemporaries: she seemed to know what dignitaries and foreign leaders were thinking.

(a) punctiliousness (c) symbiosis (e) perspicacity
(b) consternation (d) malevolence

54) Barbara’s distinguishing trait is her ___________: she gives liberally to those less fortunate than herself.

(a) venerability (c) frivolity (e) inexorableness
(b) munificence (d) amicability

55) Gabrielle schemed and plotted for weeks and these ___________ were rewarded when Marcus was fired and Gabrielle was promoted.

(a) renunciations (c) gibberings (e) affiliations
(b) machinations (d) circumlocations

56) Despite San Francisco’s large Asian community, Asian-American dance companies in that city are anything but ___________; in fact, in 2005 there was only one, Rachman Studio.

(a) wily (c) advantageous (e) legion
(b) nondescript (d) bourgeois

57) In effect, the Voting Rights Act of 1965 ___________ African-Americans in the Southern United States by outlawing restrictions that had barred them from voting.

(a) proliferated (c) enfranchised (e) inspired
(b) preserved (d) promulgated

58) The poet brings out the ___________ of human beings time and time again by ___________ their lives to the permanence of the vast Southwestern landscape.

(a) uniqueness ... (c) evanescence ...
    opposing                          contrasting
(b) complexity ... (d) transience ...
    comparing                        likening
(e) absurdity ...
    relating

59) Wave direction, apparently the primary ___________ used by young manatees to navigate in water, is later ___________ by their orientation to magnetic fields.

(a) cue ... supplanting (c) mechanism ...
    supplanted                        confused
(b) vestige ... (d) agent ...
    propagated                        propelled (e) restraint ...
    complemented
Once an occasional liar, Simon has become __________ one in that he lies habitually.

(a) a perfidious  (c) a selective  (e) a rancorous
(b) an inveterate  (d) an arcane

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 51 THROUGH 60 NOW
SENTENCE COMPLETION PRACTICE

The sentences are repeated in italics. The words in **bold** are the ones I consider clues.

1) **B.** The ballet room is a bright, seemingly **weightless** world where gravity is continually being _____________ by the dancers. In a weightless world, there is no gravity. So, to simulate weightlessness, one would **defy** gravity.

2) **A.** Meals can be _____________ element in family life, **bringing us together** in times of trouble and in times of joy. Anything that brings us together **unifies** us.

3) **D.** Because she has a great need for _____________, she **loathes the public appearances** demanded of her as a leading urban planner. If she loathes public appearances, what sort of life would she love? What’s the opposite of public?

4) **B.** Researchers have discovered that our sense of smell is surprisingly _____________, capable of distinguishing thousands of chemical odors. Note that the words following the blank could be used in the blank! “Keen” is defined as “characterized by strength and **distinctness of perception.**”

5) **D.** Unlike the politician, who must spend **his or her energy in public show** or endless meetings, the writer needs _____________ for significant efforts. This is an “antonym” sentence, in which we’re given the opposite of what we’re looking for. Those who don’t “spend ... energy in public show” value **solitude.**

6) **A.** The research is so _____________ that it leaves no part of the issue unexamined. The research must be all-inclusive, exhaustive, or comprehensive.

7) **B.** Although it **seems to have been a fixture** of the square since the city’s origin, the farmer’s market **actually opened** only _____________. Like question 5, this is another “antonym” sentence, which describes the opposite of what we’re looking for. Would we ever say that something “seems” to have been around forever if it actually **has** been around forever?

8) **B.** A group of **Black American fighter pilots** known as the Birds of Paradise has the _____________ of **never having lost** any of the bombers it escorted on missions over the Pacific islands in the Second World War. We know two things: First, the sentence tells us that this group has a record to be proud of; second, the SAT never says anything **negative** about patriots, celebrities, women, or non-Caucasians. So, we’re looking for a positive answer!

9) **C.** According to Swift, a novelist should not _____________, for sermonizing **has no place in good fiction.** Let’s put “sermonize” into the blank; so, I guess we need a synonym for “sermonize.”

10) **B.** Professor Abenaki believes that the universal character of art **refutes** the prevailing notion that art is a _____________ of civilization, a **cultural fill, a social veneer.** We’re looking for a synonym for “a cultural fill, a social veneer.” Must be something that’s not necessary...

The vocabulary is going to get tougher. Let’s establish guidelines for eliminating wrong answer choices. Here’s the first rule: If you can’t define a word you can’t eliminate it.

PLEASE RETURN TO PROBLEM 11 NOW
11) E. Paradoxically, this successful entrepreneur is sometimes ___________ and at other times gregarious. It just wouldn’t make sense to say, “Bob is sometimes nice and at other times a good guy,” would it? So, we have two clues here, paradoxically and sometimes... at other times. If you didn’t know the meaning of gregarious, you could have worked backwards from the answer choices that are familiar to you. If the entrepreneur were sometimes “unthinking,” wouldn’t that be dangerous?

12) C. To Maxine, traveling was ___________; her mother, however, looked upon each trip as an __________ experience. The only clue we have here is that Maxine and her mother reacted differently to traveling. So, let’s find an answer choice that offers us antonyms. Guessing: Even if we didn’t know what (c) and (e) meant, the “however” clue made (a), (b), and (d) impossible. Agree?

13) C. Their conversation was unsettling to her, for the gravity of his topic contrasted so oddly with the ___________ of his tone. Here’s another chance to “find the antonym.” What choice is the most different from “gravity”? If you didn’t know what “gravity” meant, working backwards might have helped. Could “gravity” be the opposite of “uniqueness” or “precision”?

14) C. Very few adults boast that no one can understand a word they say, but quite a few seem proud of ___________ handwriting. “But” is a strong clue that looking for the opposite of “no one can understand a word...” However, would it be notable if people were of readable handwriting? Either way, since we’re talking about handwriting, only (c) and (e) seem to apply.

15) D. Although often victims of circumstance, the heroines of Wendy Wasserstein’s comedies tend to be ___________ women, usually ready with a clever stratagem or verbal ploy for getting out of a difficult situation. We’re given a lot of information here; we know that these women are not your usual “victims of circumstance” because they are “ready with a ... stratagem.” So, what sort of person gets herself out of jams?

16) D. The jellyfish’s slow pulsing action propels it in a graceful, seemingly ___________ drift, but its tentacles contain a poison potent enough to stun a swimming human. In this Antonym sentence, we’re told the opposite of what we’re looking for. How could we describe a jellyfish’s appearance in water in order to make the surprising point that a jellyfish can stun a swimming human? If you chose (b), it’s true that jellyfish are “rhythmic,” but there’s nothing in the rest of the sentence to suggest that the topic is the jellyfish’s sense of rhythm. Is there?

17) D. Grace was stunned that her neighbor had the ___________ to inquire about borrowing her new lawnmower, considering the fact that he had broken her old one. This neighbor is not someone upon whom Grace looks kindly. In fact, when you read the sentence the first time, your “prediction” may have made you smile; if so, you’re on the right track. At one time, audacious people were said to have the “cheek” to ask or attempt something.

18) A. The radio show’s host seemed genial, but he often turned ___________ when provoked by guests who challenged his opinions. So, we’re looking for the opposite of “genial,” right?

19) C. The painter was ___________ over his lack of funds and his inability to sell any of his paintings, and his letters to his brother reflected his unhappiness. The SAT tries
mightily to steer us in the right direction. We’re looking for something like “unhappiness,” right? In fact, if we were to put “unhappy” into the blank, we’d be satisfied. Wouldn’t we?

20) **B.** Laboratories have been warned that provisions for water protection that in the past were merely ____________ will now be mandatory; ____________ of this policy will lose their federal funding. Two blanks, two clues: The first tells us that we’re looking for the opposite of “mandatory”; the second tells us about someone who will “lose federal funding”; according to the logical world of the SAT, one would only lose funding if one violates the terms of an agreement.

PLEASE RETURN TO PROBLEM 21 NOW

21) **C.** Scientists are studying the birth and growth of thunderstorms to discover what causes the difference between showers that enable crops to ____________ and ____________ storms that cause floods and erosions. When a sentence contrasts two things, the two things will be very different. So, “showers” tells us that the second blank will describe “not-harmless” storms. Similarly, “that cause floods and erosions” must be the opposite of what we need for the first blank. So, for the first blank we’re looking for something “nice,” and for the second something “nasty.”

22) **B.** Many of the misconceptions about Princess Diana were created by those who ____________ her most; in their efforts to ____________ her as a model of all virtues, they lost sight of the real woman. Would it be worth discussing if those who spread false, malicious rumors caused the misconceptions? No. So, we need something “unusual” for the first blank, which brings us down to (b), (c), and (d); next, what were they attempting to do? “As a model of all virtues” tells us it was something positive, which eliminates (c) and (d).

23) **A.** The ____________ of trees in Southeast Asia has caused the number of native tigers to ____________ sharply because they can live only where the forest is most dense. Here we have one clue that helps us fill both blanks. If the tigers can live only where the forest is dense, density of the forest is the issue, right? So, either the forest is getting denser or sparser, which makes sense to you? OK, so the forest is being cut away, which means that the environment is tougher on the tigers. Under such conditions, should we expect more tigers or fewer tigers?

24) **A.** Ignoring the growing accusations of ____________, Mayor Curley appointed yet another of his personal friends to a well-compensated government position. Here, you might be tempted to go with (e), but nepotism is always “in the family.”

25) **A.** The rumor was of the ____________ variety, spreading slowly and almost imperceptibly until, finally, everyone seemed to have heard the story. We deal with this sort of clue in the Definition TEN FOR TEN. Also, some of the vocabulary here is pretty tough—however, if nothing else, you should have been able to eliminate (b), which under no circumstances means anything like “slowly and almost imperceptibly,” and guess.
26) B. Mrs. Foster found it ironic that her eleven-year-old son, who made all A’s on his report card, was so ____________ at home, apparently unable to follow her most basic instructions concerning such commonsense matters as tidiness. Here we have another Antonym problem; to get A’s in school, one needs be able to follow instructions (and be pretty bright); so, here we’re looking for the opposite of “bright” and “responsive.” If you chose (c), note that by changing “unable” to “unwilling” the test maker could have pointed you toward that answer choice.

27) E. Tantra paintings from Ceylon are not only beautiful but ____________: in addition to their aesthetic value, they are used to facilitate meditation. Here’s a classic Definition problem. Whenever the blank is closely followed by punctuation, the word will be defined right after the punctuation. “They are used ...”

28) A. Suellen Byers’ character Sydney Rose appears ____________ but feels great anger: she ____________ her emotions with a mask of compliance. Two blanks, two clues. Sydney Rose must appear to be not angry; if she uses a mask it must be to hide her real feelings.

29) E. George Foreman was ____________ fighter: he inspired fear in many of his opponents. This one’s kind of easy to predict—we’re looking for something that means “scary.” So, even if you don’t know what all the words mean, I’m guessing you could get rid of (a) and maybe (b) and (c).

30) E. The visually captivating nature of Ludwig Mies van der Rohe’s designs suggests that the architect is a true ____________, infusing his designs with beauty as well as functionality. The sentence is telling us that Mies van der Rohe was an artist as well as a builder; so, we’re looking for a choice that says “artist.” The right choice, (e), is a word you should learn (it’s the noun form of “aesthetic,” which you probably know); however, it’s likely that, based upon your prediction, you were able to eliminate (a), (b), and (c).

31) C. Although the scientist claimed to have made a major breakthrough in his research, the evidence he offered as proof of his assertion was ____________ at best. If you say, “Steve claims that yogurt cures hives,” should we assume that you believe Steve’s claim? Of course not. Likewise, the author of this sentence doesn’t believe the scientist’s breakthrough was major.

32) C. There was no denying the candidate’s ____________, but her arguments were unsophisticated and ____________. Sometimes it’s easier to work on the second blank first. In that second blank we’re looking for a synonym (“and” is the clue) for “unsophisticated.” Clearly, choices (a) and (d)—as well as (e) if you know what “benign” means—don’t work. So, now we’re down to (b), (c)—and maybe (e). So, if her arguments were unsophisticated, what was remarkable about her? We wouldn’t say, “Bob is not interesting, but when he speaks he puts everyone to sleep.” So, we must be looking for a “surprise” word. If we haven’t done so before, we can now eliminate (e), since “indifference” to unsophisticated ideas wouldn’t surprise us. Do you know what “boorishness” means? It means bad manners.
33) C. The idea that people _______ their own reality or shape their experience based on previous subjective events is one of the fundamental _________ of social psychology. Sometimes you have to read a sentence a couple of times to get the idea the writer’s trying to communicate. As is often the case, we should look at the second blank first. Sciences like social psychology must have core beliefs (or axioms—note “the idea” at the beginning of the sentence). Now to the first blank—the “or” tells us that we’re looking at a synonym for “shape their experience.”

34) D. The notoriously _______ American actor John Barrymore was known for his _______ both on stage and off. Another synonym problem featuring tough vocabulary; however, here it’s hard to ignore “temperamental” (it’s a really long word), so we can eliminate every choice we know, leaving us (perhaps) with just the right choice, which is derived from the Latin for “actor.”

35) E. Rafael Kahlo’s novel consists of _______, so the reader must supply the invisible _______ binding such apparently _______ parts. The tough vocabulary here is in the sentence—what’s “discrete vignettes” mean? It helps to notice “binding” in the second half of the sentence. Why would we need to supply binding unless the “parts” didn’t hang together on their own? So, we’re looking for a word to put in the second blank that means, essentially, “in need of binding,” right?

36) D. Many of today’s physicians and patients are _______ high technology, _______ by computer-designed drugs and laser surgery. Couldn’t we put “captivated by” directly into the blank? Either you know which choice that’s right or you know two or three that are clearly wrong.

37) A. The filmmaker _______ projects, so many critics _______ that her latest effort was _______. Again, we see a sentence whose two parts are set up to oppose one another. Whatever kind of projects she normally chooses, she chose the opposite this time. So, we can eliminate (b), (c), and (d) immediately. Remember: On the SAT, the right answer fits perfectly. So, if you made a case for (e) and then picked it, don’t do that any more.

38) D. Refuting the claim that the surest way to reduce anger is to express it, the psychologist _______ anger _______. Other psychologists seem to “assert” that yelling at your mother will reduce your anger; what’s the opposite? Oh, if you yell at your mother you may actually get madder at her. That ever happen?

39) B. The language of Arnsley Finn’s poetry conveys an impression of _______ that can be misleading: just when a poem seems to be _______ routine feelings, the diction suddenly _______ to embody fresh and unexpected ideas. Look away from the blank to find the strongest clues. We’re looking for a synonym for “routine feelings,” right?

40) B. The world, accustomed to _______ whenever governments change hands, _______ anarchy and bloodshed; but the transition of power was remarkably _______. Here, again, we have two blanks that are “opposites.” If the world expected something (like anarchy and bloodshed; getting the pattern?), the opposite must have actually occurred.

PLEASE RETURN TO PROBLEM 41 NOW
41) A. Steven Jay Gould’s main **criticism** of the artist’s rendering of the ancient mammal’s physical appearance was that, **unsupported** by even a **little** of fossil evidence, the image was bound to be **appallingly**. We need a reason to criticize. Dr. Gould’s criticism must have been that the rendering was attempted “unsupported by even a **little** bit” (yes, you can use more than one word in your predictions) of fossil evidence. OK, the vocabulary is still tough. Let’s continue by trying to predict what goes in the second blank. If the evidence was incomplete, mustn’t any image based on that evidence be just a guess? So, we can eliminate any choices, like (b), (d), and (e), that clearly are on a different track.

42) B. There has been **little** **criticism** written about Warhol’s art; indeed, that which has been expressed is at the **two extremes**, either **appallingly** or **bitterly antagonistic**. Let’s go after the second blank first, since the first blank could be anything at this point. We’re looking for the opposite of “antagonistic,” no? So, we can get rid of (a) and (d). For the first blank, we need to find a word that means the opposite of “two extremes.”

43) A. Although the acreage involved in a national boundary dispute may seem **insignificant**, even the slightest **change** in a country’s **alleged border** appears **threatening** to that nation, a threat to its security. Again, let’s go after the second blank first. We’re looking for a synonym for “a threat to its security.” That eliminates (b) and (d). For the first blank, let’s note “alleged border.” Would we ever refer to something as “alleged” if we believed it was solid? (“This is my alleged friend ...”) So, we’re looking for something as “alleged” if we believed it was solid? (“This is my alleged friend ...”) So, we’re looking for something that suggests the border has been changed, right?

44) B. Currently rising temperatures in the Arctic and Antarctic are **indications** of a **warmer world** that could result from an excess of atmospheric carbon dioxide produced by the burning of oil, gas, and coal. Another tough vocabulary problem. It’s possible that you didn’t know any of the choices. When that happens, you have two options: Move on quickly, and on your way pick the scariest answer.

45) A. Their ideal was to combine individual liberty with material equality, a goal that **has not yet been realized** and that may be **as impossible** as changing lead into gold. If the goal “has not yet been realized,” it may be on the horizon or it may be impossible. Which one here? How successful have people been at “changing lead into gold”? Not very. So, success is unlikely. Which choices are irrelevant? I’d nominate (c) and (d), at the least.

46) D. He maintains that racial and cultural **generalizations** are **generalizations** no more related to what an individual is actually like than are the **representations** of constellations to the actual nature of a star. Can’t we look for a synonym for “generalizations” to solve the first blank? That would eliminate (a), (b), and (c). Also, (e) is pretty strange—cultural “specimens”? In a jar?

47) D. The CFO of the brokerage house, who had quit school at the age of 15, was a noted **self-taught**, having taught himself everything he needed to know about securities and business, in addition to **working to gain proficiency** in such subjects as international finance. The clue is clear (we’re looking for something like “self-teacher,” right?), but the vocabulary is difficult. However, I think we can all agree that choice (b) makes no sense at all.
48) A. The teacher asked the students to make sure they read the entire treatise, both the fourteen regular chapters and the extensive ________ materials that the author included at the beginning of the book. Why is it important that the materials are at the beginning of the book? Maybe because materials in the beginning of a book have a specific name. And no, “prophetic” doesn’t mean “predicting what’s on page 64.”

49) D. Because he felt intimidated in his new position, he was ________ divulging his frank opinions of company proposals. You probably came up with “scared of” for the blank—if so, great! It might have even pointed you toward the answer choice that contained “of.”

50) D. The test of truth is not ________, for we have often felt firmly convinced of many things that were not so. We’d like to find a synonym for, say, “firm conviction.”

PLEASE RETURN TO PROBLEM 51 NOW

51) B. Contemporary novelist Ruta Arledge is quite the opposite of ________; through the ability of her heroines to rise above tragic setbacks, she expresses the belief that people can take charge of their own destinies. Here, you probably knew that she was the opposite of someone who thinks that our destinies are controlled by fate. Wait a minute! A person who believes that our destinies are controlled by fate is called a “fatalist.” No kidding!

52) C. His inclination to succumb to flattery made him ________ to the ________ of people who wished to take advantage of him. So, the guy likes to be praised, which helps us to work on the second blank and eliminate (d) and (e). Now, would he be “immune,” “resistant” (note how similar “immune” and “resistant” are), or “susceptible”?

53) E. The ________ of Margaret Thatcher impressed her contemporaries: she seemed to know what dignitaries and foreign leaders were thinking. Here’s a synonym sentence in which all of the choices are tough. Perhaps you were able to eliminate “malevolence”? Maybe “consternation”? Then you guessed? Quickly? I hope?

54) B. Barbara’s distinguishing trait is her ________: she gives liberally to those less fortunate than herself. We’re looking for a synonym for “liberal giving.”

55) B. Gabrielle schemed and plotted for weeks and these ________ were rewarded when Marcus was fired and Gabrielle was promoted. Even though the vocabulary is tough, we know we’re looking for something like “schemes and plots.” That should be enough to eliminate at least (e), right?

56) E. Despite San Francisco’s large Asian community, Asian-American dance companies in that city are anything but ________; in fact, in 2005 there was only one, Rachman Studio. Here’s something that doesn’t come up too often, but when it does you can take full advantage. By now, you probably sense that all five answer choices in any set have to be the same part of speech; so, why here do we seem to have four adjectives and a noun (legion)? Maybe because “legion” is also an
adjective—look it up. In any case, if we were looking for a word that meant “seemingly everywhere,” we could have eliminated most of the other choices, right?

57) C. In effect, the Voting Rights Act of 1965 _____________ African-Americans in the Southern United States by outlawing restrictions that had barred them from voting. So, the Act helped African-Americans overcome restrictions to their right to vote. Any choice that isn’t closely related to voting must be wrong; so, we can eliminate (b) and (e). In America, “the franchise” is what we call the right to vote.

58) C. The poet brings out the _____________ of human being time and time again by _____________ their lives to the permanence of the vast Southwestern landscape. This is a tough problem, although one word, “permanence,” gives us all we need. Are humans permanent? No, which means that humans are unlike the landscape, which is permanent. So, the first blank must be something like “impermanence.” That eliminates (a), (b), and (e). Now, choice (c) says that the poet “contrasts,” while choice (d) says that she “likens.” If two things are unlike, we contrast them.

59) A. Wave direction, apparently the primary _____________ used by young manatees to navigate in water, is later _____________ by their orientation to magnetic fields. If we try to make sense of this sentence, we come up with something like “guide” for the first blank. That eliminates (e), at least. So, what happens later? The manatees are no longer using wave direction, but have switched over to magnetic fields. So, shouldn’t we look for a word like “replaced”?

60) B. Once an occasional liar, Simon has become _____________ one in that he lies habitually. There’s been a change in Simon’s approach to lying. He lies all the time now—eliminate (c). Note that the difference is not in intensity—eliminate (e).
PREVIEW  SC ADVANCED—SYNONYMS AND/OR ANTONYMS

Synonym/Antonym TECHNIQUE: This is an exercise in FIVE STEPS. Please make sure that you complete each step before moving on to the next one.

STEP 1: Please treat the problems on this page like Student Generated Responses—fill in the blanks with your own word or words. Yes! You can use more than one.

1) Marine biologist Michelle Singletary makes a career of expanding the limits of deep-sea mobility, making hitherto-impossible tasks ______________ through the new technology designed in her laboratory.

2) Misrepresentative graphs and drawings ___________ the real data and encourage readers to accept ______________ arguments.

3) The magician’s _____________ astonished us: her deft performance proved the old adage that the hand is quicker than the eye.

4) Since many teachers today draw on material from a variety of sources, disciplines, and ideologies for their lessons, their approach could best be called _______________.

5) Annoyed by the trainee’s excessively ______________ manner, the manager advised him that such toadying was inappropriate.

6) Two anomalies regarding her character are apparent: she is unfailingly ______________ yet bursting with ambition, and she is truly ______________ but unable to evoke reciprocal warmth in those with whom she works.

7) Kenneth Yao has been described as ____________ in body and mind because of the flexibility and grace apparent in both his swordsmanship and his writing of stories about competitive fencing.

8) Her colleagues respected her because she was both ______________ and ______________; steadfast in her beliefs and tactful in her discussions.

9) Some interactive computer games are so elaborately contrived and require such ______________ strategies that only the most ______________ player can master them.

10) Despite its apparent ________________, much of early Greek philosophical thought was actually marked by a kind of underlying dogmatism that led to ______________ assertions.
SC ADVANCED—SYNONYMS AND/OR ANTONYMS

STEP 2: Choose answers to the ten questions below. Remember, the right answer choice fits perfectly, so reject any choice that doesn’t. Also, your Plan B (as always) is... right, Scary Choice.

1. Marine biologist Michelle Singletary makes a career of expanding the limits of deep-sea mobility, making hitherto-impossible tasks _______________ through the new technology designed in her laboratory.
   (a) volatile  
   (b) feasible  
   (c) fantastic  
   (d) controversial  
   (e) tangential

2. Misrepresentative graphs and drawings __________ the real data and encourage readers to accept __________ arguments.
   (a) obscure ... legitimate  
   (b) complement ... unresolved  
   (c) illustrate ... controversial  
   (d) distort ... spurious  
   (e) replace ... esteemed

3. The magician’s ___________ astonished us: her deft performance proved the old adage that the hand is quicker than the eye.
   (a) insecurity  
   (b) adroitness  
   (c) hilarity  
   (d) tenacity  
   (e) discernment

4. Since many teachers today draw on material from a variety of sources, disciplines, and ideologies for their lessons, their approach could best be called _____________.
   (a) dogmatic  
   (b) impromptu  
   (c) invidious  
   (d) eclectic  
   (e) simplistic

5. Annoyed by the trainee’s excessively ____________ manner, the manager advised him that such toadying was inappropriate.
   (a) obsequious  
   (b) lackadaisical  
   (c) aggressive  
   (d) enigmatic  
   (e) inane

6. Two anomalies regarding her character are apparent: she is unfailingly ______________ yet bursting with ambition, and she is truly ______________ but unable to evoke reciprocal warmth in those with whom she works.
   (a) aspiring ... generous  
   (b) mercenary ... impartial  
   (c) impulsive ... resolute  
   (d) persistent ... reserved  
   (e) humble ... compassionate
7. Kenneth Yao has been described as ________ in body and mind because of the flexibility and grace apparent in both his swordsmanship and his writing of stories about competitive fencing.

(a) emphatic  
(b) tremulous  
(c) unyielding  
(d) fickle  
(e) lithe

8. Her colleagues respected her because she was both ________ and ________; steadfast in her beliefs and tactful in her discussions.

(a) resolute ... diplomatic  
(b) outspoken ... manipulative  
(c) tenacious ... demonstrative  
(d) determined ... indiscriminate  
(e) resourceful ... courteous

9. Some interactive computer games are so elaborately contrived and require such ________ strategies that only the most ________ player can master them.

(a) byzantine ... adroit  
(b) nefarious ... conscientious  
(c) devious ... lackadaisical  
(d) onerous ... slipshod  
(e) predictable ... compulsive

10. Despite its apparent ________, much of early Greek philosophical thought was actually marked by a kind of underlying dogmatism that led to ________ assertions.

(a) liberality ... doctrinaire  
(b) independence ... autonomous  
(c) intransigence ... authoritative  
(d) fundamentalism ... arrogant  
(e) legitimacy ... ambiguous

STEP 3: In the boxes below, please list your letter answer to each of the questions:

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

Now compare these answers to the correct answers listed at the top of the next page. Make an “X” in the box of any question you got wrong. IMPORTANT: Please don’t write down or “memorize” the right choice for any particular question.

STEP 4: Go back to any question you got wrong and work on it again while looking up the definitions of the answer choices in the glossary on the next page. Learn the definitions of the words that stumped you. Choose a new answer to each question you originally got wrong.

STEP 5: After you have re-answered the questions you originally got wrong, go to the Explanations page.
adroit: expert or nimble; skilful
aggressive: boldly assertive and forward
ambiguous: two or more possible interpretations; unclear
arrogant: overbearing and assuming; insolently proud
aspiring: seeking ambitiously
authoritative: having an air of authority; peremptory; dictatorial
autonomous: independent
byzantine: complex or intricate
captivate: to attract and hold the attention or interest of, as by beauty or excellence; enchant
compassionate: having or showing compassion
complement: something that completes or makes perfect
compulsive: governed by an obsessive need to conform and unable to express positive emotions
conscientious: meticulous; careful; painstaking
controversial: polemical; debatable
courteous: having or showing good manners; polite
deft: nimble; skilful; clever
demonstrative: given to exhibition or expression of one's emotions, especially of love or affection
determined: resolute; staunch
devious: circuitous; indirect
diplomatic: skilled in dealing with sensitive matters or people; tactful
discernment: acuteness of judgment or understanding
distort: to twist awry or out of shape
doctrinaire: dogmatic about others' acceptance of one's ideas; fanatical
dogmatic: asserting opinions in a doctrinaire or arrogant manner; opinionated
eccentric: diverse; miscellaneous
emphatic: using emphasis
enigmatic: perplexing; mysterious
esteemed: regarded highly or favorably
fantastic: odd and remarkable; bizarre; grotesque
feasible: probable; likely
fickle: not constant or loyal in affections
fundamentalism: strict adherence to any set of basic ideas or principles
hilarity: boisterous gaiety or merriment
hitherto: up to this time
humble: not proud or arrogant; modest illusory: to make clear or intelligible, as by examples or analogies
impromptu: improvised
impulsive: actuated or swayed by emotional or involuntary impulses
inane: silly; lacking sense
indiscriminate: random; unselective
insecurity: lack of confidence or assurance; self-doubt
intransigent: uncompromising
invidious: offensively or unfairly discriminating; injurious
lackadaisical: without interest or vigor
legitimacy: the quality of being legitimate
liberal: generous; breadth of mind
lithe: graceful (and physically slender)
manipulate: to manage or influence skilfully, esp. in an unfair manner
mercenary: working merely for reward
misrepresentative: that which represents incorrectly
nafarious: evil
obscure: to conceal by making dim or indistinct
obsequious: servilely compliant or deferential
onerous: burdensome
persistent: lasting or enduring tenaciously
predictable: something that may be predicted
reciprocal: mutual
reserved: self-restrained in manner or relationship
resolute: firmly resolved or determined; set in purpose or opinion
resourceful: able to deal with new situations
simplistic: oversimplified
slipshod: careless, untidy, or slovenly
spurious: not genuine
steadfast: loyal
tactful: considerate and discreet
tangential: merely touching; slightly connected
tenacious: persistently determined
tremulous: shaking because of fear
toady: behaving like a flunky or sycophant
unresolved: undecided; uncertain in opinion
unyielding: not bending; inflexible
volatile: explosive; explosive
First, this: All descriptive words are important. Please ask if this is in any way unclear.

1) B. The opposite of “hitherto-impossible” is “possible,” or feasible. If you weren’t able to get to the right answer, I hope you were able to get rid of (c) and (d) as irrelevant!

2) D. Here’s an opportunity to identify the blanks as either “good” or “bad” (actually, they’re both “bad,” right?). This technique allows you to eliminate any choice in which either word doesn’t conform to your prediction. “Misrepresentative” graphs would “misrepresent” the real data, right? Immediately, your choices should be down to (a) and (d).

3) B. Here, we can put the synonym “deft” into the blank. If that isn’t enough, the test gives us a second clue: “The hand is quicker than the eye.” So, even if you didn’t know the right answer, you could have eliminated (a), (c), and maybe (d)?

4) D. What’s your synonym clue? “A variety of sources, disciplines, and ideologies ....” So, if we’re looking for “a variety,” we can eliminate any choices we know doesn’t mean “a variety,” right? Perhaps (b) and (e)? And Plan B is ....

5) A. As we said earlier, all descriptive words are important. So, here, “toadying” must be the synonym clue. Did you look it up?

6) E. Two antonym words, “yet” and “but,” help us to move toward the right answer here. So, the first blank is the opposite of “bursting with ambition”; now, the second blank is more interesting, in that even though the clause is set up to create an antonym, to do so it uses a term and then the negative of a synonym for that term. So, in the second half, we need a word that means “warmth.”

7) E. The SAT will never leave you guessing as to what’s in the blank: You know that anytime you are familiar with the clue word(s) and the words in the choices you pick what you know is the right answer and then move on. So, here our clue words are “flexibility and grace”; so, if you don’t know the right answer, you can eliminate any answers that you know don’t mean “flexibility and grace.”

8) A. Just can’t get enough of sentences that display clear synonyms for both blanks. Here, we can put “steadfast” into the first blank and “tactful” into the second. Now, we can start eliminating choices on the basis of either word not matching “steadfast” or “tactful.”

9) A. Do you know what “elaborately contrived” means? If not, can you use your own experiences to help you? Have you ever played an interactive video game? Was it complicated? Were there many “moves” to master? So, we’re looking for words that suggest that to be a successful games player one has to move quickly and think several moves ahead. That would seem to eliminate (e)’s “predictable”; also, if you know the meaning of “lackadaisical” (lazy) and “slipshod” (sloppy), you could eliminate (c) and (d) as well.

10) A. “Apparent” is an antonym clue that tells us that the two parts of the sentence will contain opposites. At this point, you might realize that to solve the first blank you’ll have to know what goes into the second blank. So, let’s go there: We need a synonym for “unconscious dogmatism.” What’s “dogmatism”? Did you look it up on the previous page?
PREVIEW  WORD CLUES—SYNONYMS

As you may have figured out by now, I’m trying to persuade you to do your research inside the sentence before you jump to the answer choices. This group of sentences shows that the test maker often gives you actual words in the sentence you can re-use in the blank(s). Sometimes you have to change the part of speech of a word, but most often you can pop a “synonym” word from elsewhere in the sentence right into the blank as is.

Here’s the RULE: Whenever you see a sentence that seems to repeat itself, you will find a word that, with minimal changes, you can put directly into the blank.

This is an exercise in FIVE STEPS. Please make sure that you complete each step before moving on to the next one.

STEP 1: Please treat the problems on this page this like Student Generated Responses—fill in the blanks with your own word or words. Yes! You can use more than one—you can even re-use a word that’s elsewhere in the sentence.

1) The environment was truly ____________, so parched that even the hardiest plants could not stay alive.

2) Sidd Finch’s Throw Harder fills a void in the sports cartoon industry, a ____________ of comic strips representing minor league pitchers.

3) The bungling lawyer conducted the defense in such a ____________ way that his efforts were considered a[n] ____________, a slur on the standards of legal representation.

4) Mary Shelley’s Frankenstein centers on a scientist’s ____________, the overweening pride that makes him believe he can usurp nature.

5) Seemingly flooded with natural light, Elyse Ngobo’s watercolor looks as if it had been created with ____________ hues.

6) Maya tried hard to give up candy, but she found it especially difficult to ____________ caramel.

7) Silvio was ____________ by the critical article, regarding such negative assessments of his management style as extremely galling.

8) The soothing flow of the spokesman’s language became increasingly rhythmic; such ____________ oratory was quite mesmerizing.

9) A discerning publishing agent can ____________ promising material from a mass of submissions, separating the good from the bad.

10) The Earth’s seas support a[n] ____________ of marine creatures, an abundance that makes the seas teem with life and activity.
WORD CLUES—SYNONYMS

STEP 2: Choose answers to the ten questions below.

1) The environment was truly ____________, so parched that even the hardiest plants could not stay alive.
   (a) arid          (c) dappled          (e) vivid
   (b) lush          (d) stolid

2) Sidd Finch’s Throw Harder fills a void in the sports cartoon industry, a ____________ of comic strips representing minor league pitchers.
   (a) dearth        (c) diffusion       (e) consensus
   (b) spate         (d) alteration

3) The bungling lawyer conducted the defense in such a ____________ way that his efforts were considered a[n] ____________, a slur on the standards of legal representation.
   (a) clandestine ... setback
   (b) listless ... cornucopia
   (c) maladroit ... insult
   (d) rigorous ... manifestation
   (e) perspicacious ... fiasco

4) Mary Shelley’s Frankenstein centers on a scientist’s ____________, the overweening pride that makes him believe he can usurp nature.
   (a) obstinacy     (c) valor           (e) hubris
   (b) callousness   (d) impetuosity

5) Seemingly flooded with natural light, Elyse Ngobo’s watercolor looks as if it had been created with ____________ hues.
   (a) glossed       (c) evanescent      (e) baroque
   (b) portentous    (d) luminescent

6) Maya tried hard to give up candy, but she found it especially difficult to ____________ caramel.
   (a) savor         (c) extol            (e) absorb
   (b) forgo         (d) censure

7) Silvio was ____________ by the critical article, regarding such negative assessments of his management style as extremely galling.
   (a) encouraged    (c) spellbound      (e) annoyed
   (b) appeased      (d) bewildered
8) The soothing flow of the spokesman’s language became increasingly rhythmic; such ____________ oratory was quite mesmerizing.

   (a) adulatory  (b) ardent  (c) cadenced  (d) hollow  (e) intricate

9) A discerning publishing agent can ____________ promising material from a mass of submissions, separating the good from the bad.

   (a) overhaul  (b) supplant  (c) winnow  (d) finagle  (e) dramatize

10) The Earth’s seas support a[n] ____________ of marine creatures, an abundance that makes the seas teem with life and activity.

   (a) equilibrium  (b) melee  (c) profusion  (d) perpetuity  (e) model

**STEP 3:** In the boxes below, please list your letter answer to each of the questions:

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**STEP 4:** Go back to any question you got wrong and work on it again while looking up the definitions of the answer choices in the glossary on the next page. Learn the definitions of the words that stumped you. Choose a new answer to each question you originally got wrong.

**STEP 5:** After you have re-answered the questions you originally got wrong, go to the Explanations page.
**ANSWERS:**

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<th>A</th>
<th>2 A</th>
<th>3 C</th>
<th>4 E</th>
<th>5 D</th>
<th>6 B</th>
<th>7 E</th>
<th>8 B</th>
<th>9 D</th>
<th>10 C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>absorb: soak up</td>
<td>luminescent: emitting light not caused by incandescence</td>
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<td></td>
<td>abundance: plentiful or excessive quantity or supply</td>
<td>lush: luxuriant; opulent</td>
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<td>2</td>
<td>adulatory: with excessive flattery</td>
<td>maladroit: clumsy or inept</td>
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<td>3</td>
<td>alteration: a change; modification or adjustment</td>
<td>manifestation: perceptible or visible expression</td>
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<td></td>
<td>annoyed: disturbed or bothered</td>
<td>melee: confusion or turmoil</td>
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<td>4</td>
<td>appease: to satisfy, allay, or relieve; assuage</td>
<td>mesmerizing: spellbinding; fascinating</td>
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<td>5</td>
<td>ardent: intensely devoted, eager, or enthusiastic</td>
<td>model: a standard or example for comparison</td>
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<tr>
<td></td>
<td>arid: extremely dry</td>
<td>obstinacy: stubborn persistence</td>
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<td>6</td>
<td>baroque: extravagantly ornate, florid, and convoluted in character or style</td>
<td>overhaul: to make necessary repairs on</td>
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<td>7</td>
<td>bewildered: completely puzzled or confused; perplexed</td>
<td>overweening: presumptuously conceited, overconfident, or proud</td>
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<td>8</td>
<td>bungling: unskillful; awkward; clumsy</td>
<td>perpetuity: eternity</td>
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<td>9</td>
<td>cadenced: rhythmic</td>
<td>perspicacious: having keen mental perception and understanding</td>
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<td>10</td>
<td>callousness: insensitivity; lack of sympathy</td>
<td>portentous: ominously significant or indicative</td>
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<td></td>
<td>censure: strong disapproval; criticism</td>
<td>profusion: abundance</td>
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<td></td>
<td>clandestine: secret</td>
<td>rigorous: rigidly severe or harsh, as people, rules, or discipline</td>
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<td></td>
<td>consensus: general agreement or concord; harmony</td>
<td>savor: to give oneself to the enjoyment of</td>
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<td></td>
<td>cornucopia: an abundant, overflowing supply</td>
<td>setback: a reverse or defeat</td>
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<td>dappled: covered with spots</td>
<td>spate: a sudden flood or outpouring</td>
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<td>death: a lack or scarcity</td>
<td>spellbound: hypnotized; mesmerized</td>
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<td>diffusion: a spreading out (as of dropped marbles)</td>
<td>stolid: unemotional; impassive</td>
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<td></td>
<td>discerning: showing good or outstanding judgment and understanding</td>
<td>supplant: replace</td>
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<td>dramatize: to express or represent vividly, emotionally, or strikingly</td>
<td>valor: heroic courage; bravery</td>
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<td></td>
<td>encouraged: inspired with hope or confidence</td>
<td>vivid: full of life; lively; animated</td>
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<td></td>
<td>equilibrium: equal balance between any powers or influences</td>
<td>void: without contents; empty</td>
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<td></td>
<td>evanescent: vanishing</td>
<td>winnow: to separate or distinguish (valuable from worthless parts)</td>
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<td>extol: praise highly</td>
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WORD CLUES—SYNONYMS

1) A. So often you’ll find a synonym for the missing word elsewhere in the sentence. Here, the comma tells us that parched is a synonym of the word we’re looking for.

2) A. What’s a synonym for void? We know that it’s not (c), (d), or (e), right? Did you look up “dearth” and “spate”? If not, please do so now.

3) C. Here we need a synonym for bungling in the first blank and for slur in the second.

4) E. Overweening pride is over-the-top arrogance, the kind that the Greek gods used to punish severely and call hubris.

5) D. What’s special about the painting? Ah, natural light. Can we put “natural light” into the blank?

6) B. Can we try give up in the blank? While the vocabulary in the answer choices is still tough, even if you can’t single out the right answer, you can get rid of “savor” and “absorb.” Once you eliminate even one answer choice, are the guessing odds in your favor?

7) E. Do you know what galling means? If not, can we use any secondary clues in the sentence, such as “critical” and “negative”? If so, we can get rid of (a), (b), and (c), right?

8) B. Even if you don’t know what mesmerizing means, there is only one answer choice that even remotely suggests soothing flow or rhythmic.

9) D. Here we want a word that means separating the good from the bad, so we know that (a) and (e) don’t work.

10) C. Our first synonym clue is abundance; if that doesn’t do it, does the sea teem with life and activity help at all?
American writers Bret Harte (1836-1902) and Herman Melville (1819-1891) gradually approached, during their careers, a mood of total despair. Personal tragedies have been set forth to explain this development: the deaths of loved ones, the humiliation of family bankruptcies. These certainly are contributory causes, but the writings of Harte and Melville reveal that the despair is in a slow process of incubation from their earliest work, and that it is finally hatched by the growing political discords, moral conflicts, and economic problems of their age. It is not a despair of personal bereavement but of country—and ultimately of humanity—that manifests itself in their works.

The alcoholism of Herman Melville, the death of his sons, and his chronic mistreatment of his wife are agonizing as personal history. Our interest, however, is in the works that came out of these disasters. Literary critics are usually unable to say how an author’s experience is transformed into art. In Melville’s writings from 1875 onward, however, we can watch while he repeatedly tries and fails to make something of these experiences that were so vitally important to him—and finally we can see him fuse and transform them into a culminating work of art, the book of poems (published posthumously) titled Weeds and Wildings, and a Rose or Two.

1. The author of Passage 2 would most likely view the “contributory causes” mentioned in lines 7-8, Passage 1, as personal experiences that
   a. did not influence Melville’s literary output significantly
   b. affected Melville early rather than late in his career
   c. were less important than political, moral, and economic factors
   d. were of little interest to literary critics
   e. were eventually molded by Melville into a meaningful work

2. The metaphor in lines 9-13 (“the despair ... their age”) is central to the overall argument of Passage 1 in its suggestion of
   a. literary creativity
   b. gradual development
   c. timeless artistry
   d. reluctant acknowledgement
   e. culminating achievement

3. Both authors agree that Melville
   a. deplored societal and human tendencies
   b. endured painful personal loss
   c. was deeply affected by literary critics
   d. endured hardships much like those of Harte
   e. revealed pessimism in his earliest writings

4. The author of Passage 1 would most likely regard the “personal history” (line 19, Passage 2) as
   a. essential knowledge for any reader of Melville’s work
   b. more distressing than the personal difficulties experienced by Bret Harte
   c. inconsistent with the tone and character of Melville’s literary output
   d. less important than public events as an influence on Melville’s writing
   e. instrumental in making Melville a unique American writer
PAIR B

PASSAGE 1

The first three years of life appear to be a crucial starting point—a period particularly sensitive to the protective mechanisms of parental and family support. For millennia, parents have recognized the newborn’s basic need for safety, nourishment, warmth, and nurturing. Now science has added stunning revelations about human development from birth to age three, confirming that parents and other adult caregivers play a critical role in influencing a child’s development. No other period of human life is as suited to learning as are a child’s first three years. Babies raised by caring, attentive adults in safe, predictable environments are better learners than those raised with less attention in less secure settings.

PASSAGE 2

Much early childhood literature suggests that the first three years of life are the critical years for brain development. Yet new findings in neuroscience suggest that the brain retains its ability to reorganize itself in response to experience or injury throughout life: after the loss of sensory input from an amputated limb, for example, adults are able to learn new motor skills effectively. It may be useful to question the simplistic view that the brain becomes unbendable and increasingly difficult to modify beyond the first few years of life. If so, we should also be wary of claims that parents have only a single, biologically delimited, once-in-a-lifetime opportunity to help their children build better brains.

5. Which best expresses the relationship between Passage 1 and Passage 2?
   a. Passage 2 urges particular changes as a result of the findings described in Passage 1.
   b. Passage 2 mocks those who support the argument presented in Passage 1.
   c. Passage 2 offers a personal anecdote that casts doubt upon the beliefs espoused in Passage 1.
   d. Passage 2 questions an assumption underlying the ideas expressed in Passage 1.
   e. Passage 2 provides a scientific explanation for the examples cited in Passage 1.

6. Passage 2 as a whole suggests that its author would most likely react to lines 11-13 in Passage 1 (“No other ... years”) with
   a. indignation
   b. skepticism
   c. humor
   d. ambivalence
   e. approval

7. Both authors agree with which of the following statements?
   a. The brain becomes increasingly inflexible as a person grows older.
   b. Adults can bounce back from injuries as readily as children can.
   c. Children raised by attentive parents are generally good learners.
   d. It is widely acknowledged that the first three years are important to a child’s development.
   e. Most scientists have recently changed their views about human development prior to age three.

8. Lines 4-11 of Passage 1 (“For millennia ... development”) draw a parallel between
   a. traditional practices and contemporary critiques
   b. basic human needs and intellectual endeavors
   c. widespread beliefs and scientific findings
   d. parental anxieties and developmental advances
   e. experimental hypotheses and proven theories
PASSAGE 1

Does science fiction serve a useful purpose? I cannot see much justice in the repeated claims that it sugars the pill of a scientific education: most of the science is wrong anyway, and its amount is such that one might as well be reading Westerns in the hope of finding out about ranching methods. Science fiction’s most important use, I submit, is as a means of dramatizing social inquiry, of providing a fictional mode in which cultural tendencies can be isolated and judged. Many a trend hound would be surprised and perhaps mortified to discover how many of his or her cherished insights are common ground in science fiction.

9. Both passages express the view that science fiction is
   a. predictably insightful
   b. chillingly realistic
   c. artistically pleasing
   d. socially useful
   e. widely understood

PASSAGE 2

15 Much of the science in science fiction is hokum; some of it is totally wrong. But beneath all the surface trickery of science fiction, there is a general respect for science and some appreciation of its methodology, which is probably more important than the facts that can be found in a textbook. And because science fiction combines scientific elements with stories involving people and relationships, the genre serves as a link between the culture of the humanities and arts on the one hand, and of science and technology on the other. Younger readers of science fiction, not firmly fixed in either culture, absorb both scientific and humanistic elements from their readings. Thereafter, neither culture can be quite so strange.

10. The attitude of each author toward the genre of science fiction might best be described as
    a. unabashed admiration
    b. qualified appreciation
    c. open amusement
    d. veiled distaste
    e. utter contempt
SHORT PAIRED PASSAGES—CROSSFIRE

Please keep the Paired Passages Companion handy when working through these passages. Although the passages are short, it is still best to (1) identify the common subject matter and (2) underline portions of each passage that distinguish each passage from its companion.

Reading the questions before working through the passages might or might not be helpful. It’s important that you try doing so in practice to see whether this technique works for you.

Often, questions in the Crossfire section will ask how the author of one passage would view a statement made in the other passage. When that’s the case, if our only resource is a mini-passage, mustn’t the correct answer reflect the Intention of the referenced author?

Pair A explores the effects of personal tragedy in the lives of two American writers on those writers’ literary output. Common theme: Causes of depression and despair in Herman Melville’s life, and how Melville incorporated that despair into his art

1. **E.** Remember, this question asks us how the author of Passage 2 would view a statement in Passage 1. As I said above, in passages this short we really can only restate each author’s Intention. Happily, doing so leads us to right answers in “Crossfire” questions such as this one. The author of Passage 2 makes a point that Melville eventually was able to use his personal tragedy to create art. Since the writers’ common Intent is to discuss hardship in famous authors’ lives, we can eliminate answer choices, like (c) and (d), that miss the point entirely.

2. **B.** Even when you’re asked what a portion of a passage “suggests,” be assured that the correct answer will be a literal translation of the text. The SAT wants to know whether or not you can translate a metaphor into plain language. We’re told that “their despair is in a slow process of incubation,” which means that it either involved chickens or was in the process of “gradual development.” Please note how general choices (a) and (c) are—such answers should be easy to eliminate.

3. **B.** Answers to “both authors agree” questions tend to be very general. Since we identify the common subject matter for every set of paired passages (see Paired Passages Companion), here’s the type of question that pays off our efforts immediately. If you avoided (b) because it was “obvious” and you didn’t want to be tricked, we need to have a talk.

4. **D.** In a similar manner to question 1, this question asks us how the author of Passage 1 would view a statement in Passage 2. So, shouldn’t we find an answer that reflects the Intention of Passage 1? “It is not a despair of personal bereavement but of country ... that manifests itself in their works.”
**Pair B** offers differing attitudes toward human development. Common theme: **A human’s first three years are very important to brain development**

5. **D.** Paired passages, as we have discussed, are written around a common theme (identified above). Note how **Reasonable** both passages here are; is it likely that either of the authors would take a position toward the other that is strident or belittling? No. In fact, choice (d) is a classic **right SAT answer.** (Questioning an assumption, which is the invisible thread by which an arguer ties conclusion to evidence, merely points out that the evidence may not be fully relevant to the conclusion it is intended to support.) Choice (c) would be a Reasonable choice if there were an anecdote (short informal story) in Passage 2.

6. **B.** Since the authors will nearly always disagree on some point (but never with malice), is it becoming evident how a choice like “**skeptical,**” which merely raises an eyebrow without overtly demeaning the other point of view, will often be right? Please note that when you’re asked about an author who has taken an adversarial position, the two “**attitude**” answer choices most likely to be correct will be “skepticism” and “criticism.”

7. **D.** The Explanation for question 3 discusses how, if you adopt the Maine Prep methods for Paired Passages, the right answers can seem to jump out at you. If you chose (e), you might argue that it’s probably true; however, you should be disappointed with yourself because (e) is never stated, and we know that in order to be right, we have to be able to see the choice supported in the passage (and not just in our imaginations).

8. **C.** This question asks for a parallel, not a distinction. For years, people believed certain things about early childhood. Turns out they were right. If you chose (b), we know about the needs, but what on earth are the “intellectual endeavors”?

**Pair C** explores differing opinions on the literary and scientific merits of science fiction. Common theme: **Although there is much to scoff at in science fiction, the genre does provide a less threatening way for writers to examine current social conditions.**

9. **D.** As we pointed out in our passages summary, above, both of these passages can be tricky, since each seems to start out with a negative attitude toward science fiction. Choice (a) is a contradiction in terms, which makes it easy to eliminate. Choice (c) clearly goes against the spirit of the passages.

10. **B.** Just as question 6 introduced us to a classic correct negative SAT choice, here we are looking for something positive but not too positive to be Reasonable. It’s important that you gauge how swiftly you can read passages without missing the authors’ main points. Many test takers are misled by the opening sentences in both these passages; since they assume that passage authors never change direction, the test takers choose a negative choice here. In any case, both passages appreciate science fiction because it is “socially useful.” Choices that would never be right on the SAT: (a), (c) (translated, this means “laughing at”), and (e). All are way too strong. As for “veiled distaste,” imagine acting it out....
THE BEST OF INTENTIONS A

When you make the effort to discover each author’s Intention, many Critical Reading questions will answer themselves. Please keep the Passages Companion nearby, and refer to it as often as you’d like, as you work through this exercise. By the time you’re finished, you will clearly understand how to use the Author’s Intention to separate right from wrong answer choices.

Following are opening segments from real SAT passages. Please put an “I” for Inform, a “P” for Persuade, or an “R” for Reveal in the blank opposite each passage. Then answer the single question that accompanies each passage. Getting the intention right is your goal—the question is there for amusement purposes only.

Please indicate in the blanks below your choice for each author’s Intention.

1) The following passage is from a 1994 novel about a young woman named Sophie who at age eleven had left Haiti to join her mother in New York.

I was eighteen and going to start college in the fall. We moved to a one-family house in a tree-lined neighborhood; my mother continued working her two jobs, but she put in even longer hours.

Before the move, I had been going to a Haitian Adventist school. They guaranteed that they would get me into college and they had lived up to their pledge. My mother couldn’t have been happier. Her sacrifices had paid off.

I never told my mother that I hated the bilingual institution. It was as if I had never left Haiti. All the lessons were in French, except for English composition and literature classes.

When my mother was home, she made me read out loud from the English Composition textbooks. The first words I read sounded like rocks falling in a stream.

Sophie “hated” her school because

(a) she resented how hard her mother had to work to send her there
(b) she had little exposure to English
(c) it was in a neighborhood that seemed foreign and unfriendly
(d) the courses were too difficult
(e) the teachers were intolerant of her language errors.

2) The following passage was adapted from an account by two scientists about the emergence of genetics, the science of inherited traits.

You have seen them in movies: scientists who are infallible and coldly objective—little more than animated computers in white lab coats. They take measurements and record results as if the collection of data were the sole object of their lives. The assumption: If one gathers enough facts about something, the relationships between those facts will spontaneously reveal themselves.

Nonsense!

The myth of the infallible scientist evaporates when one thinks of the number of great ideas in science whose originators were correct in general but wrong in detail.

The word “Nonsense!” conveys the extent to which the authors

(a) object to the tendency of scientists to rely on existing data
(b) reject the way in which scientists are portrayed in the media
(c) are amused at the accidental nature of some scientific findings
(d) oppose the glorification of certain scientists at the expense of others
(e) realize the necessity of objectivity in research
3) First published in 1976, the following passage discusses W.E.B. DuBois and Marcus Garvey, two leaders of the Black American community in the 1910’s and 1920’s.

The concept of two warring souls within the body of the Black American was as meaningful for DuBois at the end of his years as editor of *Crisis*, the official journal of the National Association for the Advancement of Colored People (NAACP), as when he had first used the image at the start of the century. The tension between race pride and identification with the nation as a whole was nowhere more dramatic than in the most controversial editorial ever printed in *Crisis*, “Close Ranks,” which in July 1918 called on Black Americans to “forget our special grievances and close our ranks” with the White people “fighting for democracy” during the First World War.

4) The following passage is from the introduction to a catalog of a recent museum exhibit of fake artworks and other kinds of forgeries.

Why, if what we value from a work of art is the aesthetic pleasure to be gained from it, is a successfully deceptive fake inferior to the real thing? Conscious of this problem, some have attempted to deny the importance of authorship. The great collector and scholar Richard Payne Knight, after discovering that an antique miniature of the Roman goddess Flora might be a modern forgery, told the dealer who had sold it to him that it did not matter whether it was old or new, since its beauty was unaffected by its age. Similarly, the purchasers of a supposedly Renaissance bust of Lucrezia Donati expressed their pleasure, on discovering that it was a fake, that an artist of such talent was still alive. Indeed, in 1869 the Victoria and Albert Museum acquired the bust as an example of a forgery of exceptional quality, and at a price comparable to that paid for genuine Renaissance pieces. But it would be unwise to expect museums, dealers, or private collectors to take that attitude today. What most of us suspect—that aesthetic appreciation is not the only engine of the art market—becomes evident when a well-known work of art is revealed as a fake. The work may not change in appearance, but it loses its value as a relic. It no longer provides a direct link to an artist of genius; it ceases to promise either spiritual refreshment to its viewer or status to its owner. Even though the work in question remains physically unaltered, our response to it is profoundly changed.

5) The following passage is an excerpt from a translation of a novel written in Spanish by an author from Colombia. In a fanciful manner, the novelist portrays the townspeople of an isolated village.

Dazzled by so many and such marvelous inventions, the people of Macondo did not know where their amazement began. They stayed up all night looking at the pale electric light bulbs fed by the electric plant that Aureliano Triste had brought back when the train made its second trip, and it took time and effort for them to grow accustomed to its obsessive noise.

They became indignant over the living images that the prosperous merchant Bruno Crespi projected on the screen in the theater with the lion-head ticket windows, for the character...
who had died and was buried in one film, and for whose misfortune tears of affliction had been shed, would reappear alive and transformed into an Arab sheik in the next one. The audience, who paid two cents apiece to share the difficulties of the actors, would not tolerate such an outlandish fraud and they broke up the seats.

6) The following passage discusses “evidence” in scientific research.

A woman from New Orleans who read the article on ravens that I wrote when I had just started to investigate whether and how ravens share, wrote me: “I did not have so much trouble as you did in showing that ravens share. I see them at my feeder—they even feed one another.” There are no ravens in New Orleans, or anywhere else in Louisiana. Perhaps what she actually saw were several large dark birds (crows? grackles?), one of which fed another one or two (probably their grown offspring traveling along with them). People commonly confuse personal interpretations with factual observations.

7) The following passage is excerpted from a novel about a Chinese American woman named June. During a family dinner party attended by some of June’s Chinese American friends, Waverly, a tax attorney, discusses an advertisement that June wrote for her.

Waverly laughed in a lighthearted way. “I mean, really, June.” And then she started in a deep television-announcer voice: “Three benefits, three needs, three reasons to buy . . . . Satisfaction guaranteed . . . .”

She said this in such a funny way that everybody thought it was a good joke and laughed. And then, to make matters worse, I heard my mother saying to Waverly: “True, one can’t teach style. June is not sophisticated like you. She must have been born this way.”

I was surprised at myself, how humiliated I felt. I had been outsmarted by Waverly once again, and now betrayed by my own mother.

8) The following passage, which is from a novel, the narrator has been reading letters of his grandmother, Susan Ward, and is reflecting on the meaning of certain events in her life. In about 1880, Susan Ward was a young woman—a writer and a mother— whose husband Oliver was working as a mining engineer in Leadville, in the West. Here, the narrator imagines Susan Ward as she spends the winter with her family in Milton, New York, before rejoining her husband in the spring.

From the parental burrow, Leadville seemed so far away it was only half real. Unwrapping her apple-cheeked son after a sleigh ride down the lane, she had difficulty in believing that she had ever lived anywhere but here in Milton.

She felt how the placid industry of her days marched the placid industry of all the days that had passed over that farm through six generations. Present and past were less continuous

6. ______________

The author’s primary purpose in the passage is to

(a) assert the superiority of one approach to evaluating evidence
(b) consider sympathetically both sides of an argument
(c) convey an impression of a memorable experience
(d) explain a complex hypothesis
(e) propose a new solution to an old problem

7. ______________

In the context of the passage, the statement “I was surprised at myself” (line 10) suggests that June

(a) had been unaware of the extent of her emotional vulnerability
(b) was exasperated that she allowed Waverly to embarrass her in public
(c) was amazed that she could dislike anyone so much
(d) had not realized that her mother admired Waverly
(e) felt guilty about how much she resented her own mother

8. ______________

It can be inferred that Ward “did not have to come at her grandparents through a time machine” because

(a) her parents had frequently told her stories of them
(b) she was deeply immersed in the history and literature of the period of their lives
(c) her life in Milton closely resembled theirs
(d) as a writer she could intuitively sense their lives

THE BEST OF INTENTIONS A

6/20/09

MAINE PREP
than synonymous. She did not have to come at her grandparents through a time machine. Her own life and that of the grandfather she was writing about showed her similar figures in an identical landscape. At the milldam where she had learned to skate she pulled her little boy on his sled, and they watched a weasel snow-white for winter flirt his black-tipped tail in and out of the mill’s timbers. She might have been watching with her grandfather’s eyes.

9) The following passage is from a memoir written first published in 1992 by a Japanese American woman whose mother was raised in Japan.

Once, in a cross-cultural training manual, I came across a riddle. In Japan, a young man and woman meet and fall in love. They decide they would like to marry. The young man goes to his mother and describes the situation. “I will visit the girl’s family,” says the mother. “I will seek their approval.” After some time, a meeting between mothers is managed. The boy’s mother goes to the girl’s ancestral house. The girl’s mother has prepared tea. The women talk about the fine spring weather: will this be a good year for cherry blossoms? The girl’s mother serves a plate of fruit. Bananas are sliced displayed in an exquisite design. Marriage never mentioned. After the tea, the boy’s mother goes home. “I am so sorry,” she tells her son. “The other family has declined the match.”

In the training manual, the following question was posed. How did the boy’s mother know the marriage was unacceptable? That is easy, I thought when I read it. To a Japanese, the answer is obvious. Bananas do not go well with tea.

All of my life, I have been fluent in communicating through discordant fruit…

10) In the following passage, a painter and sculptor from the United States recounts her first visit to Paris, made when she was in her sixties.

January 19: I fly on the night of January 23rd. I know that as my foot crosses the threshold of the airplane, my spirit will lift. In my guidebook I have scouted out the topography of Paris so that when I arrive I can align myself north, south, east, west. And I continue to review my French. French money is engraved with the portraits of artists: Delacroix, de La Tour, Montesquieu, Debussy; I am astounded, and catch a distant trumpet of an entirely new point of view. I wonder if, by way of similar extraordinary facts that I cannot predict, I may feel more at home in Europe than on my deeply loved stretches of land in the United States. Something stubborn in me hopes not, and in recognizing that part of me I suddenly know why I never sought out Europe when, for years of my life, I had ample opportunity: I am afraid of its wisdoms, leery of challenge to the little developments of my own that I have struggled for and the independence of which I cherish, perhaps inordinately.

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9. The “plate of fruit” in the anecdote serves primarily as
(a) a sign that the young woman’s mother is a generous host
(b) an example of the family’s goodwill
(c) a symbol of affection
(d) a means of communication
(e) an opportunity to display good taste

10. The passage creates an impression of the author as a person who is
(a) timid and indecisive
(b) bitter and full of regrets
(c) thoughtful and introspective
(d) headstrong and impetuous
(e) jovial and gregarious

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* Anecdote: a short personal account of an incident or event
CRITICAL READING—THE BEST OF INTENTIONS

In the Passages Companion, we have discussed how SAT authors pursue one of three agendas: to Inform, to Reveal, or to Persuade. Please keep the Companion nearby and refer to it when reviewing your answers.

1. **B. Author’s Intention: Reveal.** Autobiography, in which the author is also the subject, and first-person fiction (in which the subject character in the book also tells the story) make up the Reveal passages. Reveal is special because the author can be (a) very self-critical and (b) much more emotional. Only a Reveal passage would include a line like, “I hated the bilingual institution.” Because she’s not trying to convince us to share her opinion, she doesn’t need evidence to back it up.

2. **B. Author’s Intention: Persuade.** Do these authors have a strong and identifiable point of view? Here, the single word, “Nonsense!” tells us, “Yes!” So, what’s “nonsense”? It must be something that the authors have already mentioned, right? All we’ve read so far is about how scientists are portrayed in the movies.

3. **C. Author’s Intention: Inform.** In nearly all cases, essays that are written about things that happened long ago will Inform, rather than Persuade. In the italicized introduction, we are told that the author “discusses,” which usually means “presents,” various information about DuBois and Garvey. As so often happens, the author clarifies the identity of the “two warring souls” in the next sentence: “The tension between race pride and identification with the nation as a whole ...”

4. **D. Author’s Intention: Inform.** The author discusses how a successful fake can thrill some collectors yet frustrate others to whom authenticity is important. However, the author does not take a stand as either for or against fakes as art. As for the question, note the last sentence in this excerpt: “Even though the work in question remains physically unaltered, our response to it is profoundly changed.”

5. **C. Author’s Intention: Inform.** All third-person fiction, even that in which the author knows characters’ inmost thoughts, is Inform. Next, we need to ask, “Informing about what?” This author is Informing us about how the village’s citizens reacted to the introduction of technology. About the way one would expect—human beings are leery of change. What caused the audience to riot? As the author states, “the character who had died and was buried in one film, and for whose misfortune tears of affliction had been shed, would reappear alive and transformed into an Arab sheik in the next one.” So, clearly, the audience thought that what was happening on screen was real.

6. **A. Author’s Intention: Persuade.** Putting “evidence” in quotes in the introduction clues us into the author’s Intention. Knowing that the author is dubious about how some people interpret “evidence” leads us to the correct answer. Note that choices (b) and (d) would be appropriate in an Inform passage.

7. **A. Author’s Intention: Reveal.** Reveal passages let us see the writer’s most intimate feelings—feelings that exist by themselves without needing to be blamed on some outside stimulus. June is hurt by her mother’s remark, yet what’s surprising is how
deeply she’s hurt, which suggests that June was not aware of how badly she might react to a cutting remark (from anyone). Note that if the author wanted to blame her (June’s) feelings on the actions of others, she’d be playing the victim; those who “play the victim” are inherently not interesting (because blaming their troubles on others hides their true feelings), so successful writers (like those who are excerpted in the SAT) don’t do so.

8. **C. Author’s Intention: Inform.** All third-person fiction is Inform. (Please note that although this narrator is a character in the novel, in this excerpt he not describing his own life but that of his grandmother—if that fact is news to you, it’s clear that you didn’t read the italicized introduction—do so in the future, OK?) Our next question has to be: “Informing about what?” Here, the narrator imagines what it would be like to see his current geography through his grandmother’s eyes, as she saw it through her grandfather’s. As the passage states: “[Susan Ward] did not have to come at her grandparents through a time machine. Her own life and that of the grandfather she was writing about showed her similar figures in an identical landscape.”

9. **D. Author’s Intention: Reveal.** The author discusses how in a culture where direct communication can upset people she has learned to communicate indirectly. The story she relates, in which no words are necessary between the two mothers because “bananas do not go well with tea,” illustrates her claim that, “All of my life, I have been fluent in communicating through discordant fruit. . . .”

10. **C. Author’s Intention: Reveal.** An abundance of the first person leaves no doubt that this is a Reveal passage. The accompanying question is one that you’ll see a version of quite often: “What kind of person is the author?” I can tell you for a certainty that choices (b) and (d) will never be right on any SAT (because the author will never be “bitter” and because “headstrong and impetuous” are the kind of judgments that we would need at least one more perspective to assess. Next, although the author may think of herself as “timid and indecisive” (a), we know that she’s daring to do something she’s always feared, which means that if she was timid years ago, that time is over. Now that we think about it, though, if on the SAT you always pick some version of “thoughtful and introspective,” don’t you think you’ll have a great shot at getting the question right? I do.
THE BEST OF INTENTIONS B

When you make the effort to discover each author’s Intention, many Critical Reading questions will answer themselves. Please keep the Passages Companion nearby, and refer to it as often as you’d like, as you work through this exercise. By the time you’re finished, you will clearly understand how to use the Author’s Intention to separate right from wrong answer choices.

Following are opening segments from real SAT passages. Please put an “I” for Inform, a “P” for Persuade, or an “R” for Reveal in the blank opposite each passage. Then answer the single question that accompanies each passage. Getting the intention right is your goal—the question is there for amusement purposes only.

Please indicate in the blanks below your choice for each author’s Intention.

1) The following passage is adapted from a book published in 1990. It is about unusual scientific enterprises that to some seemed impossible.

Gerald Feinberg, the Columbia University physicist, once went so far as to declare that “everything possible will eventually be accomplished.” He didn’t even think it would take very long for this to happen: “I am inclined to put two hundred years as an upper limit for the accomplishment of any possibility that we can imagine today.”

Well, that of course left only the impossible as the one thing remaining for daring intellectual adventurers to whittle away at. Feinberg, for one, thought that they’d succeed even here. “Everything will be accomplished that does not violate known fundamental laws of science,” he said, “as well as many things that do violate those laws.”

So in no small numbers scientists tried to do the impossible. And how understandable this was. For what does the independent and inquiring mind hate more than being told that something just can’t be done, pure and simple, by any agency at all, at any time, no matter what. Indeed, the whole concept of the impossible was something of an affront to creativity and advanced intelligence, …

If the claim made by Feinberg in the second paragraph should turn out to be true, which of the following must also be true?

(a) Science works by great leaps, not little steps.
(b) Scientists will work harder than they do today.
(c) Scientists’ knowledge of laws is incomplete.
(d) The rate of scientific discovery will decrease.
(e) The definition of the impossible will remain constant.

2) The following passage is from a book by an African American woman who is a law professor.

This semester I have been teaching a course entitled Women and Notions of Property. I have been focusing on the ways in which gender affects individuals’ perspectives—gender in this instance having less to do with the biology of male and female than with the language of power relations, of dominance and submission, of assertion and deference, of big and little. An example of the stories we discuss is the following, used to illustrate the rhetoric of power relations.

Walking down Fifth Avenue in New York not long ago, I came up behind a couple and their young son. The child, about four or five years old, had evidently been complaining about big dogs. The mother was saying, “But why are you afraid of big dogs?” “Because they’re big,” he responded with eminent good sense. “But what’s the difference between a big dog and a little dog?” the father persisted. “They’re big,” said the child. “But there’s really no difference,” said the mother, pointing to a large, Pekingese and wolfhound.

The description of the Pekingese and wolfhound in paragraph 2 serves primarily to

(a) defuse a tense situation with humor
(b) discredit what the parents are saying
(c) emphasize the dogs’ resemblance to their owners
(d) suggest that dogs are more sensible than humans
(e) illustrate a legal concept regarding pet ownership
slavering wolfhound with narrow eyes and the calculated amble
of a gangster, and then to a beribboned Pekingese the size of a
roller skate, who was flouncing along just ahead of us all, in that
little fox-trotty step that keeps Pekingeses from ever being taken
seriously. “See?” said the father. “If you look really closely you’ll
see there’s no difference at all. They’re all just dogs.”

And I thought: Talk about a static, unyielding, totally
uncompromising point of reference. These people must be
lawyers. Where else do people learn so well the idiocies of High
Objectivity? How else do people learn to capitulate so uncritically
to a norm that refuses to allow for difference? How else do
grown-ups sink so deeply into the authoritarianism of their own
world view that they can universalize their relative bigness so
completely as to obliterate the viewpoint of their child’s relative
smallness?

I use this story in my class because I think it illustrates a
paradigm of thought by which children are taught not to see
what they see; by which African Americans are reassured that
there is no real inequality in the world, just their own bad …

3) The following passage is adapted from an essay on women and writing
by a noted contemporary American poet.

As I tried to understand my dual roles of writer and mother,
I realized that most, if not all, human lives are full of fantasy—
passive daydreaming that need not be acted on. But to write
poetry or fiction, or even to think well, is not to fantasize, or
even to put fantasies on paper. For a poem to coalesce, for a
character or an action to take shape, there has to be an
imaginative transformation of reality that is in no way passive.
And a certain freedom of the mind is needed—freedom to press
on, to enter the currents of your thought like a glider pilot,
knowing that your motion can be sustained, that the buoyancy of
your attention will not be suddenly snatched away. Moreover, if
the imagination is to transcend and transform experience, it has
to question, to challenge, to conceive of alternatives, perhaps to
the very life you are living at that moment. You have to be free
to play around with the notion that day might be night, love
might be hate; nothing can be too sacred for the imagination to
turn into its opposite or to call experimentally by another name.
For writing is renaming. Now, to be maternally with small
children all day in the old way, to be with a man in the old way of
marriage, requires a holding back, a putting aside of that
imaginative activity, and demands instead a kind of conservatism.
I want to make it clear that I am not saying that in order to write
well, or think well, it is necessary to become unavailable to
others, or to become a devouring ego. This has been the myth of
the masculine artist and thinker, and I do not accept it. But to be
a female human being trying to fulfill traditional female functions
in a traditional way is in direct conflict with the subversive
function of the imagination.

The author suggests that, in the future, women writers who are
caring for small children will have the opportunity to

(a) join two tasks into a single
    effort that requires little
    attention
(b) integrate two pursuits in a
    way that enhances both
    experiences
(c) identify two roles as a means
    of choosing one role over
    the other
(d) articulate two impulses that
    have become
    indistinguishable
(e) obtain the formal training
    necessary to accomplish two
    goals
4) **The following passage is about Black American fiction and the Romantic literary tradition.** The Romance novel is a literary form that took shape during the eighteenth and nineteenth centuries. Different from the sentimental, escapist writing often described as romantic, Romance novels focus on the heroic dimensions of life, using symbolism to express abstract ideas.

During the nineteenth century, the traditional Romance became an important mode of expression for many Black American writers. A frequent characteristic of Romantic writing is the use of historical material; Black writers have used this genre to transform an often harsh historical reality into an imagined world ruled by their own ethical vision. In transforming history into fiction, Romantic writers have given their work a mythic quality that deepens the significance of plot, character, and historical event.

*Clotel*, a novel written in 1853 by William Wells Brown, is an early example from this romantic tradition. *Clotel*’s heroes are idealized, fighting slavery through superhuman action, and are used to convey a complex political message.

5) **The following passage is from a book written by a Chinese American woman about Chinese American women writers.**

The question of one’s identity is at the same time a simple and very complex issue. Is one to be identified by one’s race, nationality, sex, place of birth, place of death, place of longest residence, occupation, class, relationships to others, personality traits, size, age, interests, religion, astrological sign, salary, by how one perceives oneself, by how one is perceived by others? When born to parents of different races or nationalities, or when born in one country, reared in another, and finally settled in a third, one cannot give a simple answer to the question of racial or national identity. When one is born female in a world dominated by males of two different races, further complications ensue.

At what point does an immigrant become an American? How does one identify one’s nationality if one has moved about the world a great deal? Mai-Mai Sze, for example, was born in China to Japanese parents, taken to England as a young child, cared for by an Irish nanny, sent to a private high school and college in the United States, to a painting school in France, and now lives in New York City.

4. Which of the following titles best summarizes the content of the passage?

(a) A Return to Romance: The Contemporary Revival of a Nineteenth-Century Tradition
(b) The Role of Plot and Character in the Black American Literary Tradition
(c) Oral Narrative and Religion in the Romantic Fiction of Black American Novelists
(d) Moral Conflict in Literature: Slavery and the Black American Novelist
(e) History and the Romantic Tradition in Black American Fiction

5. The passage serves primarily to

(a) inform the reader of the conflicting senses of identity experienced by Chinese American and other multicultural writers
(b) encourage Chinese American writers to write more fully about the variety of cultural experiences they have had
(c) inform Chinese American writers about writers from other cultures who have experienced conflicts similar to theirs
(d) praise the talent and resourcefulness of contemporary Chinese American women writers
(e) refute those who criticize Chinese American literature for its multicultural perspective
The following passage is adapted from a biologist’s discussion of the diversity of life on Earth (first published in 1992).

The most wonderful mystery of life may well be the means by which it created so much diversity from so little physical matter. The biosphere, all the organisms combined, makes up only about one part in ten billion of Earth’s mass. It is sparsely distributed through a kilometer-thick layer of soil, water, and air stretched over a half billion square kilometers of surface. If the world were the size of an ordinary desktop globe and its surface were viewed edgewise an arm’s length away, no trace of the biosphere could be seen with the naked eye. Yet life has divided into millions of species, the fundamental units, each playing a unique role in relation to the whole.

The following passage by an anthropologist represents another point of view in the debate about cultural influences in the United States.

On a hot Friday afternoon in the last week of August, cars, pickup trucks, campers, and school buses slowly pull into a park on the edge of Fargo, North Dakota. Families carve out small pieces of territory around their vehicles, making the park into a series of encampments. As they have done for generations, American Indians of the Great Plains gather once again for an annual powwow. Donning their traditional clothing, Ojibwa, Lakota, and Dakota people assemble for several days of celebration and ceremony.

To an outside observer attending for the first time, this year’s powwow may appear chaotic. Even though posted signs promise that dances will begin at four o’clock, there is still no dancing at five-thirty, and the scheduled drummers never arrive. No one is in charge; the announcer acts as a facilitator of ceremonies, but no chief rises to demand anything of anyone. Everyone shows great respect for the elders and for the dancers, who are repeatedly singled out for recognition, but at the same time children receive attention for dancing, as does the audience for watching.

These two passages, written in the 1990’s, address the ways in which environmental concerns have been made public.

Passage A

There is nothing wrong with attempting to make the often difficult and complex findings of science available to a wider audience, but environmental popularizers often present a one-sided picture and hide important scientific disagreements on issues relevant to environmental quality. The zeal to draw firm conclusions from the results of scientific research frequently prompts speculative matters to be left out or presented with greater authority than they deserve. The partisanship implicit in these failures is much too often Excused by the originality of the author’s perspective on the subject or a passionate commitment to do good.

How could one regret the “minor” confusions that might arise from such noble impulses?

6. The tone of the passage is primarily one of
(a) detached inquiry
(b) playful skepticism
(c) mild defensiveness
(d) informed appreciation
(e) urgent entreaty

7. In the second paragraph, the author uses the word “promise” to reflect the
(a) outsider’s misunderstanding of linguistic variations
(b) outsider’s inability to be punctual
(c) outsider’s inappropriate expectations
(d) announcer’s frustration at the unexpected delay
(e) drummers’ commitment to training a new generation in their art

8A. The attitudes toward environmentalism of the authors of Passage A and Passage B, respectively, are
(a) outrage and resentful disappointment
(b) skepticism and qualified admiration
(c) indifference and urgent concern
(d) alarm and grudging acceptance
(e) open-mindedness and staunch advocacy
Passage B

Few ideas are more deeply entrenched in our political culture than that of impending ecological doom. Beginning in 1962, when Rachel Carson warned readers that pollution was a threat to all life on the planet, pessimistic appraisals of the health of the environment have been issued with increasing urgency. And yet, thanks in large part to her warnings, a powerful political movement was born and a series of landmark environmental bills became law: the Clean Air Act (1970), the Clean Water Act (1972), and the Endangered Species Act (1973). These laws and their equivalents in Western Europe, along with a vast array of private efforts, have been a stunning success.

Passage A

Since the lineage of investigative journalism is most directly traceable to the Progressive era of the early 1900’s, it is not surprising that the President of the United States at the time was among the first to articulate its political dimensions.

Roosevelt recognized the value-laden character of investigative journalism. He perceived correctly that investigative reporters are committed to unearthing wrongdoing. For these journalists, disclosures of morally outrageous conduct maximize the opportunity for the forces of “good” to recognize and do battle with the forces of “evil.”

Passage B

What ails newspapers in the United States is the fact that their gigantic commercial development compels them to appeal to larger and larger masses of undifferentiated people and that the truth is the commodity that the masses of undifferentiated people cannot be induced to buy. The dominant citizen of democratic society, despite a superficial appearance of intelligence, is really quite incapable of anything resembling reasoning.

So, the problem before a modern newspaper, hard pressed by the need of carrying on a thoroughly wholesome business, is that of enlisting the interest of these masses of people, and by interest, of course, I do not mean their listless attention, but their active emotional cooperation. Unless a newspaper can manage to arouse these people’s feelings it might just as well not have them at all, for their feelings are an essential part of them, and it is out of their feelings that they dredge up their obscure loyalties and aversions. Well, and how are their feelings to be stirred up? At bottom, the business is quite simple. First scare them—and then reassure them. First get people into a panic with a bugaboo—and then go to the rescue, gallantly and uproariously, with a stuffed club to lay it. First fake ’em—and then fake ’em again.

8B. ______________

Passage B presents
(a) an elaborate speculation
(b) a historical summary
(c) a list of sources
(d) an introductory aside
(e) a scientific theory

9A. ______________

The brand of journalism discussed in Passage A is based on the assumption that
(a) public awareness of injustice is necessary for change to occur
(b) newspapers are read chiefly for information that will help people to get ahead
(c) most people take for granted that politicians are corrupt
(d) most people are suspicious of whistle-blowers
(e) most people’s beliefs are inconsistent with their actions

9B. ______________

In the first paragraph, “dominant” most nearly means
(a) compelling
(b) influential
(c) headstrong
(d) typical
(e) superior
THE BEST OF INTENTIONS B

In the Passages Companion, we have discussed how SAT authors pursue one of three agendas: to Inform, to Reveal, or to Persuade. Please keep the Companion nearby and refer to it when reviewing your answers.

1. C. Author’s Intention: Inform. Remember, it’s Feinberg’s (not the author’s) comment, so the Reasonable Rule doesn’t apply. When Feinberg says, “as well as many things that do violate those laws,” he’s saying that our understanding of the universe is sufficiently imperfect that some discoveries we think aren’t possible actually are.

2. B. Author’s Intention: Persuade. The author is making a point that in our society the people who label things have a great deal of power. Here, the parents are answering the child’s argument by insisting that “they’re just dogs,” when the child can see for himself that “dogs” is a huge category, and that within the “dogs category,” some can be frightening while some aren’t. When the author speaks disparagingly of High Objectivity and the “authoritarianism of their own world view,” she helps the reader see how rules and laws that seem to work for one group of people (parents) might not meet the needs of another group of people (children). The author uses this example to teach her law students to be careful not to let the law dictate reality.

3. B. Author’s Intention: Persuade. It would be easy to label this passage as a Reveal, but the author uses the first person not to Reveal her inner life but to use her life and work as evidence for her argument: Female artists are more willing to stay in touch with reality than are their male counterparts; furthermore, any artist who is a mother must find ways to slip back and forth between mundane* activities and those of her art.

4. E. Author’s Intention: Inform. Here’s a passage the lets us know in the introduction exactly what’s to come: We’re going to look at where and how Black American fiction and the Romantic literary tradition intersect. When we consider the prospective titles in the choices, wouldn’t we be smart to limit ourselves to those that mention both Black American fiction and the Romantic tradition?

5. A. Author’s Intention: Inform. The author wants us to be aware of how offspring of multicultural parents, especially those who as children live in varied cultural settings, can fail to identify with any particular nation or ethnic group. Note how kind the SAT is here to narrow your search to the two answer choices that begin with “inform.” Purely a coincidence, I assure you.

6. D. Author’s Intention: Inform. The author is asking us to imagine the scale of the earth compared to that of the biosphere (the layer in which life exists). Since this is an Inform passage, we can eliminate choices (b) and (e). Choice (c) will never be

* Mundane: Dull, ordinary, everyday.
right on any SAT (why?). So, is the author “detached” or does she “appreciate” the subject matter? Consider the opening sentence: “The most wonderful …”

7. **C. Author’s Intention: Persuade.** The Intention is laid out in the introduction (“represents another point of view in the debate …”). So, what’s the author hoping to Persuade us of? Like most authors that discuss the cultural differences between Native and non-Native Americans, this author makes the point that we non-Native Americans tend to be governed by our cultural biases and so misunderstand who Native Americans are and how they live. In this case, we “outsiders” have “inappropriate expectations” that 4 p.m. means 4 p.m. That’s about it.

8. **Passage A: B.** Author’s Intention: Persuade. These passages represent the “hoax” and “alarm” positions on whether we need to work to protect the environment. Note that here, in one question, we see two of the SAT’s favorite “correct” answer choice words, “skepticism” and “qualified admiration.” Note that both are mild judgments, since all opinions articulated by SAT Persuade authors will be mild.

**Passage B: B.** Author’s Intention: Persuade. If you’re trying to persuade me of something, how will you begin? Possibly by setting out facts that we both agree are true and relevant? In order to Persuade us that environmental activism is necessary, this author takes us on a history lesson (since we are all likely to agree on what’s happened in the past, right?) and then asks, “What would have happened had we taken none of these actions?”

9. **Passage A: A.** Author’s Intention: Inform. Not all paired passages are Persuade! This is another classic pairing: The first passage Informs us about when investigative journalism was born, and then the second passage explores that same topic. As Roosevelt said elsewhere, “disclosures of morally outrageous conduct maximize the opportunity for the forces of ‘good’ to recognize and do battle with the forces of ‘evil.’”

**Passage B: D.** Author’s Intention: Persuade. Here’s an author with about as strong a point of view as you’ll see on the SAT. Did you cross out “dominant” and plug in the choices? If so, considering that the author is discussing how the media sways the masses (rather than just the elites, which would be represented by choices (b) and (e)), only “typical” will fill the blank.

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* Because “defensiveness” is a personal emotion; Inform (and Persuade) authors never get personal, and no SAT author will ever show a negative personal emotion. Doing so might cause the reader to turn away, since the author raises the possibility that she has a personal problem.

^ The SAT's other favorite “negative” word is “criticism.” Note that this, too, is mild.
SOME SAT VOCABULARY WORDS

These words are from the sentence completion and passages sections of real SATs.

**Suggestion:** Get a “vocab partner.” You both start making flash cards—one partner starting at the beginning of the list and the other at the end. Use plain 3x5 cards; put the word on one side and the definition on the other. Make it a race to the “middle” word. Test each other regularly on the words each of you has looked up. After you’ve made flash cards for all the words, trade card sets and keep testing each other. Drop cards from the set when it’s clear that both of you know the definition.

- absolve: clear of guilt or blame
- absurd: ridiculously unreasonable
- accidental: unexpected, unintentional
- adulation: excessive flattery
- aesthetic: appreciation of beauty or good taste
- affable: approachable; pleasant
- alacrity: cheerful willingness
- ambiguous: two+ possible interpretations
- ambivalent: experiencing opposing feelings or emotions
- amiable: agreeable, cordial
- amorphous: shapeless, formless
- amphitheater: arena where spectacles are held
- anachronistic: out of time order
- anomaly: deviation from “the norm”
- anthropocentrism: treating humans as the center of the universe
- arable: fit for cultivation
- arboreal: relating to trees
- archetypal: ideal example or model
- archive: to put into long-term storage
- ardent: fiery intensity of feeling
- ascetic: renouncing material comforts
- assiduous: diligent, unceasing, persistent
- auspicious: marked by success; prosperous
- authoritarian: obedience to authority
- autonomous: independent
- autopsy: exam to verify cause of death
- bard: lyric poet
- benevolent: charitable, kind
- benign: kind disposition; harmless
- bête: scold angrily at length
- bilk: defraud, cheat, swindle
- bourgeois: middle class [citizen]
- brine: salty water from a sea or ocean
- busque: discourteously blunt
- cajole: urge gently, flatteringly
- calumny: malicious lie that attacks character
- camaraderie: goodwill and rapport among friends
- cantankerous: ill-tempered, quarrelsome
- capricious: unpredictable
- carnivorous: meat eating, predatory
- carouse: party excessively
- carping: complaining fretfully
- castigate: inflict severe punishment
- caustic: bitingly sarcastic
- censure: strong disapproval, criticism
- cerebral: (from cerebrum, the thinking part of the brain) exclusively intellectual
- circumscribe: encircle, limit, restrict
- cloying: too filling, rich, or sweet
- cogent: well reasoned; convincing
- coherent: logical, consistent
- colossal: abnormally large, powerful
- commiserate: sympathize with
- concoct: prepare by mixing; devise
- concordant: harmonious; agreeing
- condescendingly: displaying a patronizingly superior attitude
- conflate: bring together, combine
- congeal: solidify, harden
- consecrate: to dedicate solemnly to a service or goal
- consummate (adj.): complete and perfect
- consummate (verb): conclude
- contemporaneous: existing or happening during the same period of time
- conundrum: paradoxical or difficult problem
- converge: come together, meet
<table>
<thead>
<tr>
<th><strong>VOCABULARY DEFINITIONS</strong></th>
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<tbody>
<tr>
<td><strong>convoluted</strong>: intricate, complicated</td>
</tr>
<tr>
<td><strong>cordial</strong>: warm and sincere, friendly</td>
</tr>
<tr>
<td><strong>comororate</strong>: strengthen or support</td>
</tr>
<tr>
<td><strong>culpable</strong>: deserving blame, guilty</td>
</tr>
<tr>
<td><strong>cumulative</strong>: increasing by successive additions</td>
</tr>
<tr>
<td><strong>dearth</strong>: a lack or scarcity</td>
</tr>
<tr>
<td><strong>debacle</strong>: a sudden, disastrous defeat</td>
</tr>
<tr>
<td><strong>debased</strong>: lowered in character or value</td>
</tr>
<tr>
<td><strong>debunk</strong>: expose falseness</td>
</tr>
<tr>
<td><strong>decorous</strong>: proper, well-mannered</td>
</tr>
<tr>
<td><strong>decrey</strong>: condemn openly</td>
</tr>
<tr>
<td><strong>delineate</strong>: draw or trace; sketch out</td>
</tr>
<tr>
<td><strong>demagogue</strong>: leader who plays on the emotions of the common folk</td>
</tr>
<tr>
<td><strong>denigrate</strong>: defame, belittle</td>
</tr>
<tr>
<td><strong>deride</strong>: treat/speak of with contempt</td>
</tr>
<tr>
<td><strong>didactic</strong>: intended to instruct</td>
</tr>
<tr>
<td><strong>dilatory</strong>: tendency to delay, postpone</td>
</tr>
<tr>
<td><strong>dingy</strong>: darkened with smoke or grime</td>
</tr>
<tr>
<td><strong>disavow</strong>: disassociate from</td>
</tr>
<tr>
<td><strong>discomfit</strong>: make uneasy, perplex</td>
</tr>
<tr>
<td><strong>discretionary</strong>: regulated only by one’s own judgment</td>
</tr>
<tr>
<td><strong>disdain</strong>: despise, treat with contempt</td>
</tr>
<tr>
<td><strong>disparage</strong>: belittle, reduce in esteem</td>
</tr>
<tr>
<td><strong>disparate</strong>: dissimilar</td>
</tr>
<tr>
<td><strong>dissemble</strong>: disguise or conceal; lie</td>
</tr>
<tr>
<td><strong>dissipate</strong>: drive away, disperse</td>
</tr>
<tr>
<td><strong>divert</strong>: turn from a course of direction</td>
</tr>
<tr>
<td><strong>divination</strong>: supernatural forecasting</td>
</tr>
<tr>
<td><strong>divisive</strong>: creating dissension</td>
</tr>
<tr>
<td><strong>dogged</strong>: determined, persistent</td>
</tr>
<tr>
<td><strong>dubious</strong>: fraught with uncertainty, doubt</td>
</tr>
<tr>
<td><strong>dupe</strong>: deceive</td>
</tr>
<tr>
<td><strong>eccentric</strong>: deviating from the “norm”</td>
</tr>
<tr>
<td><strong>eclectic</strong>: diverse, miscellaneous</td>
</tr>
<tr>
<td><strong>efficacious</strong>: producing desired effect</td>
</tr>
<tr>
<td><strong>effrontery</strong>: boldness, presumptuousness</td>
</tr>
<tr>
<td><strong>elliptical</strong>: roundabout; not direct in style</td>
</tr>
<tr>
<td><strong>elocution</strong>: art of public speaking</td>
</tr>
<tr>
<td><strong>embezzle</strong>: wrongly take for one’s self</td>
</tr>
<tr>
<td><strong>emollient</strong>: softening and soothing</td>
</tr>
<tr>
<td><strong>emulate</strong>: excel through imitation</td>
</tr>
<tr>
<td><strong>encore</strong>: an additional performance</td>
</tr>
<tr>
<td><strong>enervate</strong>: weaken strength, vitality</td>
</tr>
<tr>
<td><strong>enfranchised</strong>: endowed with right to vote</td>
</tr>
<tr>
<td><strong>engrossing</strong>: occupying exclusively</td>
</tr>
<tr>
<td><strong>enhance</strong>: make greater; augment</td>
</tr>
<tr>
<td><strong>enigmatic</strong>: puzzling</td>
</tr>
<tr>
<td><strong>enthral</strong>: hold spellbound, captivate</td>
</tr>
<tr>
<td><strong>ephemeral</strong>: lasting for a brief time</td>
</tr>
<tr>
<td><strong>epistolary</strong>: associated with letter writing</td>
</tr>
<tr>
<td><strong>equitable</strong>: just and impartial</td>
</tr>
<tr>
<td><strong>eradicate</strong>: tear up by the roots</td>
</tr>
<tr>
<td><strong>etymology</strong>: the history of a word</td>
</tr>
<tr>
<td><strong>eulogy</strong>: written tribute, high praise</td>
</tr>
<tr>
<td><strong>euphoric</strong>: feeling great happiness</td>
</tr>
<tr>
<td><strong>evanescent</strong>: vanishing</td>
</tr>
<tr>
<td><strong>exacerbate</strong>: increase severity; make worse</td>
</tr>
<tr>
<td><strong>exalt</strong>: raise in rank, character or status</td>
</tr>
<tr>
<td><strong>exemplary</strong>: worthy of imitation</td>
</tr>
<tr>
<td><strong>exhort</strong>: urge by strong appeal</td>
</tr>
<tr>
<td><strong>exonerate</strong>: free from blame</td>
</tr>
<tr>
<td><strong>expropriate</strong>: deprive another of possession</td>
</tr>
<tr>
<td><strong>expurgate</strong>: censor before publication</td>
</tr>
<tr>
<td><strong>extenuating</strong>: partially excusing, justifying</td>
</tr>
<tr>
<td><strong>extol</strong>: praise highly</td>
</tr>
<tr>
<td><strong>exultant</strong>: marked by great joy, jubilation</td>
</tr>
<tr>
<td><strong>fabrication</strong>: a deliberately false account</td>
</tr>
<tr>
<td><strong>façade</strong>: the face of a building; false front</td>
</tr>
<tr>
<td><strong>facile</strong>: easy</td>
</tr>
<tr>
<td><strong>feign</strong>: give a false appearance of</td>
</tr>
<tr>
<td><strong>felicitous</strong>: admirably suited</td>
</tr>
<tr>
<td><strong>flippancy</strong>: inappropriate levity</td>
</tr>
<tr>
<td><strong>florid</strong>: flowery, as style of writing</td>
</tr>
<tr>
<td><strong>fortuitous</strong>: happening by accident</td>
</tr>
<tr>
<td><strong>fragmentation</strong>: breaking into pieces</td>
</tr>
<tr>
<td><strong>gargantuan</strong>: of immense size</td>
</tr>
<tr>
<td><strong>garish</strong>: loud, flashy, gaudy</td>
</tr>
<tr>
<td><strong>gibbering</strong>: chattering unintelligibly</td>
</tr>
<tr>
<td><strong>glacial</strong>: coldly detached</td>
</tr>
<tr>
<td><strong>goad</strong>: prod or urge</td>
</tr>
<tr>
<td><strong>gourmand</strong>: a lover of good food</td>
</tr>
<tr>
<td><strong>grandiose</strong>: pompous; affected</td>
</tr>
<tr>
<td><strong>gregarious</strong>: sociable</td>
</tr>
<tr>
<td><strong>hackneyed</strong>: overfamiliar through overuse</td>
</tr>
<tr>
<td><strong>hallmark</strong>: mark indicating excellence</td>
</tr>
<tr>
<td><strong>harangue</strong>: long, pompous speech</td>
</tr>
<tr>
<td><strong>hedonistic</strong>: self indulgent, pleasure-seeking</td>
</tr>
<tr>
<td><strong>heinous</strong>: wicked or reprehensible</td>
</tr>
<tr>
<td><strong>hodgepodge</strong>: a motley assortment</td>
</tr>
<tr>
<td><strong>iconoclast</strong>: one who attacks the “norm”</td>
</tr>
<tr>
<td><strong>idiosyncrasy</strong>: characteristic unique to individual or group</td>
</tr>
<tr>
<td><strong>immoderate</strong>: exceeding normal bounds</td>
</tr>
<tr>
<td><strong>impassive</strong>: devoid of emotion</td>
</tr>
<tr>
<td><strong>impeccable</strong>: having no flaws, perfect</td>
</tr>
<tr>
<td><strong>impetuous</strong>: impulsive and passionate</td>
</tr>
<tr>
<td><strong>impugn</strong>: attack as false, questionable</td>
</tr>
<tr>
<td><strong>impute</strong>: attribute to a particular source</td>
</tr>
<tr>
<td><strong>incantation</strong>: ritual recitation of spells</td>
</tr>
</tbody>
</table>
incisive: penetrating, clear, and sharp
incontrovertible: unquestionable
incremental: increasing consistently
incumbent: in office, present; obligatory
indescribable: inexcusable, unpardonable
indeterminate: not precisely determined
indomitable: unconquerable
ineffable: indescribable
ingenious: increasing consistently
incumbent: in office, present; obligatory
indefatigable: tireless
indefensible: inexcusable, unpardonable
indiscriminate: random, unselective
indomitable: unconquerable
ineffable: indescribable
inexorable: relentless
innate: possessed at birth; inborn
insidious: subtly harmful
insolent: rude and impertinent
interlocutor: participant in a conversation
interminable: endless
intransigent: uncompromising
intrepid: resolutely courageous; fearless
intuitive: prompted by holistic understanding (rather than reason)
inviolable: secure from violation, invincible
jaded: worn out, cynically wearied
jurisprudence: a system or body of law
justification: act of placing side by side
legion: a many
libertarian: one who believes in maximizing individual rights (vs. rights of the state)
libre: gracefully slender
lucid: easily understood, intelligible
lull: to cause to sleep or rest; to calm
luminous: full of light, illuminated
lumino: a clumsy or stupid person
lurid: causing shock or horror
machine: a plot or scheme
malevolent: a curse
manifest: obvious
maxim: a brief saying
menacing: a beggar
mitigate: lessen in intensity; soften
modicum: a little
modulate: regulate pitch, intensity, or tone
mollify: calm or soothe
morass: a soggy ground or quagmire
mundane: ordinary, prosaic
munificence: monetary generosity
narcissism: love of oneself
nefarious: evil
nip: remove by pinching or snipping
nitpick: find fault with trivial details
nocturnal: active by night (like a bat)
noisome: offensive, causing disgust; possibly harmful
nondescript: lacking distinctive qualities
obdurate: stubborn
obstreperous: noisy, defiant
obtrusive: undesirably noticeable
ominous: menacing
onerous: burdensome
opulent: burdensome
opulent: emphasizing great wealth
omate: flashy, ornamented, showy
orthodox: a strict belief
ostentatious: intended to impress
ostacize: exclude
palette: board on which a painter mixes colors
pallid: lacking color
pariah: one who is excluded or ostracized
partisan: insurgent who fights a foreign invader
pathos: quality arousing pity or sympathy
patronizing: condescending
penurious: poor
perfidious: treacherous
perfunctory: acting with little interest or care
perspicuity: cleanness, lucidity
philanthropic: humanitarian; charitable
pinioned: bound by the arms
placate: pacify
plaudits: praise or approval
ploy: a trick
politic: break into opposing groups
ponderous: unpleasantly dull
pragmatist: a realist
preamble: a preliminary statement
precept: a rule or principle
predatory: exploiting others for gain
preference: a preference
pretentious: showy; ostentatious
proficiency: competence; ability
proliferate: grow or increase rapidly
prolific: abundant; fertile
promulgate: announce officially
propagate: breed
prophetic: having to do with foretelling events by divine inspiration
prosaic: ordinary, mundane, quotidian
provocative: tending to stimulate, excite
pugnacious: looking for a fight
pundit: expert
quandary: state of perplexity
querulous: prone to complain
VOCABULARY DEFINITIONS

ramble: walk or talk aimlessly
rancorous: full of hatred
raucous: unpleasantly noisy
raze: knock down
reactionary: extremely conservative
recall: ask or order to return
reciprocate: give or take mutually
reclaim: to return land to useable condition; to take back (like your car in the parking lot)
reclusive: preferring isolation, seclusion
reconciliation: making up
refracted: deflected from a straight path
regale: entertain
reintegrated: restored to unity
remiss: negligent, carelessness
replendish: dazzling, brilliant
retroactive: applying to a period prior to enactment
refrain: to return land to useable condition; to take back (like your car in the parking lot)
revel: take great pleasure or delight
sacrosanct: sacred and inviolable
sagacity: wisdom
scrupulous: conscientious and exact
scurry: stay low and run quickly
séance: where they hold hands in a circle and speak to the dead
sedentary: not moving much; sitting
semaphore: communication using flags
serendipity: accidental lucky discovery
sleuth: detective
solicitude: anxious or excessive concern
spate: a sudden flood, rush, outpouring
spurious: lacking authenticity; not genuine
staid: strait-laced, overly proper
stoic: unaffected by joy, grief, pain, etc.
substantiate: support with substantial proof
sully: try to ham another's character
supplanted: replaced
surfeit: too much (think surplus)
supine: secretive
surrogate: substitute
sycophant: a suck up
sympathize: express compassion
synergistic: combined effect greater than individual effects
syntax: grammatical arrangement of words in sentences
tactile: perceptible to touch
talismans: object with magic power	
tangential: of superficial relevance
temerity: recklessness
tenacity: persistent determination

therapeutic: exhibiting healing powers
thwart: prevent
timorous: frightened
toady: flunky; sycophant
tonic (adj.): producing/stimulating vigor
torpid: very sluggish
tourniquet: device to check bleeding
tractable: manageable (like a horse)
transient: passing with time
translucent: light passes through
travesty: exaggerated imitation
treatise: critical essay
tremulous: shaking because of fear
trivialized: belittled
trove: collection of valuable found items
truculent: disposed to fight, pugnacious
turpitude: immorality; wickedness
unfetter: unchain; set free
untenable: can't be defended, justified
usurper: one who seizes and holds by force
utilitarian: practical, plain
utopia: a perfect place
utopian: idealist
vacillate: go back and forth
vaporize: turn into vapor
variegated: having splotches of color
venerable: growing old
vernacular: green (Spanish: verde)
verisimilitude: appearing true or real
vestige: indication something was present
vicarious: felt as if one were taking part in the experience or feelings of another
vignette: short, descriptive literary sketch
vilify: spread negative info about
vindicate: clear of accusation, blame
viscid: thick and adhesive
vitiating: reduce the value of
volatile: varying often, explosive
warrant: attest to quality, condition
wary: on guard, watchful
watershed: a critical turning point
zealous: fervent, fanatical, obsessive
SAT ESSAY WORKSHOP

Two readers each score your 25-minute SAT essay holistically on a 1-6 scale—that means each reader doesn’t take “half a point off here, a quarter point off there,” but rather gives you a number grade that sums up the reader’s overall impression of your essay. Your score is the sum of those two assessments, and comprises 30% of your Writing score.

Let’s face it, even the best SAT essays are no more than well-organized first drafts. In school, you’re taught to improve your essay through several drafts. In the first draft, you assemble the raw material that you can then edit and polish through subsequent drafts to end up with something substantial and readable. Nobody’s ever taught you how to write a reasonable first draft in 25 minutes—that’s why you’re not so good at it right now.

THE COURAGE TO BE SPECIFIC

In your essay you will be tempted to use hypothetical evidence, in which you refer in a general way to an individual or group, trusting the reader to supply her own specifics. Using hypothetical evidence is a losing strategy, however, because your reader knows that if you felt confident using specific evidence you would have done so.

Did you know that SAT readers are instructed not to hold historical inaccuracy against the essay writer? During a seminar on how to teach SAT essay writing, I asked The College Board’s representative how inaccurate one might be without losing points. “What if,” I asked her, “I said that I admired Abraham Lincoln because he was the first American on the moon?” She replied that such “evidence” should not be held against me.

Now remember, The College Board issues guidelines, but two independent readers, who could be in Montana and Fiji, produce your essay grade, and as long as the grade each one gives you differs from the other by no more than one point, there’s no review by anybody higher in The College Board’s food chain. So, I wouldn’t go crazy and make, say, George W. Bush a Renaissance painter.

However, this frees you to use what you know, even if you’re sketchy about the details, because you’re OK whether you contend that the great artist Georgia O’Keeffe lived in Arizona or New Mexico (or even Cleveland!). Just write the specifics as you remember them; anything specific is better than referring to “a female artist who painted in the southwestern United States.”

Every opinion you have is generated in one of three ways: (1) General opinions you have developed by witnessing actual events (you have seen historical footage of white people using dogs to terrorize their black neighbors; you have developed an opinion that doing so is wrong); (2) imitation (your mother hated spiders so you do too); or (3) exposure to media propaganda (you have heard so often from our leaders and sympathetic television commentators that normally evil actions aren’t so bad when Americans perform them that you’re at least partially convinced, aren’t you?). In your essay, you should stick to (1).

Here’s an actual prompt: “Is criticism—judging or finding fault with the ideas and actions of others—essential for personal well-being and social progress?” We all have different experience sets, so ask yourself: What kind of evidence can I generate to support either side of this argument?

Although SAT essay prompts can almost always be discussed on the “micro” (small) or the “macro” (big) level, choosing the micro level often leads quickly to hypothetical evidence. Unless you want to discuss how liberating it was for your Aunt Polly when she started criticizing everything your Uncle Jim did, you’ll be reduced to statements like, “If a person criticizes someone, the person who is criticizing can feel clean and truthful ...” or similar nonsense. Note that that “hypothetical evidence” isn’t really evidence at all but merely disguised argument.
So, let’s look on the macro level. Where in our society do we locate criticism? It would appear most often in the opinion columns in newspapers, on partisan television shows (Fox News and The Daily Show come to mind), and in political debates. We can also find criticism in works of fiction, for a story without conflict of any kind is confusing, very short, or both. What books have you read this year? Do any of those books contain no criticism (either expressed or implied)?

In the real world, is criticism beneficial to the individual? How about to the society? Let’s consider its opposite—no criticism. Throughout history, as you may have read, criticism of one’s government usually leads to danger to one’s well-being and only occasionally social progress. In much of the world today (we can use China here although there are examples closer to home), criticism of many governments’ actions often has been equated with a lack of patriotism, even treason.

So, keep it real. Examples abound, and later we’ll work on generating some you can use again and again.

Let’s see how preparation can help us write a more complex and interesting 25-minute essay. As we’ll discover, pre-writing sample evidence in an “example generator” can help us save minutes that we might have spent brainstorming and reallocate them to our thesis statement, sentence structure, and transitions.

First, let’s learn to organize and write a well-organized, readable first draft.

**Part One: Building a Strong Essay Body**

A short essay such as the one we need to write for the SAT consists of three parts: Introduction (including thesis statement), body paragraphs (in which you support your thesis with evidence), and conclusion. While a brilliant introduction or conclusion might impress a reader, you’ll score most of your points in the body of the essay. To score those points, you’ll need evidence—real evidence.

Often, SAT essay writers hold back evidence because they’re afraid the evidence is inaccurate. Not to fear—as I said earlier, SAT essay graders are instructed not to hold “historical inaccuracy” against you. This means that you can use facts to support your thesis, even if you get those facts wrong.

**The Reasonable Rule**

If you’re going to remember one thing about being reasonable, remember this:

A reasonable argument (“Criticism is often necessary to progress.”) backed up by strong evidence (“Criticism by Hamilton and others of the inadequacies of the confederation system led to an American federal system.”) scores well; an unreasonable argument (“Everybody agrees that criticism is necessary.”) backed up by disguised argument in place of evidence (“If no one in America told the truth, then nobody would ever know what their truth was.”) scores very badly. If you want a high essay score, be willing to keep your argument reasonable and provide the best evidence you can.

**Evidence Is the Key**

First, let’s work on the “body” of the essay. No matter how well you write your opening paragraph, if what you write after that is vague and wanders aimlessly you will not score well. Often, students tell me, “I couldn’t think of anything to write about.” We’ve all been there. However, after finishing the following exercise, you’ll be able to avoid that particularly empty feeling on test day.
So, let’s generate the kind of specific “evidence” that you can use to support your point of view. What’s your point of view? Well, you don’t know yet, but wouldn’t it be great to have something specific to call upon the moment you do know?

If you work through the following “generator” enthusiastically, I guarantee that you will be able to say “for instance” and “for example” in future 25-minute first drafts a whole lot more confidently than you’re able to do now.

**First, list three novels that you would feel comfortable discussing in an essay.**

<table>
<thead>
<tr>
<th>#</th>
<th>Novel</th>
<th>Author</th>
<th>Main Character(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3N</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Next, list three periods of history that you feel you can discuss in an essay.**

<table>
<thead>
<tr>
<th>#</th>
<th>Period in History</th>
<th>Main figures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1H</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2H</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3H</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Next, list two scientists that you feel you can discuss in an essay.**

<table>
<thead>
<tr>
<th>#</th>
<th>Scientist</th>
<th>Principal discovery or invention</th>
</tr>
</thead>
<tbody>
<tr>
<td>1S</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2S</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Finally, list two important personal experiences that you feel you can discuss in an essay.

<table>
<thead>
<tr>
<th>#</th>
<th>Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>1P</td>
<td></td>
</tr>
<tr>
<td>2P</td>
<td></td>
</tr>
</tbody>
</table>

**Developing Your “Example Generator”**

Summarize each of the three novels that you listed (25-50 words each):

1N __________________________

_________________________________________________

_________________________________________________

2N __________________________

_________________________________________________

_________________________________________________

3N __________________________

_________________________________________________

_________________________________________________

Summarize each of the three periods in history (25-50 words each):

1H___________________________

_________________________________________________

_________________________________________________

2H___________________________

_________________________________________________

_________________________________________________

3H___________________________

_________________________________________________
Tell us something about each scientist (25-50 words each—you can use a reference):
1S

2S

Summarize each of your two personal experiences (25-50 words each):
1P

2P

Anything you’d like to add about any of the above?
Applying Your Examples to Real Prompts

Here are five recent SAT essay prompts. After each prompt, please list the initials of three discussion topics ("DTs"). Then feel free to elaborate on each choice.

Certainly anyone who insists on condemning all lies should think about what would happen if we could reliably tell when our family, friends, colleagues, and government leaders were deceiving us. It is tempting to think that the world would become a better place without the deceptions that seem to interfere with our attempts at genuine communication. On the other hand, perhaps there is such a thing as too much honesty.

Adapted from Allison Komet, “The Truth About Lying”

**Assignment**: Would the world be a better place if everyone always told the complete truth?*

DT #1

DT #2

DT #3

Many people deny that stories about characters and events that are not real can teach us about ourselves or about the world around us. They claim that literature does not offer us worthwhile information about the real world. These people argue that the feelings and ideas we gain from books and stories obstruct, rather than contribute to, clear thought.

Adapted from Jennifer L. McMahon, “The Function of Fiction”.

**Assignment**: Can books and stories about characters and events that are not real teach us anything useful?

DT #1

DT #2

DT #3

It is easy to make judgments about people and their actions when we do not know anything about their circumstances or what motivated them to take those actions. But we should look beyond a person's actions. When people do things that we consider outrageous, inconsiderate, or harmful, we should try to understand why they acted as they did.

**Assignment**: Is it important to try to understand people’s motivations before judging their actions?

DT #1

DT #2

DT #3

* An example would be “2N, 1H, 2S,” which would stand for “Novel 2, Historical Period 1, Scientist 2.” Please ask if you have any questions.

* Please note that all prompts continue: “Plan and write an essay in which you develop your point of view on this issue. Support your position with reasoning and examples taken from your reading, studies, experience, or observations.”
It is not true that prosperity is better for people than adversity. When people are thriving and content, they seldom feel the need to look for ways to improve themselves or their situation. Hardship, on the other hand, forces people to closely examine—and possibly change—their own lives and even the lives of others. Misfortune rather than prosperity helps people to gain a greater understanding of themselves and the world around them.

**Assignment**: Do people truly benefit from hardship and misfortune?

**DT #1**

**DT #2**

**DT #3**

**Organization of the Evidence Paragraphs**

Now that we have gathered and assigned our evidence, let’s organize it. If you’re looking to write a five-paragraph essay, you know that you’ll need an introduction (more later) and a conclusion (ditto). However, how should you organize your middle paragraphs?

First, since your readers don’t have a lot of time to savor a subtle approach, putting your best evidence deep in the essay isn’t likely to work out well. My guess is that halfway through your essay your grade is almost set in stone. So don’t save your best stuff until it’s too late to matter. If you’re planning to use a personal experience (especially if that experience is in any way fictitious), use it last.

To repeat: Put your most impressive evidence in paragraph 2; next best in 3; filler in 4. So, right now, go back to your “Discussion Topics” for each of the prompts above and put those “DTs” in “2, 3, 4” order.

**Gathering, Organizing, and Expanding our Evidence**

Next, let’s practice. Following is another recent SAT essay prompt. Let’s generate and organize evidence, and then organize and present that evidence in paragraph form.

You may consult your example generator at any time. Your ultimate job is to write three “evidence” paragraphs on the following topic. At this time, you don’t need to write (or even think about writing) your introduction or conclusion. Just start with paragraph 2.
A sample essay prompt:

Given the importance of human creativity, one would think it should have a high priority among our concerns. But if we look at the reality, we see a different picture. Basic scientific research is minimized in favor of immediate practical applications. The arts are increasingly seen as dispensable luxuries. Yet as competition heats up around the globe, exactly the opposite strategy is needed.

Adapted from Mihaly Csikszentmihalyi, *Creativity: Flow and the Psychology of Discovery and Invention*

**Assignment:** Is creativity needed more than ever in the world today?

DT #1

DT #2

DT #3

Organize your “DTs” into “2, 3, 4” order. Done? Great. Let’s write some practice paragraphs. Leave a space at the beginning of each paragraph, since we’ll fit in some transition words later.

Paragraph 2

Paragraph 3

Paragraph 4
THE REASONABLE RULE REVIEW

Please review how “reasonable” your language is in the sample paragraphs above. Did you make any gross generalizations? Did you make any forceful claims? If so, edit by carefully erasing what you wrote and neatly substituting a “reasonable” replacement.

TRANSITION WORDS

Now, go back up to the three paragraphs you just created. Find at least three places where you used or could have used transition words to help the reader follow your train of thought. Can you identify spots where some of the following transitions might make the reader’s job easier?

Example transition: “What’s more,” Twain thrived in a world that did not think highly of non-believers.”

Example transition: “For example,” scientists puzzled through the Middle Ages how water, which falls, gets back up into the clouds.”

Example transition: “At the same time,” Grant circled and then advanced on Vicksburg.”

Example transition: “Eventually,” we will all have to cooperate to reduce greenhouse gases.”

Example transition: “For instance,” The Diary of Anne Frank gives us a rare glimpse into the life of a real person who did not creatively change her world but rather recorded how change affected her and those around her.”

Example transition: “Moreover,” creativity can be harmful; the transcontinental railroad completed the destruction of the Plains Indians’ way of life.”

Example transition: “Many people who did not go to college, however, can fix one’s car or furnace.”

Example transition: “Nonetheless,” celebrities benefit society in several ways, including as role models and topics of gossip at the supermarket checkout counter.”

Example transition: “Admittedly,” in certain ages ‘scientists’ such as alchemists and astrologers have given science a bad name. Nevertheless,” human progress is often due to corresponding scientific progress. For instance,” in ancient Sumerian society, scientific agriculture practices allowed farmers to farm the same land for years on end without depleting the nutrients in the soil.”

Example transition: “Although,” telling the truth is an action usually to be admired, yelling ‘fire’ in a crowded theater, even when such a statement is true, is not recommended.”

Example transition: “Yet,” by studying indigenous peoples around the world, it is clear that the environment, an outside factor, often plays an important role in precipitating human change.”

Example transition: “In fact,” such pesticides have turned up in water supplies more than 500 miles away from the source of the spraying.”

Example transition: “Furthermore,” as the arms races of the 20th century have taught us, creativity has often been used more to compete for power and territory than to improve people’s lives.”
PART TWO: WRITING AN EFFICIENT INTRODUCTION

Start with something reasonable we all agree upon, then branch off to your own argument. Here’s an introduction from a real Maine Prep student essay:

“It is an unarguable fact that many important discoveries, whether they were scientific, political, or social, have come about as the result of many hours of hard work. Yet this does not prove that all discoveries, by nature, must in fact be the result of such labor.”

Note that the writer begins by “nodding to the other side.” Showing that you have considered arguments by “the other side” is the action of a confident writer.

Let’s try our own versions of this “While we all agree [whatever], that doesn’t mean that ...” type of introductory sentence. We’ll use the prompts from the opening pages of this workbook (during this exercise, please refer to the essay prompts on pages 6 and 7).

If we’re discussing the truth, we should acknowledge the obvious: “While everyone agrees that telling the truth is almost always the right thing to do, ...”), then state our thesis (“... in certain circumstances the truth can damage a situation or relationship.”)

You’d rather take the other side of this argument? OK: “While everyone understands that in certain circumstances the truth can damage a situation or relationship, it is clear that telling the truth is almost always the right thing to do.” Wow! Did we use the same words in a different order to take the other side?

Here’s another: “While most people do not read books in order to learn something useful, many books can teach important life principles.”

If you’d rather take the other side: “While many books can teach important life principles, most people do not read books in order to learn something useful.”

One more (a little more complex): “Although in today’s society, in which each person is so dependent upon the actions of others, the choices each person makes may seem to be less important than they once were, it is clear that the choices people make are still vital factors in their future happiness.”

“While the choices people make are undoubtedly important to their future happiness, in a society in which each person is dependent upon the actions of others, the choices one makes are less important than they once were.”

Let’s ease you into this. For the next example, I’ll write one side’s intro and begin the other—you finish it.

“While many people are beset by hardship and misfortune that cannot be overcome, many others have not only benefited from misfortune but have had the courage to write about it in order to help others.”

“While some people have not only benefited from misfortune but have had the courage to write about it to help others, ...” (you finish this sentence) _______________________

Getting the hang of it? For the next example, I’ll write one side’s intro, you write the other:
“Although in crisis situations we must judge people by their actions without considering their motivations, it is clear that we should usually hold off judging people until we can understand their motivations.”

Your turn: 

Now it’s your turn to show that you can write an introductory sentence for either side.

Let’s go back to the “creativity” prompt.

Given the importance of human creativity, one would think it should have a high priority among our concerns. But if we look at the reality, we see a different picture. Basic scientific research is minimized in favor of immediate practical applications. The arts are increasingly seen as dispensable luxuries. Yet as competition heats up around the globe, exactly the opposite strategy is needed.

Adapted from Mihaly Csikszentmihalyi, Creativity: Flow and the Psychology of Discovery and Invention

Assignment: Is creativity needed more than ever in the world today?

Your intro sentence 1: 

Your intro sentence 2 (taking the opposing position): 

Part Three: Writing a Creative (and Snappy) Conclusion

What can you say that you haven’t already? Well, you might have come to some new understanding while you were writing the essay—setting down and explaining evidence sometimes has that effect.

Clearly, your conclusion needs to agree with your introduction, but it shouldn’t merely restate that introduction. If you’re going to quote from the prompt, this is the time (not in your introduction). As we discussed in the “evidence” section above, effective transition language will help the reader and can raise your score! So, let’s look at some transition words that will help you conclude gracefully:

“Conclusion” transition: “Clearly, understanding people’s motivations becomes secondary when one must escape the consequences of their actions.”

“Conclusion” transition: “Therefore, hardship and misfortune, while destructive to many in our society, provide inspiration for the few who are celebrated in song and story.”
“Conclusion” transition: “Hence, as in the case of the Plains Indians and the short life of Lionel Holcomb, creativity can be harmful.”

“Conclusion” transition: “On the whole, one is more likely to become wealthy working at a profession one enjoys than to become happy working at a profession mainly for the money.”

“Conclusion” transition: “People choose actions that are likely to lead to pleasure or pain, and, accordingly, reap the benefits or suffer the consequences of their actions.”

“Conclusion” transition: “Thus, books and stories teach us not about the moment-to-moment reality around us but about another’s’ consciousness that exists just beyond our range of vision. As Voltaire wrote in Candide, ‘All around us are creatures whose behavior appears to be inferior to our intentions.’”

GENERAL NOTES: GRAMMAR, SPELLING, AND HANDWRITING

It would be great if you could concentrate merely on grammar and spelling. However, since you need to keep developing your thesis and evidence as you write, how much of your energy should you spend worrying about grammar, spelling, and handwriting?

As for spelling and grammar, perfection is not vital to a good or great score. If your ideas are organized, you’ll probably write about them grammatically. If you misspell a few words, the reader won’t hold it against you as long as she can figure out what you intended to say. However, if your handwriting argues for medical school, you’re not likely to get anyone’s benefit of the doubt. I don’t know about you, but if someone makes it difficult for me to read something, I get annoyed. You don’t want a mad reader.

Twelve pitfalls to avoid in your SAT essay:

1. **Never** argue both sides of an issue. This essay is designed to assess how well you take and defend a position, not how well you argue or agree with yourself.

2. **Never** let your introduction and conclusion take up more than 25% of the writing space. If you can’t start or end in fewer than 50 words, perhaps you’re telling us the same thing for the third time. Long introductions and conclusions evade the assignment, which is to provide evidence (see #4) in support of your position.

3. **Never** say “in my opinion” or “I think.” What’s the difference between “Criticism is always justified” and “In my opinion, criticism is always justified”? None—just more words for an impatient reader to wade through. Similarly, if you ever find yourself using the expression “my personal experiences,” use your eraser. Immediately. Have you ever had any impersonal experiences?

4. **Never** use “if” evidence such as, “If a biologist concentrates on molecular biology she probably will not make any contributions to paleontology.” Don’t look at me like that—most “if” statements are even worse. “If” you’re not using such statements now, great—don’t start. “If” hypothetical describes your favorite kind of evidence (because using such evidence requires no real effort on your part), sorry, you need to come up with something concrete.

5. **Never** write in the second person (“you”) unless you are addressing the reader directly. After reading thousands of SAT essays, I have never seen an appropriate

*The quote from Candide was made up. If you have read several books by a writer you probably can fabricate a quote in that writer’s style.*
use of “you.” Moreover, never use “they” as a singular pronoun: “A scientist should always look through their notes when he or she is attempting to find their best path to the truth.” In case you haven’t heard it in English class, read it here: “They” takes the place of a plural noun. So, if you can’t live without “they,” make sure that you create plural rather than singular imaginary people.

6. **Never** tell us that any of your examples is “great” or “excellent.” Clearly, you liked the example so you picked it. Using superlative adjectives to manipulate the reader into agreeing with you is annoying.

7. **Never** ask rhetorical questions (“and for what?”) or speak in the imperative (“Here’s what we all should do ...”). If the test maker thought the question in the essay prompt had only one correct answer, she wouldn’t ask it—she’d ask another. So, when you give the impression that you think you have the only right response to the question, you insult the subtlety of the prompt, and it’s likely that your reader will assume that you just didn’t get it.

8. **Never** try to impress the reader by using a word whose meaning you don’t really know. Readers will give you latitude when it comes to historical inaccuracy, but they won’t be so forgiving if you use a “big” word in a completely inappropriate way.

9. **Never** tell us that you’ve proven anything. Doing so is probably just using language loosely (do you really believe that in a 25-minute essay you can prove anything new or important)? If you say that your evidence suggests that something is true, the reader will appreciate your modesty and play along.

10. **Never** sum up your paragraph by retelling us what you just told us. I know that’s the way you were taught but if we didn’t get it when you told us what you were going to tell us and then we still didn’t get it when you told us, what makes you think we will finally get it when you tell us what you just told us?

11. **Never** quote from the prompt except briefly in your conclusion. When you repeat a large portion of the prompt it’s logical to assume that you’re doing so because you can’t think of anything original to say. Use the templates in your Essay Workbook to model your introduction and gather your evidence.

12. **Never** finish without rereading your essay. A good reread should take three or four minutes, and will save you from writing sentences that James Joyce would try to simplify. Crossing out and replacing is fine; so is erasing, but if you’re going to erase, make sure you do so completely.

**In Sum**

Be organized. Be willing to look at both sides of an issue and take what you would normally consider the “other” side if that side’s arguments are easier to express. Use your first-hand or educational experience to illustrate arguments. Consider and then reject the “other” side’s arguments. Be reasonable.

Using this template can free you up to be creative and expressive, allowing you more time to expand upon what’s unique about your viewpoint, knowing that you can support that viewpoint with your “pre-written” evidence.

Following are two more essay prompts along with a “marked-up” practice sheet that includes instructions and transition words. You should use that sheet and follow all instructions thereon when writing your first essay.
FROM THE COLLEGE BOARD WEB SITE:

The essay gives you an opportunity to show how effectively you can
develop and express ideas. You should, therefore, take care to develop
your point of view, present your ideas logically and clearly, and use
language precisely.

Your essay must be written on the lines provided on your answer sheet—you will receive no other paper on which to write. You will have enough
space if you write on every line, avoid wide margins, and keep your
handwriting to a reasonable size. Remember that people who are not
familiar with your handwriting will read what you write. Try to write or print
so that what you are writing is legible to those readers.

You have twenty-five minutes to write an essay on the topic assigned
below. DO NOT WRITE ON ANOTHER TOPIC. AN OFF-TOPIC ESSAY WILL
RECEIVE A SCORE OF ZERO.

BEG IN WRITING YOUR ESSAY ON PAGE 2 OF THE ANSWER SHEET

ESSAY TWENTY-SEVEN:

Think carefully about the issue presented in the following excerpt and the
assignment below.

Everybody has some choice. People are always blaming their
circumstances for what they are. I don't believe in circumstances. The
people who get on in this world are the people who get up and look for
the circumstances they want and, if they can't find them, make them.

Adapted from George Bernard Shaw, Mrs. Warren's Profession

Assignment: Do success and happiness depend on the choices people
make rather than on factors beyond their control? Plan and write an
essay in which you develop your point of view on this issue. Support your
position with reasoning and examples taken from your reading, studies,
experience, or observations.
FROM THE COLLEGE BOARD WEB SITE:

The essay gives you an opportunity to show how effectively you can develop and express ideas. You should, therefore, take care to develop your point of view, present your ideas logically and clearly, and use language precisely.

Your essay must be written on the lines provided on your answer sheet—you will receive no other paper on which to write. You will have enough space if you write on every line, avoid wide margins, and keep your handwriting to a reasonable size. Remember that people who are not familiar with your handwriting will read what you write. Try to write or print so that what you are writing is legible to those readers.

You have twenty-five minutes to write an essay on the topic assigned below. DO NOT WRITE ON ANOTHER TOPIC. AN OFF-TOPIC ESSAY WILL RECEIVE A SCORE OF ZERO.

BEGIN WRITING YOUR ESSAY ON PAGE 2 OF THE ANSWER SHEET

ESSAY THIRTY-TWO:

Think carefully about the issue presented in the following excerpt and the assignment below.

People are happy only when they have their minds fixed on some goal other than their own happiness. Happiness comes when people focus instead on the happiness of others, on the improvement of humanity, on some course of action that is followed not as a means to anything else but as an end in itself. Aiming at something other than their own happiness, they find happiness along the way. The only way to be happy is to pursue some goal external to your own happiness.

Adapted from John Stuart Mill, Autobiography

Assignment: Are people more likely to be happy if they focus on goals other than their own happiness? Plan and write an essay in which you develop your point of view on this issue. Support your position with reasoning and examples taken from your reading, studies, experience, or observations.
Although

For example,

Similarly,
Moreover,

Clearly,
**SAT ESSAY WORKSHOP**

Two readers each score your 25-minute SAT essay **holistically** on a 1-6 scale—that means each reader doesn’t take “half a point off here, a quarter point off there,” but rather gives you a number grade that sums up the reader’s **overall** impression of your essay. Your score is the sum of those two assessments, and comprises 30% of your Writing score.

Let’s face it, even the best SAT essays are no more than well-organized first drafts. In school, you’re taught to improve your essay through several drafts. In the first draft, you assemble the raw material that you can then edit and polish through subsequent drafts to end up with something substantial and readable. Nobody’s ever taught you how to write a reasonable first draft in 25 minutes—that’s why you’re not so good at it right now.

**THE COURAGE TO BE SPECIFIC**

In your essay you will be tempted to use hypothetical evidence, in which you refer in a general way to an individual or group, trusting the reader to supply her own specifics. Using hypothetical evidence is a losing strategy, however, because your reader knows that if you felt confident using specific evidence you would have done so.

Did you know that SAT readers are instructed not to hold historical inaccuracy against the essay writer? During a seminar on how to teach SAT essay writing, I asked The College Board’s representative how inaccurate one might be without losing points. “What if,” I asked her, “I said that I admired Abraham Lincoln because he was the first American on the moon?” She replied that such “evidence” should not be held against me.

Now remember, The College Board issues guidelines, but two independent readers, who could be in Montana and Fiji, produce your essay grade, and as long as the grade each one gives you differs from the other by no more than one point, there’s no review by anybody higher in The College Board’s food chain. So, I wouldn’t go crazy and make, say, George W. Bush a Renaissance painter.

However, this frees you to use what you know, even if you’re sketchy about the details, because you’re OK whether you contend that the great artist Georgia O’Keeffe lived in Arizona or New Mexico (or even Cleveland!). Just write the specifics as you remember them; **anything** specific is better than referring to “a female artist who painted in the southwestern United States.”

**Every opinion you have** is generated in one of three ways: (1) General opinions you have developed by witnessing actual events (you have seen historical footage of white people using dogs to terrorize their black neighbors; you have developed an opinion that doing so is wrong); (2) imitation (your mother hated spiders so you do too); or (3) exposure to media propaganda (you have heard so often from our leaders and sympathetic television commentators that **normally** evil actions aren’t so bad when Americans perform them that you’re at least partially convinced, aren’t you?). In your essay, you should stick to (1).

Here’s an actual prompt: “Is criticism—judging or finding fault with the ideas and actions of others—essential for personal well-being and social progress?” We all have different experience sets, so ask yourself: What kind of evidence **can I generate** to support either side of this argument?

Although SAT essay prompts can almost always be discussed on the “micro” (small) or the “macro” (big) level, choosing the micro level often leads quickly to hypothetical evidence. Unless you want to discuss how liberating it was for your Aunt Polly when she started criticizing everything your Uncle Jim did, you’ll be reduced to statements like, “If a person criticizes someone, the person who is criticizing can feel clean and truthful ...” or similar nonsense. Note that that “hypothetical evidence” isn’t really evidence at all but merely disguised argument.
So, let’s look on the macro level. Where in our society do we locate criticism? It would appear most often in the opinion columns in newspapers, on partisan television shows (Fox News and The Daily Show come to mind), and in political debates. We can also find criticism in works of fiction, for a story without conflict of any kind is confusing, very short, or both. What books have you read this year? Do any of those books contain no criticism (either expressed or implied)?

In the real world, is criticism beneficial to the individual? How about to the society? Let’s consider its opposite—no criticism. Throughout history, as you may have read, criticism of one’s government usually leads to danger to one’s well-being and only occasionally social progress. In much of the world today (we can use China here although there are examples closer to home), criticism of many governments’ actions often has been equated with a lack of patriotism, even treason.

So, keep it real. Examples abound, and later we’ll work on generating some you can use again and again.

Let’s see how preparation can help us write a more complex and interesting 25-minute essay. As we’ll discover, pre-writing sample evidence in an “example generator” can help us save minutes that we might have spent brainstorming and reallocate them to our thesis statement, sentence structure, and transitions.

First, let’s learn to organize and write a well-organized, readable first draft.

**PART ONE: BUILDING A STRONG ESSAY BODY**

A short essay such as the one we need to write for the SAT consists of three parts: Introduction (including thesis statement), body paragraphs (in which you support your thesis with evidence), and conclusion. While a brilliant introduction or conclusion might impress a reader, you’ll score most of your points in the body of the essay. To score those points, you’ll need evidence—real evidence.

Often, SAT essay writers hold back evidence because they’re afraid the evidence is inaccurate. Not to fear—as I said earlier, SAT essay graders are instructed not to hold “historical inaccuracy” against you. This means that you can use facts to support your thesis, even if you get those facts wrong.

**THE REASONABLE RULE**

If you’re going to remember one thing about being reasonable, remember this:

A reasonable argument (“Criticism is often necessary to progress.”) backed up by strong evidence (“Criticism by Hamilton and others of the inadequacies of the confederation system led to an American federal system.”) scores well; an unreasonable argument (“Everybody agrees that criticism is necessary.”) backed up by disguised argument in place of evidence (“If no one in America told the truth, then nobody would ever know what their truth was.”) scores very badly. If you want a high essay score, be willing to keep your argument reasonable and provide the best evidence you can.

**Evidence Is the Key**

First, let’s work on the “body” of the essay. No matter how well you write your opening paragraph, if what you write after that is vague and wanders aimlessly you will not score well. Often, students tell me, “I couldn’t think of anything to write about.” We’ve all been there. However, after finishing the following exercise, you’ll be able to avoid that particularly empty feeling on test day.
So, let’s generate the kind of specific “evidence” that you can use to support your point of view. What’s your point of view? Well, you don’t know yet, but wouldn’t it be great to have something specific to call upon the moment you do know?

If you work through the following “generator” enthusiastically, I guarantee that you will be able to say “for instance” and “for example” in future 25-minute first drafts a whole lot more confidently than you’re able to do now.

First, list three novels that you would feel comfortable discussing in an essay.

<table>
<thead>
<tr>
<th>#</th>
<th>Novel</th>
<th>Author</th>
<th>Main Character(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3N</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Next, list three periods of history that you feel you can discuss in an essay.

<table>
<thead>
<tr>
<th>#</th>
<th>Period in History</th>
<th>Main figures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1H</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2H</td>
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<tr>
<td>3H</td>
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</tbody>
</table>

Next, list two scientists that you feel you can discuss in an essay.

<table>
<thead>
<tr>
<th>#</th>
<th>Scientist</th>
<th>Principal discovery or invention</th>
</tr>
</thead>
<tbody>
<tr>
<td>1S</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2S</td>
<td></td>
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</tbody>
</table>
Finally, list two important personal experiences that you feel you can discuss in an essay.

<table>
<thead>
<tr>
<th>#</th>
<th>Experience</th>
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</thead>
<tbody>
<tr>
<td>1P</td>
<td></td>
</tr>
<tr>
<td>2P</td>
<td></td>
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</tbody>
</table>

**Developing Your “Example Generator”**

Summarize each of the three novels that you listed (25-50 words each):

1N ____________________________________________

____________________________________________

____________________________________________

2N ____________________________________________

____________________________________________

____________________________________________

3N ____________________________________________

____________________________________________

____________________________________________

Summarize each of the three periods in history (25-50 words each):

1H ____________________________________________

____________________________________________

____________________________________________

2H ____________________________________________

____________________________________________

____________________________________________

3H ____________________________________________

____________________________________________
Tell us something about each scientist (25-50 words each—you can use a reference):

1S


2S


Summarize each of your two personal experiences (25-50 words each):

1P


2P


Anything you’d like to add about any of the above?
Applying Your Examples to Real Prompts

Here are five recent SAT essay prompts. After each prompt, please list the initials of three discussion topics (“DTs”). Then feel free to elaborate on each choice.

Certainly anyone who insists on condemning all lies should think about what would happen if we could reliably tell when our family, friends, colleagues, and government leaders were deceiving us. It is tempting to think that the world would become a better place without the deceptions that seem to interfere with our attempts at genuine communication. On the other hand, perhaps there is such a thing as too much honesty.

Adapted from Allison Komet, “The Truth About Lying”

**Assignment**: Would the world be a better place if everyone always told the complete truth?*

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<tr>
<th>DT #1</th>
<th>DT #2</th>
<th>DT #3</th>
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Many people deny that stories about characters and events that are not real can teach us about ourselves or about the world around us. They claim that literature does not offer us worthwhile information about the real world. These people argue that the feelings and ideas we gain from books and stories obstruct, rather than contribute to, clear thought.

Adapted from Jennifer L. McMahon, “The Function of Fiction”.

**Assignment**: Can books and stories about characters and events that are not real teach us anything useful?

<table>
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<tr>
<th>DT #1</th>
<th>DT #2</th>
<th>DT #3</th>
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It is easy to make judgments about people and their actions when we do not know anything about their circumstances or what motivated them to take those actions. But we should look beyond a person’s actions. When people do things that we consider outrageous, inconsiderate, or harmful, we should try to understand why they acted as they did.

**Assignment**: Is it important to try to understand people’s motivations before judging their actions?

<table>
<thead>
<tr>
<th>DT #1</th>
<th>DT #2</th>
<th>DT #3</th>
</tr>
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An example would be “2N, 1H, 2S,” which would stand for “Novel 2, Historical Period 1, Scientist 2.” Please ask if you have any questions.

* Please note that all prompts continue: “Plan and write an essay in which you develop your point of view on this issue. Support your position with reasoning and examples taken from your reading, studies, experience, or observations.”
It is not true that prosperity is better for people than adversity. When people are thriving and content, they seldom feel the need to look for ways to improve themselves or their situation. Hardship, on the other hand, forces people to closely examine—and possibly change—their own lives and even the lives of others. Misfortune rather than prosperity helps people to gain a greater understanding of themselves and the world around them.

**Assignment:** Do people truly benefit from hardship and misfortune?

DT #1______________________________

DT #2______________________________

DT #3______________________________

**Organization of the Evidence Paragraphs**

Now that we have gathered and assigned our evidence, let’s organize it. If you’re looking to write a five-paragraph essay, you know that you’ll need an introduction (more later) and a conclusion (ditto). However, how should you organize your middle paragraphs?

First, since your readers don’t have a lot of time to savor a subtle approach, putting your best evidence deep in the essay isn’t likely to work out well. My guess is that halfway through your essay your grade is almost set in stone. So don’t save your best stuff until it’s too late to matter. If you’re planning to use a personal experience (especially if that experience is in any way fictitious), use it last.

To repeat: Put your most impressive evidence in paragraph 2; next best in 3; filler in 4. So, right now, go back to your “Discussion Topics” for each of the prompts above and put those “DTs” in “2, 3, 4” order.

**Gathering, Organizing, and Expanding our Evidence**

Next, let’s practice. Following is another recent SAT essay prompt. Let’s generate and organize evidence, and then organize and present that evidence in paragraph form.

You may consult your example generator at any time. Your ultimate job is to write three “evidence” paragraphs on the following topic. At this time, you don’t need to write (or even think about writing) your introduction or conclusion. Just start with paragraph 2.
A sample essay prompt:

Given the importance of human creativity, one would think it should have a high priority among our concerns. But if we look at the reality, we see a different picture. Basic scientific research is minimized in favor of immediate practical applications. The arts are increasingly seen as dispensable luxuries. Yet as competition heats up around the globe, exactly the opposite strategy is needed.

Adapted from Mihaly Csikszentmihalyi, Creativity: Flow and the Psychology of Discovery and Invention

Assignment: Is creativity needed more than ever in the world today?

DT #1

DT #2

DT #3

Organize your “DTs” into “2, 3, 4” order. Done? Great. Let’s write some practice paragraphs. Leave a space at the beginning of each paragraph, since we’ll fit in some transition words later.

Paragraph 2

Paragraph 3

Paragraph 4
THE REASONABLE RULE REVIEW

Please review how “reasonable” your language is in the sample paragraphs above. Did you make any gross generalizations? Did you make any forceful claims? If so, edit by carefully erasing what you wrote and neatly substituting a “reasonable” replacement.

TRANSITION WORDS

Now, go back up to the three paragraphs you just created. Find at least three places where you used or could have used transition words to help the reader follow your train of thought. Can you identify spots where some of the following transitions might make the reader’s job easier?

Example transition: “What’s more, Twain thrived in a world that did not think highly of non-believers.”

Example transition: “For example, scientists puzzled through the Middle Ages how water, which falls, gets back up into the clouds.”

Example transition: “At the same time, Grant circled and then advanced on Vicksburg.”

Example transition: “Eventually, we will all have to cooperate to reduce greenhouse gases.”

Example transition: “For instance, The Diary of Anne Frank gives us a rare glimpse into the life of a real person who did not creatively change her world but rather recorded how change affected her and those around her.”

Example transition: “Moreover, creativity can be harmful; the transcontinental railroad completed the destruction of the Plains Indians’ way of life.”

Example transition: “Many people who did not go to college, however, can fix one’s car or furnace.”

Example transition: “Nonetheless, celebrities benefit society in several ways, including as role models and topics of gossip at the supermarket checkout counter.”

Example transition: “Admittedly, in certain ages ‘scientists’ such as alchemists and astrologers have given science a bad name. Nevertheless, human progress is often due to corresponding scientific progress. For instance, in ancient Sumerian society, scientific agriculture practices allowed farmers to farm the same land for years on end without depleting the nutrients in the soil.”

Example transition: “Although telling the truth is an action usually to be admired, yelling ‘fire’ in a crowded theater, even when such a statement is true, is not recommended.”

Example transition: “Yet, by studying indigenous peoples around the world, it is clear that the environment, an outside factor, often plays an important role in precipitating human change.”

Example transition: “In fact, such pesticides have turned up in water supplies more than 500 miles away from the source of the spraying.”

Example transition: “Furthermore, as the arms races of the 20th century have taught us, creativity has often been used more to compete for power and territory than to improve people’s lives.”
PART TWO: WRITING AN EFFICIENT INTRODUCTION

Start with something reasonable we all agree upon, then branch off to your own argument. Here’s an introduction from a real Maine Prep student essay:

“It is an unarguable fact that many important discoveries, whether they were scientific, political, or social, have come about as the result of many hours of hard work. Yet this does not prove that all discoveries, by nature, must in fact be the result of such labor.”

Note that the writer begins by “nodding to the other side.” Showing that you have considered arguments by “the other side” is the action of a confident writer.

Let’s try our own versions of this “While we all agree [whatever], that doesn’t mean that ...” type of introductory sentence. We’ll use the prompts from the opening pages of this workbook (during this exercise, please refer to the essay prompts on pages 6 and 7).

If we’re discussing the truth, we should acknowledge the obvious: “While everyone agrees that telling the truth is almost always the right thing to do, ...”), then state our thesis (“... in certain circumstances the truth can damage a situation or relationship.”)

You’d rather take the other side of this argument? OK: “While everyone understands that in certain circumstances the truth can damage a situation or relationship, it is clear that telling the truth is almost always the right thing to do.” Wow! Did we use the same words in a different order to take the other side?

Here’s another: “While most people do not read books in order to learn something useful, many books can teach important life principles.”

If you’d rather take the other side: “While many books can teach important life principles, most people do not read books in order to learn something useful.”

One more (a little more complex): “Although in today’s society, in which each person is so dependent upon the actions of others, the choices each person makes may seem to be less important than they once were, it is clear that the choices people make are still vital factors in their future happiness.”

“While the choices people make are undoubtedly important to their future happiness, in a society in which each person is dependent upon the actions of others, the choices one makes are less important than they once were.”

Let’s ease you into this. For the next example, I’ll write one side’s intro and begin the other—you finish it.

“While many people are beset by hardship and misfortune that cannot be overcome, many others have not only benefited from misfortune but have had the courage to write about it in order to help others.”

“While some people have not only benefited from misfortune but have had the courage to write about it to help others, ... (you finish this sentence) ____________________________

Getting the hang of it? For the next example, I’ll write one side’s intro, you write the other:
“Although in crisis situations we must judge people by their actions without considering their motivations, it is clear that we should usually hold off judging people until we can understand their motivations.”

Your turn: 

Now it’s your turn to show that you can write an introductory sentence for either side. Let’s go back to the “creativity” prompt.

Given the importance of human creativity, one would think it should have a high priority among our concerns. But if we look at the reality, we see a different picture. Basic scientific research is minimized in favor of immediate practical applications. The arts are increasingly seen as dispensable luxuries. Yet as competition heats up around the globe, exactly the opposite strategy is needed.

Adapted from Mihaly Csikszentmihalyi, Creativity: Flow and the Psychology of Discovery and Invention

Assignment: Is creativity needed more than ever in the world today?

Your intro sentence 1: 

Your intro sentence 2 (taking the opposing position): 

PART THREE: WRITING A CREATIVE (AND SNAPPY) CONCLUSION

What can you say that you haven’t already? Well, you might have come to some new understanding while you were writing the essay—setting down and explaining evidence sometimes has that effect.

Clearly, your conclusion needs to agree with your introduction, but it shouldn’t merely restate that introduction. If you’re going to quote from the prompt, this is the time (not in your introduction). As we discussed in the “evidence” section above, effective transition language will help the reader and can raise your score! So, let’s look at some transition words that will help you conclude gracefully:

“Conclusion” transition: “Clearly, understanding people’s motivations becomes secondary when one must escape the consequences of their actions.”

“Conclusion” transition: “Therefore, hardship and misfortune, while destructive to many in our society, provide inspiration for the few who are celebrated in song and story.”
“Conclusion” transition: “Hence, as in the case of the Plains Indians and the short life of Lionel Holcomb, creativity can be harmful.”

“Conclusion” transition: “On the whole, one is more likely to become wealthy working at a profession one enjoys than to become happy working at a profession mainly for the money.”

“Conclusion” transition: “People choose actions that are likely to lead to pleasure or pain, and, accordingly, reap the benefits or suffer the consequences of their actions.”

“Conclusion” transition: “Thus, books and stories teach us not about the moment-to-moment reality around us but about another’s consciousness that exists just beyond our range of vision. As Voltaire wrote in Candide, ‘All around us are creatures whose behavior appears to be inferior to our intentions.’”

**GENERAL NOTES: GRAMMAR, SPELLING, AND HANDWRITING**

It would be great if you could concentrate merely on grammar and spelling. However, since you need to keep developing your thesis and evidence as you write, how much of your energy should you spend worrying about grammar, spelling, and handwriting?

As for spelling and grammar, perfection is not vital to a good or great score. If your ideas are organized, you’ll probably write about them grammatically. If you misspell a few words, the reader won’t hold it against you as long as she can figure out what you intended to say. However, if your handwriting argues for medical school, you’re not likely to get anyone’s benefit of the doubt. I don’t know about you, but if someone makes it difficult for me to read something, I get annoyed. You don’t want a mad reader.

**Twelve pitfalls to avoid in your SAT essay:**

1. **Never** argue both sides of an issue. This essay is designed to assess how well you take and defend a position, not how well you argue or agree with yourself.

2. **Never** let your introduction and conclusion take up more than 25% of the writing space. If you can’t start or end in fewer than 50 words, perhaps you’re telling us the same thing for the third time. Long introductions and conclusions evade the assignment, which is to provide evidence (see #4) in support of your position.

3. **Never** say “in my opinion” or “I think.” What’s the difference between “Criticism is always justified” and “In my opinion, criticism is always justified”? None—just more words for an impatient reader to wade through. Similarly, if you ever find yourself using the expression “my personal experiences,” use your eraser. Immediately. Have you ever had any impersonal experiences?

4. **Never** use “if” evidence such as, “If a biologist concentrates on molecular biology she probably will not make any contributions to paleontology.” Don’t look at me like that—most “if” statements are even worse. “If” you’re not using such statements now, great—don’t start. “If” hypothetical describes your favorite kind of evidence (because using such evidence requires no real effort on your part), sorry, you need to come up with something concrete.

5. **Never** write in the second person (“you”) unless you are addressing the reader directly. After reading thousands of SAT essays, I have never seen an appropriate

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* The quote from Candide was made up. If you have read several books by a writer you probably can fabricate a quote in that writer’s style.
use of “you.” Moreover, never use “they” as a singular pronoun: “A scientist should always look through their notes when he or she is attempting to find their best path to the truth.” In case you haven’t heard it in English class, read it here: “They” takes the place of a plural noun. So, if you can’t live without “they,” make sure that you create plural rather than singular imaginary people.

6. **Never** tell us that any of your examples is “great” or “excellent.” Clearly, you liked the example so you picked it. Using superlative adjectives to manipulate the reader into agreeing with you is annoying.

7. **Never** ask rhetorical questions (“and for what?”) or speak in the imperative (“Here’s what we all should do ...”). If the test maker thought the question in the essay prompt had only one correct answer, she wouldn’t ask it—she’d ask another. So, when you give the impression that you think you have the only right response to the question, you insult the subtlety of the prompt, and it’s likely that your reader will assume that you just didn’t get it.

8. **Never** try to impress the reader by using a word whose meaning you don’t really know. Readers will give you latitude when it comes to historical inaccuracy, but they won’t be so forgiving if you use a “big” word in a completely inappropriate way.

9. **Never** tell us that you’ve *proven* anything. Doing so is probably just using language loosely (do you really believe that in a 25-minute essay you can prove anything new or important)? If you say that your evidence suggests that something is true, the reader will appreciate your modesty and play along.

10. **Never** sum up your paragraph by retelling us what you just told us. I know that’s the way you were taught but if we didn’t get it when you told us what you were going to tell us and then we still didn’t get it when you told us, what makes you think we will finally get it when you tell us what you just told us?

11. **Never** quote from the prompt except briefly in your conclusion. When you repeat a large portion of the prompt it’s logical to assume that you’re doing so because you can’t think of anything original to say. Use the templates in your Essay Workbook to model your introduction and gather your evidence.

12. **Never** finish without rereading your essay. A good reread should take three or four minutes, and will save you from writing sentences that James Joyce would try to simplify. Crossing out and replacing is fine; so is erasing, but if you’re going to erase, make sure you do so completely.

**In Sum**

Be organized. Be willing to look at both sides of an issue and take what you would normally consider the “other” side if that side’s arguments are easier to express. Use your first-hand or educational experience to illustrate arguments. Consider and then reject the “other” side’s arguments. Be reasonable.

Using this template can free you up to be creative and expressive, allowing you more time to expand upon what’s unique about your viewpoint, knowing that you can support that viewpoint with your “pre-written” evidence.

Following are two more essay prompts along with a “marked-up” practice sheet that includes instructions and transition words. You should use that sheet and follow all instructions thereon when writing your first essay.
FROM THE COLLEGE BOARD WEB SITE:

The essay gives you an opportunity to show how effectively you can develop and express ideas. You should, therefore, take care to develop your point of view, present your ideas logically and clearly, and use language precisely.

Your essay must be written on the lines provided on your answer sheet—you will receive no other paper on which to write. You will have enough space if you write on every line, avoid wide margins, and keep your handwriting to a reasonable size. Remember that people who are not familiar with your handwriting will read what you write. Try to write or print so that what you are writing is legible to those readers.

You have twenty-five minutes to write an essay on the topic assigned below. DO NOT WRITE ON ANOTHER TOPIC. AN OFF-TOPIC ESSAY WILL RECEIVE A SCORE OF ZERO.

BEG IN WRITING YOUR ESSAY ON PAGE 2 OF THE ANSWER SHEET

ESSAY TWENTY-SEVEN:

Think carefully about the issue presented in the following excerpt and the assignment below.

Everybody has some choice. People are always blaming their circumstances for what they are. I don't believe in circumstances. The people who get on in this world are the people who get up and look for the circumstances they want and, if they can't find them, make them.

Adapted from George Bernard Shaw, Mrs. Warren's Profession

Assignment: Do success and happiness depend on the choices people make rather than on factors beyond their control? Plan and write an essay in which you develop your point of view on this issue. Support your position with reasoning and examples taken from your reading, studies, experience, or observations.
FROM THE COLLEGE BOARD WEB SITE:

The essay gives you an opportunity to show how effectively you can develop and express ideas. You should, therefore, take care to develop your point of view, present your ideas logically and clearly, and use language precisely.

Your essay must be written on the lines provided on your answer sheet—you will receive no other paper on which to write. You will have enough space if you write on every line, avoid wide margins, and keep your handwriting to a reasonable size. Remember that people who are not familiar with your handwriting will read what you write. Try to write or print so that what you are writing is legible to those readers.

You have twenty-five minutes to write an essay on the topic assigned below. DO NOT WRITE ON ANOTHER TOPIC. AN OFF-TOPIC ESSAY WILL RECEIVE A SCORE OF ZERO.

BEGIN WRITING YOUR ESSAY ON PAGE 2 OF THE ANSWER SHEET

ESSAY THIRTY-TWO:

Think carefully about the issue presented in the following excerpt and the assignment below.

People are happy only when they have their minds fixed on some goal other than their own happiness. Happiness comes when people focus instead on the happiness of others, on the improvement of humanity, on some course of action that is followed not as a means to anything else but as an end in itself. Aiming at something other than their own happiness, they find happiness along the way. The only way to be happy is to pursue some goal external to your own happiness.

Adapted from John Stuart Mill, Autobiography

Assignment: Are people more likely to be happy if they focus on goals other than their own happiness? Plan and write an essay in which you develop your point of view on this issue. Support your position with reasoning and examples taken from your reading, studies, experience, or observations.
Knowing where most errors are hidden can help you work faster and make better decisions. When a sentence contains an error (approximately 82% of the time), there is a 50% chance that that error will involve singular/plural or verb tense. Therefore, paying close attention to verb tense and agreement will help you focus quickly on the money part of the sentence. Similarly, pronouns are always suspect on grammar tests, so identify to which nouns any pronouns refer.

First, Improving Sentences:

If you’re uncertain about which Improving Sentences answer is best, read the shortest, simplest answer choice into the sentence. Either that choice will be right (more often than you might think) or you’ll have a good idea of what you’ll need to add or move in order to make the sentence as clear as possible.

1) Africa is not nearly so mountainous as in Asia.
   (a) so mountainous as in
   (b) that mountainous as
   (c) equally mountainous as
   (d) as mountainous as
   (e) that mountainous as in

2) As it is primarily a bird of Tonga’s native forests, the mongani also lives in scrub and native grasslands.
   (a) As it is primarily
   (b) Although primarily
   (c) Because it lives primarily as
   (d) It is primarily
   (e) It lives primarily as

3) Although campaign consultants have long known that scare tactics can win votes, only recently have psychologists and political scientists devised studies to find out whose votes they win and why.
   (a) they win
   (b) they can win
   (c) this wins
   (d) tactics like this wins
   (e) such tactics win
4) If every nation was completely self-sufficient and also operating under a free market economy, the world’s food supply would be governed by the economics of supply and demand.

(a) was completely self-sufficient and also operating
(b) was completely self-sufficient and they operated
(c) was completely self-sufficient and also operated
(d) were completely self-sufficient and operated
(e) were completely self-sufficient and they operated

5) Although maps are used in many other studies, it is geography when they become the one constantly essential tool.

(a) it is geography when they become
(b) geography uses them to become
(c) geography is when they become
(d) in geography they are
(e) it is in geography they are

6) In addition to Jews and Christians, Islam blossomed within a small area in Western Asia.

(a) In addition to Jews and Christians
(b) As with Jews and Christians,
(c) Judaism, Christianity, and also the practicing of
(d) Along with Judaism and Christianity,
(e) Jews and Christians, in addition to

7) Listening to good storybooks sharpen children’s awareness and appreciation for the sounds of spoken language.

(a) sharpen children’s awareness
(b) sharpens children’s awareness of
(c) are what sharpens the awareness of children
(d) sharpens the awareness of children
(e) is to sharpen children’s awareness
8) Rote learning, the process of memorizing by repetition, is how many young children learn the alphabet or the multiplication tables.
   (a) is how
   (b) is used for when
   (c) this is how
   (d) the way
   (e) which is used when

9) In San Salvador, coffee, from the highlands, and bananas, produced mainly in the Caribbean lowlands, as the most important crops, they account for nearly half the total value of all exports.
   (a) as the most important crops, they account
   (b) as the most important crops, which account
   (c) are the most important crops, accounting
   (d) are the most important of their crops by accounting
   (e) have been the most important crops, which accounts

10) Ancient Trojans believed in giants—mythic heroes and semi-human creatures, they are many times the size of ordinary folk.
    (a) creatures, they are
    (b) creatures, and they were
    (c) creatures, and
    (d) creatures;
    (e) creatures

11) One time a candidate for the Republican nomination for United States president in 1964, Maine Senator Margaret Chase Smith won 126 delegates before withdrawing from the race.
    (a) One time
    (b) She was
    (c) Being
    (d) To be
    (e) As
12) For both his shorter and longer works of fiction, Maxfield Kahlo achieves the rare feat of being accessible to the common reader while satisfying the most demanding of sophisticated critics.
   (a) For both his shorter and longer
   (b) For both his shorter, and in his longer,
   (c) In both his shorter and his longer
   (d) Both in his shorter and his longer
   (e) Both his shorter and longer

13) Its fossil record virtually unchanged over 100 million years, the baobab tree is one of the oldest living species of tree.
   (a) Its fossil record
   (b) Its fossil record was
   (c) Its fossil record, which is
   (d) Its fossil record exists
   (e) Its fossil record, because

14) Because it lacks water, this makes the area known as Death Valley a desert, but it is by no means devoid of life.
   (a) Because it lacks water, this
   (b) They lack water, which
   (c) Water, the lack of which
   (d) Lacking water, it
   (e) Lack of water

15) Of the 2,027 bridges serving New York City, nearly half are over land.
   (a) nearly half are
   (b) nearly half
   (c) nearly half of them
   (d) there are nearly half
   (e) there are nearly half of them
16) British author Charles Dodgson, best known by his pen name, Lewis Carroll, is renowned for when he wrote two of the most famous and admired children’s books in the world, *Alice’s Adventures in Wonderland* and its sequel, *Through the Looking-Glass.*

(a) is renowned for when he wrote
(b) renowned in that he wrote
(c) received renown, he wrote
(d) is renowned for writing
(e) was renowned and wrote

17) Reading maps involve several abilities, including the ability to locate places, to ascertain directions, to measure distances, and to interpret the mapmaker’s symbols.

(a) involve
(b) involves
(c) will involve
(d) has involved
(e) have involved

18) Efforts to equalize the funds available to school districts, a major goal of education reformers and many states in the 1970's, has not significantly reduced the gaps existing between the richest and poorest districts.

(a) has not significantly reduced the gaps existing
(b) has not been significant in reducing the gap that exists
(c) has not made a significant reduction in the gap that exists
(d) have not significantly reduced the gap that exists
(e) have not been significant in a reduction of the gaps existing

19) Digital technology, like every marketer knows, it is synonymous with speed, precision, and the future.

(a) technology, like every marketer knows, it is
(b) technology, similar to what every marketer knows as
(c) technology, as every marketer knows, is
(d) technology is what every marketer knows as
(e) technology that every marketer knows is
20) At the airline, their pilots were angry with the prospect of seeing their pension plans replaced with less generous versions, vowed to use legal means to fight such a move.
   (a) At the airline, their pilots were angry with
   (b) The airline’s pilots had anger because of
   (c) Pilots at the airline, angered at
   (d) It angered pilots at the airline,
   (e) Their pilots, angry at the airline for

21) About 35 percent of the world’s orange juice is produced by California, comparing it with nearly 50 percent produced by Argentina, the world’s largest orange producer.
   (a) comparing it with
   (b) but
   (c) whereas
   (d) although
   (e) compared with

22) The first 12,000 United States patents, known to be the Z-patents, were burned in a fire in 1844.
   (a) to be
   (b) to have been
   (c) as
   (d) as they were
   (e) as being

23) Nearly one-sixth of all the human beings on Earth live in India, it has the world’s most populous democracy.
   (a) India, it has the
   (b) India, the
   (c) India, having the
   (d) India; the
   (e) India; and are the
24) Mexican painter Minerva Gomes-Luz drew inspiration from her Mexican heritage, where she incorporated native and religious symbols into her work.
   (a) where she incorporated
   (b) in which she incorporated
   (c) incorporated
   (d) from which she incorporated
   (e) therefore, she incorporated

25) The Parthenon was a church from 1204 until 1456, when Athens was taken by General Mahmud the Conqueror, the Turkish sultan, who established a mosque in the building and used the Acropolis as a fortress.
   (a) who established a mosque in the building and used the Acropolis as
   (b) who, establishing a mosque in the building, used the Acropolis like
   (c) who, when he had established a mosque in the building, used the Acropolis like
   (d) who had established a mosque in the building, using the Acropolis to be
   (e) establishing a mosque in the building and using the Acropolis as

26) Upon its completion in May 1883, the Brooklyn Bridge, a steel suspension bridge linking Brooklyn to Manhattan as the longest bridge in the world.
   (a) to Manhattan as
   (b) to Manhattan, and was
   (c) and Manhattan, was
   (d) with Manhattan, it was
   (e) with Manhattan, as it was

27) When light from a distant source, such as the sun, it strikes a collection of water drops, such as rain, spray, or fog, a rainbow may appear.
   (a) such as the sun, it strikes
   (b) like the sun’s, striking
   (c) such as the sun, and striking
   (d) such as the sun, strikes
   (e) like the sun’s, strikes
28) Johannes Gutenberg is generally credited to bring together the two main concepts of modern printing: movable pieces of metal type that could be reused, and a printing press for producing sharp impressions on paper over and over.

(a) to bring
(b) as he brought
(c) by bringing
(d) with bringing
(e) for the fact of bringing

29) The Senate approved immigration legislation that would grant permanent residency to millions of aliens currently residing here and if employers hired illegal aliens they would be penalized.

(a) if employers hired illegal aliens they would be penalized
(b) hiring illegal aliens would be a penalty for employers
(c) penalize employers who hire illegal aliens
(d) penalizing employers hiring illegal aliens
(e) employers to be penalized for hiring illegal aliens

30) According to the American Gardening Association, households in the United States spent a total of $1 billion on flowering bulbs in 2003, twice as much as that of 1998.

(a) that of
(b) was in
(c) for
(d) in
(e) from

You deserve a break. Why don't you check the answers and explanations for 1-30 now?
Next, Identifying Sentence Errors:

31) When people gave up the hunter-gatherer way of life and began to cultivate the soil and grow their food, they often became less mobile, built more substantial residences, and they developed more effective means of storage. **No error**

32) Besides conserving forest resources, recycling produces fewer pollutants than does the conventional pulping and bleaching processes that are normally used to create paper. **No error**

33) For decades, the most popular playground in the world was Redondo Beach’s Playland, which combined a Pacific Ocean Beach and boardwalk with food concessions, souvenir shops, rides, and other attractions. **No error**

34) Most of the world’s rays, living in temperate and tropical regions, though the Greenland ray lives in the cold Arctic waters, and the huge manta ray is at home in the seas around Antarctica. **No error**

35) Once the suspension bridge replaced the cantilever, the United States becomes the world leader in this new type of long-span bridge-building. **No error**

36) One of the northernmost countries of Europe, Finland’s borders are Russia on the east, Sweden on the west, and the tip of Norway on the north. **No error**
37) During the eighteenth century, some Zuni Indians left their mesas due to drought and famine and coming to live with the Apache at Elden Mountain Arizona. No error

38) Modern vegetable farming ranges from small-scale, low-technology production and local sale and vast commercial operations that utilize the latest advances in automation and technology. No error

39) Long one of the favorite characters of American folklore, Natty Bumppo is best known to be the hero of James Fennimore Cooper’s novel The Deerslayer. No error

40) Although the number of books written in African languages are growing, many African writers find a larger audience for works written in French or English. No error

41) Among the earliest telescopes were Huygens telescopes, modeled after the simple instruments built by Christian Huygens, the first person having used telescopes to study the stars and planets. No error

42) Mrs. Tanaka asked Juan and I whether we would consider joining our school’s grammar team. No error

43) Larger in area than Europe, the icy continent surrounds the South Pole is called Antarctica. No error

44) Although not the first animated feature film, Disney’s Fantasia was the first animated film to use up-to-the-minute techniques as well as achieving widespread release. No error
45) In order to prepare for the speech he was given to all of the parents and teachers at the school, Colin practiced speaking in front of a group of his friends. No error

46) Between 1507 to 1511, Michelangelo, working on a scaffold 60 feet above the floor, painted the vaulted ceiling of the Sistine Chapel in Rome with hundreds of giant figures that represented his vision of the world’s creation. No error

47) Ballet, modern dance, and Indian classical dance *is a form* of theater dance, the dancers usually highly trained professionals performing for audiences in particular venues and on special occasions. No error

48) The website reported this morning that despite the increase in the minimum wage, many people are still having trouble making ends meet. No error

49) Audio recordings, and the equipment used to make and play them, *comes in many* forms, including records, CDs, and MP3 recorders. No error

50) Most ships move through the Panama Canal *with their own power*, but large ships must be assisted by a tugboat. No error

51) The credit for making Vladimir Mayakovsky internationally famous as a poet belongs to his friend, poet Nicolas Pulganyek, which despite Mayakovsky’s wishes, collected Mayakovsky’s unpublished poems and then had them published. No error
52) Many types of dance music and jazz call for special instruments, which includes the hi-hat, a pair of cymbals operated by a foot pedal; a cowbell struck with a wooden-tipped drumstick; and wire brushes used on both drums and cymbals to produce a swishing sound. **No error**

53) The largest European type of mole grows to about seven inches, while the largest American type, the Springfield mole, it grows to about six inches. **No error**

54) Whereas their friend Liam often behaved as if he had only one day left to live, Roy and Cary rarely acted without first considering the consequences. **No error**

55) Used in sculpture, carving is the process and it reduces substances such as stone, wood, or ivory to a desired shape by cutting or chipping away unnecessary parts. **No error**

56) Formerly called manacles or shackles, handcuffs consist of two metal rings joined by a short chain; once fastened shut, it requires a key to open. **No error**

57) A meteorite shows an enormous variation in size, from micron-sized dust particles filtering slowly through the atmosphere to giants weighing many tons. **No error**

58) Encouraged from her teacher, Sandra decided to enter the short story contest with a story about her experience growing up in Cleveland. **No error**

59) Most newer digital cellular phones have entertainment programs on it, everything from simple dice-throwing games to memory and logic puzzles. **No error**
60) Every day, millions of tiny stony bits fall quietly into the atmosphere, burn briefly as meteorites, and leave behind a vaporized residue that filters slowly to Earth. No error.
GRAMMAR AND USAGE PRACTICE

Improving Sentences: Shocking statistics: Some answer choices are correct more often than others!

When in doubt, should you just pick (b)? How about (c)? No! You should eliminate every choice you’re sure is wrong and then pick the shortest of the remaining answers. Our recent research using nine real SATs shows that not all choices are created equal:

The shortest answer is right 39% of the time; the second shortest, 29%; third shortest, 16%; second longest, 10%; and longest, 6%. So, over the long run, the shortest answer choice is more than six times as likely as the longest choice to be right!

What does this mean for you? Just that “Go Short” should always be your Plan B. Any time you can’t eliminate four choices (even if you can’t eliminate any), pick the shortest one that’s left!

The problems in this set were gathered randomly, and as I write this I have no idea how many of the shortest answers are right. However, I am going to pay attention, and whenever the shortest answer is the winner I shall put a bold “S” at the end of the answer’s explanation.

1) D. Comparison companion word sets include “as ... as” as well as “more ... than” and “less ... than.” Any time a sentence contains a comparison, you should try to use one of these comparison companion sets. S

2) B. Note that the sentence tells us that the mongani “also” lives in scrub and native grasslands. So, the first half of the sentence must tell us that the mongani lives in other areas. To make sense, the sentence needs a “contrast” (or “antonym”) word; “although” is the only one that fits the bill.

3) E. Each pronoun used in a sentence must clearly refer to one and only one noun, right? Here, “they” could refer to “consultants,” “tactics,” “psychologists,” “political scientists,” or even “studies.” So, let’s eliminate any answer choice that includes “they.” Similarly, all relevant nouns in this sentence are plural, so we can eliminate choices (c) and (d), since “this” refers to a singular noun.

4) D. Since it’s extremely unlikely that every nation will ever be self-sufficient and operate under a free market economy, this sentence imagines a condition that is contrary to fact. In order to speak hypothetically, we need to use a verb tense called the subjunctive. (“If Paul were here, he’d know what to do,” tells us that, in fact, Paul isn’t here.) So, we’re down to (d) and (e). In (e), why do we need “they”? (If you were between (d) and (e) and chose wrongly, did you at least consider picking the Shortest Choice?) S

5) D. Note that “in many other studies” is parallel to “in geography.” If you liked choice (b), note that it states that, in the end, geography, rather than the maps, is the one essential tool. Is geography a tool (no jokes please)? S

* The green “S” means that the shortest answer was right! See the introduction above.
* What is “such”? Here, it’s an adjective that refers back to the previously-mentioned “tactics.” All adjectives answer one of three questions: “Which one(s)?”, “What kind?” or “How many?” Consider: “Some team members enjoy a good razzing, but others consider such behavior hurtful.”
6) D. Whenever we see a modifier at the very beginning of a sentence, we should ask ourselves, “Who or what is being described?” The answer to that question is the subject of the sentence! Here, we have to compare “backwards” because we know that the introduction must describe the subject (Islam), rather than believers in a religion or the practicing of a religion (c).

7) B. Some words that look like verbs aren’t verbs. Such words are called “verbals,” and you’ll see them on this test, so if nouns and adjectives ending in “ing” have never made sense to you, here’s the scoop: “Verbal” adjectives are called participles (you don’t need to know that, but having a name for them might help), and “verbal” nouns are called gerunds. If you were to say, “Surfing is an exhilarating sport,” you just used two “verbals.” One of them, “surfing,” is a gerund and is the subject of the sentence. The other, “exhilarating,” is a participle and modifies “sport.”

The subject here is “listening.” Here’s a rule: A gerund is always singular. That eliminates (a), which might have tempted you, and (c), which probably didn’t. Also, any time you can express a relationship using a possessive (my aunt’s pen) or a prepositional phrase (the pen of my aunt), prefer the possessive.

If that’s not enough, we need to discuss idiomatic preposition usage. In order for “children’s awareness and appreciation for” to be correct, the “for” must be the correct preposition to link both “awareness” and “appreciation” to the descriptive phrase that follows. Is it? Imagine that you are asked to cut “and appreciation” from the sentence. Wouldn’t you then ask whether you can change “for” to “of” so it will relate correctly to “awareness”? Since that’s the case, “awareness” needs its own preposition (which we see in the correct answer choice). If you’ve read this entire explanation, congratulations. You will do well on this test.

8) A. For a discussion of “verbals” such as the subject of this sentence, please see the explanation to problem 7. Next, any time you run across a portion of a sentence that is enclosed by commas and not underlined (here, “the process of memorizing by repetition”), you should physically cross that portion out! Finally, every sentence needs a verb that agrees with the subject. So, we’re down to (a) and (b). Is rote learning merely “used” when young children learn, or is rote learning how they learn? S

9) C. As we discussed in sentence 8, you can cross out any non-underlined portion of a sentence that is enclosed by commas! So, here we’ll cross out from the highlands and produced mainly in the Caribbean lowlands. Once we’ve done so, where’s the verb? We don’t have one. So, let’s pick a choice that includes a verb. By the way, choices (c) and (d) are in the present tense, whereas choice (e) uses past tense. S

10) E. When in doubt, find the shortest choice; read it into the sentence. If it sounds fine, pick it; if you don’t like it, you’re likely to know why (and identify the choice that solves your problem). S

11) E. Note that here the second half of the sentence, beginning with “Maine ...” is an independent clause, which means that it could stand on its own as a sentence. So, we’re looking for an answer choice that subordinates the first half of the sentence to the second. By the way, if you picked (c), “being” is almost always the “kiss of death” on the SAT. S
12) C. If we were discussing the contents of one novel, would we say, “For his novel” or “In his novel?” Next, like parentheses in math, the correlative conjunction “both” distributes anything just before it; here, in choice (c) “both” distributes “in” to “shorter” and “longer.” Would you really say, “In both his shorter and in his longer . . .”? Me neither.

13) A. In order to fill the blank, we need to know what’s “virtually unchanged.” Must be the fossil record; OK, but why can’t we choose, say, (b), which says pretty much the same thing? For one thing, if a sentence tells us that something “was,” it implies that whatever it’s talking about no longer “is.” “Today was gloomy until the sun came out.” Moreover, since the second half of the sentence is already an independent clause (one that can stand by itself), and the two halves of this sentence are connected with just a comma (which is not underlined and therefore not negotiable), we can’t make the first half into another independent clause. S

14) E. The key here is the verb “makes.” Whenever you spot a non-underlined verb, the question to ask is, “What [verb]?” Here, “What makes Death Valley a desert?” Must be “lack of water.” S

15) A. Sometimes, the order in which a sentence is written can be confusing. Whenever that’s the case, identify the subject, the verb, and the rest of the sentence and put them in that order. So, this sentence becomes, “Nearly half of the 2,027 bridges serving New York City are over land.” Can we always do this? Yes.

16) D. As we saw in question 8, we can cross out any portion of a sentence that is enclosed by commas and not underlined (here, we can cross out best known by his pen name, Lewis Carroll and Alice’s Adventures in Wonderland and its sequel, Through the Looking Glass). What’s left? “British author Charles Dodgson is renowned for when he wrote two of the most famous and admired children’s books in the world.” We know that he “is” renowned; if (e) were correct, he would no longer be renowned. S

17) B. For a discussion of “verbals” such as the subject of this sentence, please see the explanation to problem 7. So, “reading” is the subject and “involve” is the verb. How’s it read? “Reading involve ....” As we discussed in problem 8, all gerunds are singular!

18) D. As we discussed in question 8, we can cross out any portion of a sentence that is enclosed by commas and not underlined (here, a major goal of education reformers and many states in the 1970’s). So, our “revised” sentence begins, “Efforts to equalize the funds available to school districts has not significantly reduced ....” Is the term “efforts” singular or plural? How about “have”?

19) C. As we’ve seen elsewhere in this set, pronouns are always suspect. Do we need “it”? Yes, you might say, “it” refers back to “digital technology”; but, wouldn’t “digital technology” be the only possible subject anyway?

20) C. Note that in this sentence somebody “vowed.” Who vowed? Must be “pilots.” Now, how do we construct the sentence so that “pilots vowed”? If you chose (e), do you prefer “for the prospect” to “at the prospect”? Every word matters.

21) E. This is a nasty sentence because even the right answer is clunky. However, we soldier on. Consider this sentence: “Bob has twice as much money comparing him with Ray.” What? Wouldn’t you want to compare Bob and Ray using “compared with”? I would.
22) **C.** First, if you ever find a problem in which “to be” is the correct answer, call me. Even if it’s 3 A.M. Next, if you plug in the shortest choices first, you get to try “known as,” which sounds great, doesn’t it?

23) **B.** We discussed the over-use of “it” in problem 19. Please refer back to that problem and explanation if you like “it.” Next, when you’re not sure which choice you prefer, start by plugging in the shortest choice. Let’s try (d), then (b): When we plug in (d), we end up with a clause and a phrase separated by a semi-colon, which is intended to connect two independent clauses that form a single thought, not a clause and a phrase. Will a comma (b) correctly connect the clause and phrase? It will.

24) **D.** “Her Mexican heritage” is the cultural experience from which the artist took the symbols that she used in her work. If you liked (e), note that in order to begin a new independent clause we would need either a period or a semi-colon after “heritage.”

25) **A.** First, did you cross out the Turkish sultan? Next, what did General Mahmud do? He “established” and “used.” Note that “who” is a relative clause that describes “General Mahmud.” If you chose (e), please never choose a verb that ends in “ing” unless you can explain why.

26) **C.** Every sentence needs a verb. Here, once we’ve established that “a steel suspension bridge linking Brooklyn to Manhattan” needs a comma at the end, we realize that our main clause has become “Upon its completion in May 1883, the Brooklyn Bridge as the longest bridge in the world.” No, “as” isn’t a typo—if you ever see a typo on the SAT, you can be sure that the problem will be thrown out. So, “was” is a nice verb, right?

27) **D.** As we discussed in problem 19, the SAT likes to throw in a superfluous pronoun now and then to see whether you’ll notice. “My cat, it has fleas.” Not so good it’s not, right? Next, once we get rid of the pronoun, since “distant source” is followed by a comma, we need to identify that distant source—it’s the sun, right, not “the sun’s.”

28) **D.** Here, we can ignore everything after the colon, wouldn’t you say? Now we’re back to “credited,” which is always accompanied by its own preposition sidekick. Try to figure out what that sidekick is. “Reggie was credited _______ bringing back high top sneakers to school dances.” Credited’s sidekick is always with.

29) **C.** Parallel Structure should be your focus whenever a sentence contains lists or comparisons. How do we identify a list? It contains the word “and.” Here, we have a list: The legislation is intended to do two things: “grant permanent residency and ...” shouldn’t we try to find a second action that agrees with grant?

30) **D.** Here is another Parallel Structure sentence—in this case a comparison. So, what’s the comparison here? Note that to make a “legal” comparison we must include the bracketed [in]: “in 2003” to “[in] 1998.”

In case you’re interested, in the randomly-gathered set we just finished, the shortest answer was right in 13 out of the 30 questions, which translates to a shade over 43% of the time.

OK, 30 down, 30 more to go …

* The right answer in this sentence is tied for shortest.
31) **D.** Do you know pronouns? If you do, great—whenever they show up, pronouns are the right answer (that is, the error in the sentence) around 70% of the time! So, even if you’re a high scorer, you should focus in on every underlined pronoun. Here, we have two pronouns, but the (b) choice, “their,” clearly refers back to “people.” Next: Do we really need “they” in choice (d) to continue the list? How would the sentence read if we crossed it out?

32) **B.** We’re comparing actions—“recycling produces fewer pollutants” than what? Must be “the conventional pulping and bleaching processes,” which is plural. Remember, a singular noun “does,” but a plural noun or nouns “do.”

33) **E.** Sometimes there’s nothing wrong with a sentence. In choice (b), “which” refers back to Playland, which is great; if you were suspicious of choice (c), “with” is always used with “combined,” isn’t it?

34) **B.** Every clause needs a verb. What’s the verb in the first clause (which ends at the comma? Might it be “living”? No, because “living,” while it looks like a verb, is actually an adjective that describes the rays. How about, “Most of the world’s rays live ...”?

35) **B.** Always check to see whether a verb’s tense matches the timeframe of its sentence. Here, “becomes” is present tense; the rest of the sentence is in the past tense.

36) **C.** As we discuss in the Intro Descriptive TEN FOR TEN, whenever a sentence begins with a descriptive phrase we need only ask, “What does this phrase describe?” Here, “What is one of the northernmost countries of Europe?” Might it be Finland? OK, so it’s not “Finland’s borders.” Grammar is precise—be glad of that. We might rewrite that portion of the sentence to say, “… countries of Europe, Finland borders Russia on the east, ...”

37) **D.** When does the action take place? During the eighteenth century, right? So, could there be any reason to use any verb tense other than the past tense “came to live”?

38) **C.** Here we see the need for a set of prepositions that will create a range. Would we say, “She ran the gamut of emotions from A and Z?” No, we’d say “from A to Z.”

39) **D.** If a sentence containing the expression “to be” seems funky and you don’t know what else to pick, pick “to be.” The expression the writer was looking for is “known as ....”

40) **B.** In Dedicated to the Preposition, we bracket prepositional phrases and then read the sentence without them. Here, all we have to do is bracket the prepositional phrases [of books] and [in African languages] to leave “Although the number written are growing ....” Now that we’ve taken out the prepositional phrases, we’re left with a single noun (number), which must be the subject. Singular or plural?

41) **D.** If there any reason we need any tense other than past here? I don’t think so. So, can’t we rewrite (d) to read “who used”?

42) **A.** Please bracket [Juan and]. Now read the sentence without those words. It’s pretty simple, although your fourth-grade teacher told you to never say “Juan and me,” right?

43) **C.** We can change (c) to “surrounding” or “that surrounds.” Either is OK.

* She probably also told you that you can’t begin a sentence with “because.” Surprise! You can.
44) **D.** Fantasia was the first film to do two things, right? If that’s the case, then we need to use parallel structure to relate those actions. The first thing Fantasia did was “to use,” which looks OK. So, the second action must parallel the “to [verb]” format. “Achieving” doesn’t do the trick; how about “to achieve”? Nice.

45) **B.** Has Colin given the speech yet? I don’t think so. However, the verb tense in choice (b) suggests that he has! If you try to make the sentence make sense to you, you’ll smoke out grammar errors. How about, “In order to prepare for the speech he was to give ...”? 

46) **A.** As we saw in problem 38, English uses pairs of words together. Between you to me, that’s a good thing. Wait a minute! Between you to me? Shouldn’t that be “between you and me”? Yes, and this sentence should start, “Between 1507 and 1511....”

47) **A.** Sometimes a list of singular subjects appears singular. Here, when we combine ballet, modern dance, and Indian classical dance we have three types of dance! Three is more than one, and therefore plural.

48) **E.** This sentence seems to pose a verb tense problem. Can a website report something that is happening now? Sure, if the condition is ongoing.

49) **B.** Of the sentences that contain errors, about 50% involve either verb tense or singular/plural. So, will you promise me that you’ll look suspiciously at all verbs and that you’ll always find each verb’s subject? Here, the subject is a whole bunch of things (which is plural), so we need a plural verb. Interestingly, just about all verbs that end in “s” are singular!

50) **B.** When you get to the end of the Identifying Sentences section, you’ll run across preposition idiom problems, in which prepositions that don’t quite fit are featured. If you haven’t yet done so, work through our two “preposition-oriented” TEN FOR TENs. Once you’re familiar with how prepositions work, you can spot them and ask, “What might work better here?” Do the ships move “with their own power” or “under their own power”?

51) **C.** Simple rule: The SAT nearly always refers to people as “who,” not “that” or “which.”

52) **B.** You can substitute “including” or “which include,” each of which would be correct. We can’t use “includes” because it’s a singular verb; because several instruments are listed, we can’t describe them all with a singular verb.

53) **D.** Why include “it”? Cross it out and see how much more clearly the sentence reads. Remember, any pronoun is always suspect, and randomly “picking the pronoun” has about a 70% chance of being right.

54) **A.** “Whereas,” when used at the beginning of a sentence, introduces facts or evidence; Roy and Cary did not take certain actions because Liam took certain other actions. So, instead of “whereas,” we need a “contrast word” like “although” or “while.” Try plugging in one of those words and see how the sentence starts to make sense!

55) **B.** Here, we want to describe carving. Wouldn’t it be better to replace “and it” by “that”? “Carving is a process that ...“
56) D. As we work on Identifying Sentence Errors problems, we will note how often pronouns turn out to be the problem in their respective sentences. What’s “it”? Handcuffs, right? If you chose (c), here’s a “trick”: imagine replacing the semicolon by a period. Is everything OK? If so, the semicolon is fine.

57) A. Let’s try this: “A single hair shows an enormous variation in color ....” Wait a second! A single hair cannot vary in color; in order for there to be a variety, won’t we need more than one hair? So, “Meteorites show an enormous ...” would work better, wouldn’t you say?

58) A. We are never “encouraged from ....” Rather, we are always “encouraged by ....”

59) B. As we just discussed in problem 56, by the time you finish working through the Maine Prep materials, you should be on pronouns like a hawk, because an underlined pronoun turns out to be the right answer so often!

60) E. It’s amazing how often the correct answer choice to the last question in the Identifying Sentence Errors section is (e). So, if you’re pressed for time, pick (e).
MORE SENTENCE ERRORS?

1) Like her nonfiction, Marcia King writes fiction that draws extensively not only from
    published material but also from her own firsthand observations of the Amish. No error

2) During over one hundred and thirty years maple sugar was the cheapest and
    sometimes the only readily accessible sweetener available to New Englanders. No error

3) Sacramento was an important center of American Buddhism, in part because its residents
    include immigrants from most countries that have strong Buddhist traditions. No error

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) John Lee Hooker’s blues compositions helped usher in the Philadelphia blues sound
    over the 1950s and became standard numbers for the “British invasion” rock groups
    that were trying to achieve popularity during the 1960s. No error

5) Most states have various levels of volleyball competition in their high schools so that
    schools with similar numbers of students compete only against them. No error

6) For the past ninety years or more, Yosemite National Park was a topic of debate among
    Americans who have explored the meaning of the national-park concept. No error
7) Korean literature is noted for distinctive forms of drama as well as their poetry. No error
   A  B  C  D  E

8) Although it is not a fast runner, coyotes can maintain a loping run for many miles,
   A  B
   running throughout the night if necessary. No error
   C  D  E

9) By the time Joe and myself got to the box office, all of the tickets had been sold. No error
   A  B  C  D  E

10) Salt is valued not only because of its properties as a condiment and preservative, but
    A  B  C
    it is essential to the health of humans and animals. No error
         D  E
MORE SENTENCE ERRORS?

1) B. Can we say that an author is like her nonfiction? No. To what can we compare a kind of writing? Another kind of writing, wouldn’t you say? So, can we rewrite (b) to read “King’s fiction”?

2) A. Note the following uses of during. We can say “during the Bush administration” or “during the nineteenth century,” and “during the ten days.” Each use requires us to use “the” (or a possessive pronoun like “my”) after “during.” So, we’re alerted that we need to choose another preposition to replace “during.” How about “for”? If you chose (c), make a note that I have never seen a correct answer choice that focused on hyphenation or lack thereof (here, you wanted to change (c) to “readily-accessible,” right?).

3) A. Compare the tense of any underlined verb to the tense of any non-underlined verb. Are the tenses consistent? If they’re not, do they denote a passage of time (“I used to dislike tetherball, but now I play it every day.”)? Here, we’re told that “Sacramento was …” and “its residents include” …. Logically, it’s like saying, “The Roman Empire was culturally inclusive because people from many different ethnic backgrounds live in Rome.”

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) C. Here we see clearly how the test maker uses parallel structure (note that “over the 1950s” is not parallel with “during the 1960s”). The More Prepositions TEN FOR TEN will give you more practice with appropriate and inappropriate use of prepositions. That in itself is a reason for celebration.

5) D. You know that any underlined pronoun is about a 70% favorite to be the error in the sentence, right? Well, here we have two from which to choose. First, “their” (b) refers accurately to “most states”; next, “them” (d) refers to … “most states”? To what else can it refer? However, if we were to rewrite the end of this sentence, wouldn’t we come up with something along the lines of, “so that schools with similar numbers of students compete only against each other”?

6) B. Must be (b) or (c), since the verb tenses conflict, right? So, which one is it? When an action starts in the past and continues into the present, we need a special tense, “present perfect,” to capture that action. If I say, “I went to the beach yesterday,” the tense matches the action, which happened yesterday. However, can I also say, “I went to the same beach since I was a kid”? The “since” tells us that the action continues, so we need to say, “I have gone to the same beach since I was a kid.” Past =over and done with; present perfect = continuing. The reason (b) is the error here is that the beginning of the sentence tells us that this debate has been going on “for the past ninety years or more …. ” In other words, the debate is not over, which it would have to be in order for us to use the past tense.

7) D. I hate to beat a dead horse, but … surprise, surprise! … we have pronoun trouble again in this sentence. At this point, you should be on every pronoun like a hawk. Who is “their”? If
you replied, “the Koreans,” check the sentence. Is there any mention of “the Koreans”? Is it OK to imagine a noun to which a pronoun refers, or must the noun actually exist?

8) B. Can we refer to a plural noun with a singular pronoun? Right, we can’t. So, because “it” is not underlined, and so cannot be changed, “coyotes” needs to be changed to “a coyote.”

9) B. “Myself” is a reflexive pronoun, one that is used for emphasis, as in, “I myself enjoy learning grammar.” However, any reflexive pronoun must refer back to a noun or pronoun within the sentence, as in, “My car parks itself,” or “The Queen herself decided to pardon Alice.”

10) C. All grammar test comparisons must contain parallel structure. Therefore, whenever a comparison includes “not only [something],” it must also include “but also [something].” Example: “As a basketball player, Caitlin is not only tall but also very skilled.” So, choice (c) should read, “but also because ....”
PREVIEW DEDICATED TO THE PREPOSITION

Find the preposition: The test writer uses prepositional phrases, which are used to modify nouns, in order to obscure subject/verb agreement and comparisons. So, let’s start by identifying prepositions (the ones most used on the SAT are often the same as those used on this page: of, in, for, by, on, and to). Next, please find the noun that is the object of the preposition (every prepositional phrase contains a noun that is the object of the preposition, and that noun can’t be the subject of the sentence).

1) Although the specifics of the agreement has not yet been announced, it is likely that labor officials will accept the proposed lunchroom regulations for veteran employees.

2) Study of diverse plant species show that the most successful in the quest for survival are those that are most adaptable to changes in their world.

3) In North America, the industrial use of plastics is greater than steel, zinc, and bronze combined.

4) In the shadow of Lookout Point Mountain is the sources of a river whose origin was not discovered until recently.

5) The message in her novels is clear: unless we restore the dignity of the workman, all contact with our cultural past will disappear.

6) Mastery of CPR and other life-saving techniques are mandatory for police officers and firefighters as well as rescue squad volunteers.

7) The introduction of elevators in hotels meant that previously undesirable rooms on the top floors, away from the bustle and noise of the street, became sought after and more expensive than the lower floors.

8) The record left by fossils, the prehistoric remains of animals and plants, provide researchers with their most important source of knowledge about the Earth’s ancient history.

9) The number of certificates given recently to accountants accentuate the significant gains being made in the study of creative bookkeeping.

10) Commentators agree that reforms in congressional oversight has not managed to slow the increase of our nation’s spending on military hardware that, all evidence to the contrary, the Pentagon deems necessary to its well-being.

Answers: 1) of the agreement, for veteran employees; 2) of diverse plant species, in the quest, for survival, to changes, in their world; 3) in North America, of plastics; 4) in the shadow, of Lookout Point Mountain, of a river; 5) in her novels, of the workman, with our cultural past; 6) of CPR and other life-saving techniques, for police officers and firefighters as well as rescue squad volunteers; 7) of elevators, in hotels, on the top floors, away from the bustle and noise, of the street; 8) by fossils, of animals and plants, with their most important source of knowledge, about the Earth’s ancient history; 9) of certificates, to accountants, in the study, of creative bookkeeping; 10) in congressional oversight, of our nation’s spending, on military hardware, to the contrary, to its well-being.
DEDICATED TO THE PREPOSITION

Bracket all prepositional phrases. Now that you’re looking for prepositions, you can start bracketing prepositional phrases in each sentence. Once you have done so, read the sentence anew without the bracketed prepositional phrases.

1) Although the specifics of the agreement has not yet been announced, it is likely that labor officials will accept the proposed lunchroom regulations for veteran employees.

A B C D E

No error

2) Study of diverse plant species show that the most successful in the quest for survival are those that are most adaptable to changes in their world. No error

A B C D E

3) In North America, the industrial use of plastics is greater than steel, zinc, and bronze combined. No error

A B C D E

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) In the shadow of Lookout Point Mountain is the sources of a river whose origin was not discovered until recently. No error

A B C D E

5) The message in her novels is clear: unless we restore the dignity of the workman, all contact with our cultural past will disappear. No error

A B C D E
6) Mastery of CPR and other life-saving techniques are mandatory for police officers and firefighters as well as rescue squad volunteers. No error

7) The introduction of elevators in hotels meant that previously undesirable rooms on the top floors, away from the bustle and noise of the street, became sought after and more expensive than the lower floors. No error

8) The record left by fossils, the prehistoric remains of animals and plants, provide researchers with their most important source of knowledge about the Earth’s ancient history. No error

9) The number of certificates given recently to accountants accentuate the significant gains being made in the study of creative bookkeeping. No error

10) Commentators agree that reforms in congressional oversight has not managed to slow the increase of our nation’s spending on military hardware that, all evidence to the contrary, the Pentagon deems necessary to its well-being. No error
DEDICATED TO THE PREPOSITION

Quick shortcut: In subject/verb agreement problems, the subject is the word immediately to the left of the preposition!

1) A. Because “agreement” is the object of the preposition “of,” we need to look elsewhere for our subject. If you bracketed “of the agreement,” you were left with “Although the specifics has not ....”

2) A. Bracketing the prepositional phrase “of diverse plant species” leaves “Study show ...” If you haven’t bracketed, will you start?

3) C. The test maker uses prepositions to create improper comparisons. Here, what’s compared? Isn’t it the industrial use [of various materials]? So, shouldn’t the second half of the comparison read, “greater than the industrial use [of steel, zinc] ...”? Or, we can use a demonstrative pronoun for “industrial use” by writing the sentence, “greater than that [of steel, zinc] ....”

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) A. Prepositional phrases that affect subject/verb agreement tend to show up in the first line. Here we are faced with a double prepositional phrase: “In the shadow” is followed by “of Lookout Point Mountain.” So, where’s the subject? Whenever a sentence seems to be written “backward,” try rewriting it in the classic “subject, verb, etc.” order. So, wouldn’t this sentence read, “The sources [of a river] whose origin was not discovered until recently is [in the shadow of Lookout Point Mountain]”? So, “sources,” which is plural, turns out to be the subject.

5) E. Yes, the test writer can play on your prepositional paranoia—here, “in her novels” can’t be used for agreement; the subject must be “message,” which agrees with the verb “is.” If you thought “workman” was wrong, it’s actually a singular noun that refers to an undefined group of people, as when the president says that he would like to help “the auto worker.”

6) B. Any object of a preposition (and this is a long prepositional phrase, “of CPR and other life-saving techniques”) cannot be the subject of the sentence! So, what’s to the left of “of”? Why, “mastery,” of course. Is that a noun? Yep.

7) D. First, bear with me as I put brackets around all the prepositional phrases in this sentence: The introduction [of elevators] [in hotels] meant that previously undesirable rooms [on the top floors], [away from the bustle and noise] [of the street], became sought after and more expensive than the lower floors. Note that what’s left doesn’t make sense; then we notice that the “top floors” is the object of a preposition, so we try adding “on” before “the lower floors.” That by itself doesn’t work, but it gives us an idea. What if we added “rooms” before “on,” leaving us with “more expensive than rooms on the lower floors”?
8) **A.** First off, we need to cross out unused portions of the sentence that the test writer has set off with commas. Here, we can get rid of, “the prehistoric remains of animals and plants,” right? So, now we have “The record left [by fossils] provide ....,” which doesn’t sound so bad except that “fossils” can’t be the subject since it’s the object of “by.” So what’s our subject? Record? It is. When in doubt, always at least consider the first noun in the sentence, OK?

9) **B.** In this sentence, we can eliminate “of certificates” and “to accountants,” leaving “number” as the only possible subject.

10) **B.** We should be getting good at this by now. We note that “in congressional oversight” is weighty but still a prepositional phrase. So, “reforms has not ...”
IDENTIFYING SENTENCE ERRORS—SAMPLER

**First, this:** The non-underlined portions of these sentences are correct. The underlined portion needs to be consistent with the non-underlined portion.

There are 0-1 errors in each sentence. At least 3 of the lettered choices in each sentence are fine. So, be specific in your examination—don’t start seeing bogeymen in every choice. However, you need to check verb tense and both subject/verb and pronoun agreement as a matter of course—starting with this exercise!

1) Local party organizations report that voter turnout is diminished considerably
   A whenever the media projected election results early in the day. **No error**
   B C D E

2) No matter how cautious snowmobiles are driven, they are capable of damaging the
   A B C D land over which they travel. **No error**
   E

3) A curator at the science museum indicated that an unusually high percentage of their
   A B C holdings results directly from funds donated to it by wealthy patrons. **No error**
   D E

**PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW**

4) According to a 1772 law abolishing slavery, any enslaved person who enters England
   A B C D would be set free. **No error**
   E

5) Many historians have written about the Constitutional Convention, but never before has
   A B C the contributions of the signers been so completely analyzed. **No error**
   D E

6) Numerous experiments have shown that the testimony of an eyewitness is not scarcely
   A B C as reliable as most people think. **No error**
   D E
7) **Absent from** the chemist’s speech **were** any mention of his students and laboratory **technicians, upon whose contributions his work had depended heavily. No error**

8) **The Stegosaurus, plant-eating dinosaurs with protective bony plates and tail spikes, was once common to the area now known as Colorado and Wyoming. No error**

9) **The Code of Pericles consisting of 282 case laws, or judicial decisions, collected toward the end of the reign of Creon, the sixth king of Athens’ first dynasty. No error**

10) **Among the civilizations of the ancient world, that of the Romans are far better known to us than any other. No error**
IDENTIFYING SENTENCE ERRORS—SAMPLER

First, this: Here, I’ve explained only why the wrong answers are wrong. If you made another choice, and are unclear as to why your choice is wrong (i.e., not incorrect usage) please bring that choice up so we can discuss it.

1) C. You will never be asked to make a creative decision regarding verb tense; however, verb tense agreement is tested all the time on the SAT. Is there a non-underlined verb in this sentence that might be compared to “projected”? Yes, note that “voter turnout is diminished,” which is not underlined, is in the present tense; if that’s the case, why would the writer want to confuse the reader by putting “projected” in the past tense?

2) B. What does an adjective modify? A noun! Are the snowmobiles “cautious”? So, what is “cautious” trying to describe? How the snowmobiles are driven! If we’re modifying a verb, can we use an adjective? No, we have to use an adverb (cautiously).

3) C. To whom does “their” refer? The curator? Or the museum? Is “their” singular or plural (or both)? Even though “they” and “their” are colloquially used as the universal third person (“A person shouldn’t floss their teeth in public”), “they” and “their” are plural only (“A person shouldn’t floss his or her teeth …” or “People shouldn’t floss their teeth …”). A good rule is that if you don’t know a pronoun’s antecedent (yes, we have a TEN FOR TEN® called Pronouns and Antecedents), the pronoun is wrong. The sentence contains a second clue, too, since the non-underlined portion is always correct: Did you notice the “it” in the second line? Can we refer to the same noun by both a singular and a plural pronoun?

4) D. Can we use the present tense to refer to something that happened many years ago? I know, your history teacher does this, but you and I aren’t allowed to, OK?

5) C. Always consider singular/plural decisions. Here, what’s been “so completely analyzed”? Must be “the contributions.” When in doubt, change the order of the clause. How’s this? “The contributions of the signers has never been so completely analyzed.”

6) C. It’s a double negative! Could we cut out “not”? Yes. Could we cut out “scarcely”? Yes. So, why do we need both of them?

7) B. Sometimes when you’re matching up subject and verb it’s helpful to remove clutter. Here, “from the chemist’s speech” is a prepositional phrase that adds information but is superfluous to the structure. So, “Absent was any mention ...” or “Absent were any mention ...”? Whenever you have what feels like “backwards construction” in a sentence, try rewriting the sentence is the classic way (subject, verb, etc.). So, “Any mention [of his students ...] were absent ...” or, “Any mention was absent ....”

8) A. Stegosaurus sounds plural, doesn’t it? So, how can we tell without knowing Latin? How about the verb “was” at the end of the first line? That verb must agree with a singular subject.
9) **A.** When in doubt, go simple. This all happened in the past, right? So, what tense should we use? In general, verbs that end in “ing” should be looked at with suspicion. Tell me, though, did you want to put a comma after “Pericles”? Two questions: (1) How often can you alter the non-underlined portion of a sentence; and (2) how often do you expect to see a typo on the SAT?*

10) **A.** “Romans,” which was probably your first choice for subject of the main clause, is actually the object of the preposition “of,” and the object of any preposition can never be the subject of a clause! So, what noun (or pronoun) is the subject of the sentence? Must be “that,” which is a demonstrative pronoun (others are this, these, and those—refer to the TEN FOR TEN® on Parallel Possessives) that refers to “the civilization.” Try this: “Among the civilizations of the ancient world, those of the Romans and Greeks are far better known ....” See the difference?

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*Answer to both questions: Never.
IMPROVING SENTENCES—GO SHORT!

First, this: I figure you know this by now, but choice (a) is always a duplicate of what you just read in the sentence! So, do you ever have to spend valuable time reading the (a) choice?

1) Georgia O’Keeffe painted landscapes and they express the mystique of the American Southwest.
   (a) landscapes and they express
   (b) landscapes, being the expressions of
   (c) landscapes, they express
   (d) landscapes that express
   (e) landscapes, and expressing in them

2) The amount of garbage produced in the United States could be reduced by recycling trash, minimizing packaging, and developing new technology for incinerators and landfills.
   (a) and developing new technology
   (b) and if they develop new technology
   (c) also by developing new technology
   (d) and new technology being developed
   (e) and if there was new technology

3) Several of Jean Arp’s paintings were inspired by the shapes of waves and whales, titled after chapter headings from Moby-Dick.
   (a) paintings were inspired by the shapes of waves and whales, titled
   (b) paintings had their inspiration from the shapes of waves and whales with titles
   (c) paintings, inspired by the shapes of waves and whales, are titled
   (d) paintings, which were inspired by the shapes of waves and whales and which are titled
   (e) paintings, being inspired by the shapes of waves and whales, titled

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW
4) The company, once close to filing for bankruptcy, is now a self-sufficient, competitive firm.
   (a) The company, once close to filing for bankruptcy, is
   (b) The company was once close to filing for bankruptcy, it is
   (c) The company that once having been close to filing for bankruptcy is
   (d) The company, because it was once close to filing for bankruptcy, is
   (e) The company was once close to filing for bankruptcy, and it is

5) Silvestre Donavi absorbed the sights and sounds of Padua, his native city, and these are impressions that are included in his best-known writing.
   (a) these are impressions that are included
   (b) the inclusion of these impressions is
   (c) these impressions having been included
   (d) his inclusion of these impressions
   (e) included these impressions

6) For many a brilliant engineer, being free to innovate is more important than being well paid.
   (a) being free to innovate is more important
   (b) having freedom of innovation is more important
   (c) there is more importance in the freedom to innovate
   (d) freedom to innovate has more importance
   (e) to have the freedom to innovate is more important

7) The diving suit enabled marine biologist Carlotta Remington to explore the seafloor at 1,400 feet and she could ascend without stopping for decompression.
   (a) and she could ascend
   (b) as well as ascending
   (c) so she could ascend
   (d) and an ascension
   (e) and to ascend
8) In the past, many famous painters ground their own colors, an attention to detail that is noteworthy.
   (a) an attention to detail that is noteworthy
   (b) inasmuch as they showed attention to detail, it is noteworthy
   (c) this makes it noteworthy in showing their attention to detail
   (d) an idea that is noteworthy in showing their attention to detail
   (e) which is noteworthy and it shows an attention to detail

9) George Carlin developed definite ideas about the art of comedy and as a result sentiment, satire, and social criticism were introduced into his work.
   (a) sentiment, satire, and social criticism were introduced
   (b) sentiment, satire, and social criticism were introduced by him
   (c) had introduced sentiment, satire, and social criticism
   (d) introduced sentiment, satire, and social criticism
   (e) the introduction of sentiment, satire, and social criticism

10) The notion that a biography should be full of praise and free from criticism prevailed during most of the nineteenth century.
    (a) The notion that a biography should be full of praise and free from criticism prevailed during most of the nineteenth century.
    (b) The notion that prevailed about a biography during most of the nineteenth century was that of being full of praise and free from criticism.
    (c) During most of the nineteenth century, they had a prevalent notion that a biography should be full of praise and free from criticism.
    (d) Prevalent as a notion during most of the nineteenth century was for a biography to be full of praise and free from criticism.
    (e) Prevalent during most of the nineteenth century, they thought that a biography should be full of praise and free from criticism.
How about this? In the Improving Sentences subsection, the shortest answer is the right answer about 40% of the time! The longest answer is right about 6% of the time. So, if you’re not sure of a correct answer, eliminate all the choices you know are wrong and then choose the shortest one that’s left!

1) D. We’re not going to split hairs between “which” and “that,” because that decision has never been tested on the SAT. Here, “that” introduces a relative clause that defines the landscapes painted by Ms. O’Keeffe. If you chose (a), landscapes can’t express.

2) A. Lists and comparisons tip us off that we’re looking for parallel structure. Here, we need to parallel the verb tense (recycling, minimizing, and ...). By the way, whenever you have a choice between “and” and an “and substitute” like “as well as” or “in addition to,” choose “and.”

3) C. Two points: (1) Arp’s paintings were inspired by the shapes of waves and whales; and (2) their titles are taken from Moby-Dick. How can we organize this sentence to include both facts? What if we put one of those facts into a dependent clause? Let’s try one: Arp’s paintings, which are titled after chapter headings from Moby-Dick, were inspired by the shapes of waves and whales. This works, but it’s not among the choices. So, in order to pick the correct choice, we have to subordinate something else: How about inspired by the shapes of waves and whales? Note that choice (d) never leaves the dependent clause; the correct sentence must do so, since without a complete independent clause including a verb, we don’t have a sentence.

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) A. Always consider how to organize a complex sentence’s ideas. First, how could we organize this information using two sentences? The company was once close to filing for bankruptcy. The company is now a self-sufficient, competitive firm. If we want to organize these two facts, each of which is surprising only in light of the other, we can do so in two ways. Here’s one: “The company, which is now a self-sufficient, competitive firm, was once close to filing for bankruptcy.” Not terrible, but it violates a logical principle of English usage: Organize ideas chronologically (or, more simply, say what came second after what came first ...).

5) E. The word “and” always alerts us to look for parallel structure. The SAT likes to create sentences in which multiple verbs need to agree with a single subject. If the test maker can use descriptive language to separate the subject from its two (or more) verbs, often we will lose the sentence’s thread—we won’t understand that Donavi “absorbed and included.”
6) **A.** Once again, the non-underlined portion of the sentence is always correct. Here, we have to find the choice that parallels “being well paid.” If you chose (b), you wanted to rewrite the non-underlined portion to read (something like), “than having a good salary.”

7) **E.** Please see the answer to question 5 for a discussion on “and.” Here, the diving suit allowed Ms. Remington to do two things: “to explore and to ascend.”

8) **A.** This is your prototype “go short” problem. The sentence is confusing, and the answer choices are annoying. Here, we have a dependent clause that modifies something. But what? In choices (b, c, and d), we see a pronoun. That’s fine, as long as the pronoun refers us to a noun—here, “they” refers to the painters. Substitute “painters” in—kinda confusing, no?

9) **D.** Please see the answer to question 5 for a discussion on “and.” Here, again, we have one subject and multiple verbs. Mustn’t we put those verbs into some sort of parallel structure? So, “Carlin developed and introduced ...”

10) **A.** Is there anything more frustrating on a timed test than running across a whole sentence that’s underlined? Often, these sentences can be the simplest to solve because we can go directly to the answer choices and identify the one that’s the most direct. Here, we need to ask, “What prevailed?” Must be “the notion.” If you chose (c) or (e), to whom does “they” refer?
IMPROVING SENTENCES

First, this: This is the subsection where you can use your “ear” to find most of the right answers. However, there are always a few problems in which you have to understand how grammar works. So, please pay close attention to the explanations of any problems where using your “ear” doesn’t work out as well as you would have liked.

1) Learning that her state did not have a fund to help talented but underprivileged students, a campaign was begun by Ann Richards to raise money for such a fund.
   (a) a campaign was begun by Ann Richards to raise money
   (b) Ann Richards began a campaign to raise money
   (c) raising money in a campaign was Ann Richards
   (d) money was raised in a campaign initiated by Ann Richards
   (e) a campaign to raise money was initiated by Ann Richards

2) One of the most common types of mistakes that inexperienced ship-builders make is misreading blueprints, another that occurs about as frequently is recommending inappropriate building materials.
   (a) blueprints, another that occurs
   (b) blueprints; another one that occurs
   (c) blueprints, the other, and it occurs
   (d) blueprints; another one which is occurring
   (e) blueprints and also occurring

3) Taxicabs, becoming popular modes of transport for residents of New York City in 1907, which is when slow-moving vehicles powered by batteries weighing 800 pounds were replaced with faster gas-powered ones.
   (a) Taxicabs, becoming popular modes of transport for residents of New York City in 1907, which is when
   (b) In 1907, taxicabs had become a popular mode of transport with residents of New York City, the
   (c) Becoming popular as modes of transport, residents of New York City in 1907 used taxicabs, when
   (d) Taxicabs became a popular mode of transport for residents of New York City in 1907, when
   (e) With residents of New York City in 1907, taxicabs were becoming popular modes of transport, the
4) Widely regarded as the greatest American chess player in history, Bobby Fischer’s prominence came as a child, winning the U.S. Open at the age of thirteen and becoming a grandmaster at age fifteen.
   (a) Bobby Fischer’s prominence came as
   (b) Bobby Fischer’s prominence came when he was
   (c) it was Bobby Fischer coming to prominence as
   (d) Bobby Fischer came to prominence as
   (e) his prominence came to Bobby Fischer as

5) Underestimating its value, breakfast is a meal many people skip.
   (a) Underestimating its value, breakfast is a meal many people skip
   (b) Breakfast is skipped by many people because of their underestimating its value
   (c) Many people, underestimating the value of breakfast, and skipping it.
   (d) Many people skip breakfast because they underestimate its value.
   (e) A meal skipped by many people underestimating its value is breakfast.

6) Many drivers violate traffic laws knowingly and openly, in other respects they are law-abiding citizens, however.
   (a) Many drivers violate traffic laws knowingly and openly, in other respects they are law-abiding citizens, however.
   (b) Many drivers who are otherwise law-abiding citizens violate traffic laws knowingly and openly.
   (c) Many drivers violate traffic laws knowingly and openly and are otherwise law-abiding citizens.
   (d) Although otherwise law-abiding citizens, many drivers, however, violate traffic laws knowingly and openly.
   (e) Many drivers which violate traffic laws knowingly and openly are in other respects law-abiding citizens.

7) Certain shipwrecks have a particular fascination for those people which have a belief in finding the treasure in them.
   (a) which have a belief in finding the treasure in them
   (b) that believe there is treasure to be found in them
   (c) who believe they hold treasure and that they can find it
   (d) who believe that there is treasure to be found in them
   (e) who believe about treasure to be found in them
8) The revolt against Victorianism was perhaps even more marked in poetry than either fiction or drama.
   (a) either fiction or drama
   (b) either fiction or in drama
   (c) either in fiction or drama
   (d) in either fiction or drama
   (e) in either fiction or in drama

9) Anita liked to watch television, of which she found the science programs especially fascinating.
   (a) television, of which she found the science programs especially fascinating
   (b) television; she found the science programs especially fascinating
   (c) television, and it was especially the science programs that were of fascination
   (d) television; the fascination of the science programs especially
   (e) television, especially fascinating to her were the science programs

10) Raised in a large and noisy family, it was only when I went away to college that I learned how refreshing solitude could be.
    (a) it was only when I went away to college that I learned how refreshing solitude could be
    (b) when I went away to college I learned how refreshing solitude could be
    (c) going away to college taught me how refreshing solitude could be
    (d) I did not learn how refreshing solitude could be until I went away to college
    (e) refreshing solitude was unknown to me until I went away to college
IMPROVING SENTENCES

1) B. Any description at the beginning of a sentence modifies the subject, which must appear [almost] immediately after the comma that follows the description. The (c) and (e) choices, written in the passive voice, suggest that the campaign itself was concerned about the problem. Rather, a person, Ann Richards, was concerned, so her name must appear immediately after the descriptive introduction.

2) B. Independent clauses must be separated; one way to do so is by using a semicolon! When is it better to use a semicolon than a period? Use the semicolon if you want the reader to treat the two clauses as one extended thought.

3) D. Let’s discuss Plan B. In this subsection, the shortest answer is right about 40% of the time. I’m not saying you should immediately use “Plan B” (pick the shortest of all the answer choices), but if you find a problem totally frustrating, isn’t it nice to have a backup plan that has a 2 out of 5 chance of being right?1

OK, if you’re not ready to turn to Plan B yet, then how about trying Plan AA?2 First, eliminate all the answers that you know are wrong and, from the ones that are left, pick the shortest! Here, if you picked (b), you need to review what makes a sentence run-on (look at sentence 2); if you chose (c), you decided that residents were a popular mode of transport, and perhaps that was true, although historians are strangely silent on the subject.

4) D. As we discussed in problem #1 above, an introductory descriptive phrase or clause modifies the subject, which must appear after the comma that ends the description! If you chose (a) or (b), be careful in the future not to identify a possessive noun (like “Bobby Fischer’s” here) that modifies the subject (which in those choices is “prominence”) as the subject. It’s not Fischer’s prominence that was the greatest chess player, it was Fischer.

5) D. Notice this sentence’s similarity to sentence 1. Using that model, and understanding that those doing the underestimating (“many people”) constitute the sentence’s plural subject, we could rewrite the sentence to say, “Underestimating its value, many people skip

1 Since right answers win four times as much as wrong answers cost, you can calculate your odds this way: When you pick a choice that historically has been right two times in every five, you have two chances of winning a dollar and three chances of losing a quarter, which makes your odds 2:0.75, or 8:3 in your favor.

2 If we haven’t discussed Plan A for a while, here it is: You get it right because you know what you’re doing.
breakfast.” Unluckily, our predicted construction is not included among the five choices—so we look for an efficient alternative.

6) **B.** When the whole sentence is underlined, it’s more likely that we will need to find a way to organize the sentence rather than identify some obscure grammar error. Here, we have two ideas to fit together: (1) Many drivers are law-abiding citizens; and (2) Many drivers violate traffic laws knowingly and openly. In order to be noteworthy, however, the sentence must highlight how inconsistent those drivers’ actions are; how better to do so than to use a relative clause (“who are otherwise law-abiding citizens”) to specify the incongruity? ALSO: People can be referred to as “who” or “that,” but never “which.”

7) **D.** Like in sentence 6, here we have a relative clause (“who have a belief …”) that modifies “people.” If “who” is an option to refer back to people, will you ever again choose “that” or “which”? Doing so would be unwise.

8) **D.** The non-underlined portion of the sentence is correct. It asks us to find a parallel to “in poetry.” Try this: “My wallet is in either my room or in my coat.” Sounds a bit clunky, right? How about you try it again without the second “in”? “My wallet is in either my room or my coat.” Note that, like parentheses in math, the “either” distributes the “in” to both objects (“room” and “coat”). Another way to look at this is that using “either” and “or” sets up a parallel structure (if you care, they’re called “correlative conjunctions”), in that whatever shows up after “either” must be parallel to whatever shows up after “or.”

9) **B.** Please refer to the explanation for sentence 2 for a discussion on when to use a colon. Note that in the correct answer, (b), she is the subject of the second independent clause. Since Anita is the subject of the first clause, we have noun/pronoun agreement (an important aspect of parallel structure).

10) **D.** Whenever a sentence begins with a descriptive phrase your response must be, “Who or what is being described in this phrase?” The answer to your question is the subject, which must immediately follow the comma. If you want to get faster, nothing will accomplish that goal more quickly than using good technique. Here, if you knew you were looking for “who or what” was modified by the opening descriptive clause, you didn’t have to read beyond the first word of any of the choices.
IMPROVING MORE SENTENCES

1) Warmer coastal air and water has accelerated melting in Antarctica’s ice shelves and increased the flow of glaciers into the sea.
   (a) has accelerated melting in Antarctica’s
   (b) has accelerated Antarctica’s melting
   (c) having accelerated the melting of Antarctica’s
   (d) accelerated Antarctica’s melting
   (e) have accelerated the melting of Antarctica’s

2) The well-preserved, 244-million-year-old fossilized bird embryo on display at the museum has several features that suggest that its young could move about and feed themselves very soon after they hatched.
   (a) its
   (b) their
   (c) it’s
   (d) the species’
   (e) for this species

3) The language of the Zuni people, like their Navajo cousins, is classified in the Athabaskan language family.
   (a) their
   (b) for their
   (c) that of its
   (d) its
   (e) that of their

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) Peruvian novelist and short-story writer Angela Borges wrote innovative stories featuring heroines which create fantasy worlds in order to escape from unfulfilling love relationships and restricted social roles.
   (a) heroines which create
   (b) heroines, and they create
   (c) heroines, they created
   (d) heroines who create
   (e) heroines that were creating
5) The modern recreational canoe closely resembles the Oshawa bark canoe in shape, length, weight, and carrying capacity, differing only in the materials of which they are made.

(a) they are made
(b) they make them
(c) they made it
(d) it is made
(e) its making

6) It is thought that a dog’s sense of smell is generally 5,000 to 50,000 times better than humans.

(a) humans
(b) humans’ are
(c) humans have
(d) a human’s
(e) a human has

7) The gong, believed to have originated in what is now Turkmenistan, reached China in the seventh century, where it continues to be used for a wide range of purposes, including as a military signal, a rhythmic accompaniment for vocal performance, and a ritual instrument.

(a) where it continues to be used for a wide range of purposes, including as
(b) where its use continues for a wide range of purposes, which include
(c) continuing to be used in a wide range of purposes, which includes
(d) and they continue in using it for a wide range of purposes, including
(e) and which continues to be used in a wide range of purposes, including as

8) Archeological evidence shows that Viking ships were lighter, slimmer, and faster than they were in England.

(a) they were in England
(b) they had in England
(c) they had been in England
(d) those used by the English
(e) that of the English
9) The moose and the wapiti are the largest members of the deer family, each of them are found in North America, Europe, and Asia.
   (a) family, each of them are
   (b) family, both are
   (c) family, which are
   (d) family and are both
   (e) family and each are

10) Unlike an acoustic guitar, whose hollow body acts as a sound box to project sound, there is almost no sound when a solid-body electric guitar is not amplified.
   (a) there is almost no sound when a solid-body electric guitar is not amplified
   (b) there is not an amplification system, so a solid-body electric guitar makes almost no sound
   (c) an amplification system is needed for solid-body electric guitars, if they are to make much sound
   (d) the electric guitar's solid body makes it have almost no sound without the aid of an amplification system
   (e) the solid-body electric guitar is almost soundless without the aid of an amplification system
IMPROVING MORE SENTENCES

1) **E.** We have a compound subject ("air and water"), so we need a plural verb. So, we can eliminate (a) and (b). Next, choice (d), which seems to make sense on first read, actually tells us that the weather has accelerated the ice shelves (since "melting" is used as an adjective modifying "ice shelves"). Choice (c) creates a dependent clause where we need, instead, to complete the independent clause. Choice (e) uses the present perfect tense, which indicates that the melting that began in the past continues.

2) **D.** Pronouns! Can you trust them? No, since on the SAT most pronouns are used incorrectly. Here, "its" refers to the embryo, no? Can an embryo have young? Not while remaining an embryo, right? So, the embryo itself must reveal some features that were characteristic of the species. If you chose (c), remember that the pronoun "its" does not include an apostrophe!! (Does "hi's" or "her's"?)

3) **E.** Did you cross out the prepositional phrase? If so, you were left with, "The language, like their Navajo cousins..." So, to what can we compare language? Maybe another language? Certainly not to a Native American tribe! Please note that "that" in choice (e) is a demonstrative pronoun, one of four (the others are this, these, and those) that can stand in for nouns (here, "that" stands in for "the language of"). Also, in case you liked (c), "people" is plural. If the sentence discussed "the language of the Zuni tribe," (c) would be correct.

4) **D.** Although people can be referred to using "that," any time you see a single choice that uses "who" to refer to a person, pick that choice. (The SAT will never use "which" to refer to a person or people.)

5) **D.** When in doubt, the subject is the first noun in the sentence, right? Here, it's "canoe." Can we later add the "Oshawa bark canoe" to make the subject plural? No, since the "Oshawa bark canoe" is the object! Next, any pronoun we choose must refer back to our singular subject ... so long (a), (b), and (c).

6) **D.** Here, we have another improper comparison. A dog's sense of smell is compared to humans. We can compare dogs to humans and we can compare a dog's sense of smell with ... right, a human's sense of smell. Note that "that of a human" (see problem 3) would also have been correct. We explore the connection
between possessives and prepositional phrases in the TEN FOR TEN exercise, “Parallel Possessives.”

7) A. Every fifth problem or so, there’s no error. The key here is that the gong must be used ... as (try adding “as” to the end of choice (b); sounds a lot better now, right?).

8) D. What would Viking ships be lighter than? Some other ships, right? In this case, English ships. So, how do we set up a proper comparison? Go ahead and write your own end to the sentence ... “slimmer, and faster than ______________.” Did you say, “English ships”? If so, great. Now, since “English ships” doesn’t show up in the answer choices, how about we find a choice that means the same thing? The first thing we can do is eliminate the choices with “they”—after all, who are “they”? Next, those and that are demonstrative pronouns, one of which can stand in for ships; which one is plural?

9) D. First, we can eliminate each of (a) and (b) as run-on. Next, why isn’t choice (c), which is attractive, correct? Because “which are” refers not to the moose and the wapiti, but to the deer family (remember, in English, descriptive phrases and clauses normally modify the closest noun; also, family is singular).

10) E. An introductory descriptive phrase or clause describes the noun that comes next. So, what’s “unlike an acoustic guitar”? Must be some other sort of guitar. Why doesn’t (d) get some consideration? Because the primary noun in (d) isn’t “guitar”—it’s “body.” Imagine if the sentence began, “Unlike an acoustic guitar’s hollow body, the electric guitar’s solid body ....” That would compare body to body.
PREPOSITION IDIOMS

Onto the Circle of Death Rode the Six Hundred: Some of these problems contain inappropriate preposition usage (did you catch the problem at the beginning of this sentence?); one or two such problems usually appear in the 25-minute Writing Section’s Circle of Death.*

1) Listening at the first song its bassist ever wrote, the band members did not foresee that this young man would be responsible for bringing them to the attention of the world. No error

2) Given his inclination to defend the Constitution, William Jennings Bryan vehemently protested over his party’s failure to support an investigation into the previous administration’s crimes. No error

3) On August 27, 1883, four gigantic volcanic explosions, heard more than 3,000 miles away, occurred on the island of Krakatoa, expelling about five cubic miles of volcanic debris to the atmosphere. No error

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) Far away from having been a generic rock-n-roller, Freddie Mercury was, some music writers now contend, the leading fusion composer of his day. No error

5) Intense preoccupation on rhythm appears to be the one trait that great vibes players have in common. No error

6) The flowers from Jen’s Flower Shop that Martha ordered to be sent to her mother were less fresh and much more expensive than Sandy’s Flower Shop. No error

* Our affectionate name for problems 25-29 in the 25-minute Writing Section.
7) Therese Pagel’s study creates an insight on the contributions of Finnish-American women to the economic as well as the cultural development of the United States. No error

8) Whereas the caterpillars of most butterflies are harmless, moth caterpillars cause an enormous amount of damage on plants, forest and shade trees, clothing, and household goods. No error

9) Alerted by the nervousness and evasiveness of the defendant, the jurors were quick to perceive that his statements were inconsistent to those he had made earlier. No error

10) Alfred Hitchcock, unlike many filmmakers before him, had deep insight into the workings of the human psyche. No error
PREPOSITION IDIOMS

1) **A.** Do you listen “at” things or listen “to” things?

2) **C.** Here, we need to “read the sentence aloud” to ourselves. When we do, we see that one “protests against” something like injustice, not “over” it.

3) **D.** Any time you see a preposition all by itself, especially near the end of the Identifying Sentence Errors subsection, ask yourself whether another preposition might work better. Here, the volcano did not expel debris “to” the atmosphere, but “into” it.

**PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10**

4) **A.** If something is “far away,” we might need private aircraft to get there. When used in a comparison, we will use “far” (or sometimes “far and away,” as in “Far and away the best restaurant in town is ….”).

5) **A.** Do you have a “preoccupation on” improving your SAT score (or perhaps instead a “preoccupation with” improving that score)?

6) **D.** The test maker uses prepositional phrases to obscure improper comparisons. Here, if we cross out the prepositional phrases, the silliness of the comparison in this sentence becomes clear: “The flowers from Jen’s Flower Shop that Martha ordered to be sent to her mother were less fresh and much more expensive than Sandy’s Flower Shop.” So, the flowers were more expensive than Sandy’s entire Flower Shop (including all the flowers inside that shop, I presume).

7) **A.** Have you ever had an insight? Me too. Was your insight on a subject or into that subject?

8) **D.** Here, we have several prepositional phrases: “Of most butterflies” in the first line, is OK and doesn’t hide any errors; then, in the second line we have “of damage,” which is also OK, and then “on plants, forests …” Is “on” the correct preposition with “cause”? Does one cause damage on things or damage to things?

9) **C.** Here, let’s cross out “by the nervousness and evasiveness of the defendant,” (some compound prepositional phrase, eh?) and then take a look at “to those he had made earlier.” By itself, the second prepositional phrase looks fine, but let’s back up a word … “inconsistent to those …”. OK. Now you make up a sentence, something like, “Mike’s account of the game is consistent to Teri’s account.” Wouldn’t we say “inconsistent with”?

10) **E.** About 18% of the time, the sentence is just fine. Note “insight” in sentence 7.
IMPROVING SENTENCES—INTRO DESCRIPTIVE

Please Read: In English, we put each modifier as close as possible to the word it modifies. For that reason, we know that a descriptive phrase at the beginning of a sentence modifies the subject, which will show up right after the comma!

1) In addition to having more protein than wheat does, the protein in rice is higher quality than that in wheat, with more of the amino acids essential to the human diet.
   (a) the protein in rice is higher quality than that in
   (b) rice has protein of higher quality than that in
   (c) the protein in rice is higher in quality than it is in
   (d) rice protein is higher in quality than it is in
   (e) rice has a protein higher in quality than

2) Based on accounts of various ancient writers, scholars have painted a rough picture of the activities of an all-female cult that, perhaps as early as the 5th century B.C., worshipped a deity known as “the good goddess.”
   (a) Based on accounts of various ancient writers
   (b) Basing it on various ancient writers’ accounts
   (c) With accounts of various ancient writers used for a basis
   (d) By the accounts of various ancient writers they used
   (e) Using accounts of various ancient writers

3) Unlike a typical automobile loan, which requires a fifteen- to twenty-percent down payment, the lease-loan buyer is not required to make an initial deposit on the new vehicle.
   (a) the lease-loan buyer is not required to make
   (b) with lease-loan buying there is no requirement of
   (c) lease-loan buyers are not required to make
   (d) for the lease-loan buyer there is no requirement of
   (e) a lease-loan does not require the buyer to make
4) Published in Harlem, the owner and editor of the Messenger were two young journalists, Chandler Owen and A. Philip Randolph, who would later make his reputation as a labor leader.

(a) Published in Harlem, the owner and editor of the Messenger were two young journalists, Chandler Owen and A. Philip Randolph, who would later make his reputation as a labor leader.

(b) Published in Harlem, two young journalists, Chandler Owen and A. Philip Randolph, who would later make his reputation as a labor leader, were the owner and editor of the Messenger.

(c) Published in Harlem, the Messenger was owned and edited by two young journalists, A. Philip Randolph, who would later make his reputation as a labor leader, and Chandler Owen.

(d) The Messenger was owned and edited by two young journalists, Chandler Owen and A. Philip Randolph, who would later make his reputation as a labor leader, and published in Harlem.

(e) The owner and editor being two young journalists, Chandler Owen and A. Philip Randolph, who would later make his reputation as a labor leader, the Messenger was published in Harlem.

5) Unlike computer skills or other technical skills, there is a disinclination on the part of many people to recognize the degree to which their analytical skills are weak.

(a) Unlike computer skills or other technical skills, there is a disinclination on the part of many people to recognize the degree to which their analytical skills are weak.

(b) Unlike computer skills or other technical skills, which they admit they lack, many people are disinclined to recognize that their analytical skills are weak.

(c) Unlike computer skills or other technical skills, analytical skills brings out a disinclination in many people to recognize that they are to a degree weak.

(d) Many people, willing to admit that they lack computer skills or other technical skills, are disinclined to recognize that their analytical skills are weak.

(e) Many people have a disinclination to recognize the weakness of their analytical skills while willing to admit their lack of computer skills or other technical skills.
6) Like Byron, the language of Percy Bysshe Shelley is exuberant.
   (a) Like Byron, the language of Percy Bysshe Shelley
   (b) Like Byron, Percy Bysshe Shelley’s language
   (c) Like Byron’s, Percy Bysshe Shelley’s language
   (d) As with Byron, Percy Bysshe Shelley’s language
   (e) As is Byron’s the language of Percy Bysshe Shelley

7) Using a Doppler ultrasound device, fetal heartbeats can be detected by the twelfth week of pregnancy.
   (a) Using a Doppler ultrasound device, fetal heartbeats can be detected by the twelfth week of pregnancy.
   (b) Fetal heartbeats can be detected by the twelfth week of pregnancy, using a Doppler ultrasound device.
   (c) Detecting fetal heartbeats by the twelfth week of pregnancy, a physician can use a Doppler ultrasound device.
   (d) By the twelfth week of pregnancy, fetal heartbeats can be detected using a Doppler ultrasound device by a physician.
   (e) Using a Doppler ultrasound device, a physician can detect fetal heartbeats by the twelfth week of pregnancy.

8) Architects and stonemasons, huge temple clusters were built by the Maya without benefit of the wheel.
   (a) huge temple clusters were built by the Maya without benefit of the wheel
   (b) without the benefits of the wheel, huge temple clusters were built by the Maya
   (c) the Maya built huge temple clusters without the benefit of the wheel
   (d) there were built, without the benefit of the wheel, huge temple clusters by the Maya
   (e) were the Maya who, without the benefit of the wheel, built huge temple clusters
9) Using it both for culinary and medicinal purposes, oregano is one of the oldest of all cultivated plants.

(a) Using it both for culinary and medicinal purposes,
(b) Using it both for culinary purposes as well as medicinally,
(c) They use it for both culinary purposes and medicinally, and
(d) Used for both culinary and medicinal purposes,
(e) Used both for culinary purposes, also medicinally,

10) Unlike a funded pension system, in which contributions are invested to pay future beneficiaries, a pay-as-you-go approach is the foundation of the Social Security pension system.

(a) a pay-as-you-go approach is the foundation of the Social Security pension system
(b) the foundation of the Social Security pension system is a pay-as-you-go approach
(c) the approach of the Social Security pension system is pay-as-you-go
(d) the Social Security pension system’s approach is pay-as-you-go
(e) the Social Security pension system is founded on a pay-as-you-go approach
IMPROVING SENTENCES—INTRO DESCRIPTIVE

1) B. What has more protein than one grain (wheat)? Another grain (rice). So, rice must be the noun that immediately follows the introductory phrase, which means that we can eliminate all the choices except (b) and (e). What about (d)? Well, in (d), while rice is a noun, its function in this choice is to modify protein. Next, what’s the difference between (b) and (e)? On grammar tests, as in life, we can compare only like things—a rabbit to a rabbit, say, rather than a rabbit to rabbit fur. In (e), the protein in rice is compared to wheat (rather than the protein in wheat); in (b), notice the use of “that”—a demonstrative pronoun that stands in for “protein.”

2) E. First off, the non-underlined portion of the sentence is correct. So, here we have to pick an introductory phrase that correctly modifies “scholars.” Choice (a) says that the scholars are based on accounts—scratch that; in (b), notice “Basing it...”—basing what? Choice (c) is remarkably wordy (whenever you choose the longest choice, you’d better love it because the odds are against you), as is choice (d). Only (e) makes sense—that the scholars are using the ancient accounts to paint their rough picture.

3) E. Whenever you see a non-underlined descriptive phrase or clause that’s set off by commas (“which requires a fifteen- to twenty-percent down payment”), cross it out! If you haven’t yet done so, please go back and cross it out now. Thanks. Next, what can be unlike some kind of loan? Must be another kind of loan, in this case the lease-loan. How many choices use lease-loan as the primary noun? One? If you like (a) or (c), please note that in those choices “lease-loan” is used to modify “buyer[s].” Let’s try to write an introduction to fit those sentences: “Unlike a typical automobile loan buyer, the lease-loan buyer....”

4) C. This sentence is a good example of how something that looks immensely complicated can be quite simple. What was published in Harlem? Must be The Messenger, right? Choices (a) and (b) tell us that the owners and journalists were published in Harlem. Choice (d) suggests that A. Philip Randolph was “published in Harlem,” and choice (e) contains the death verb, “being.”

5) D. Threw you a change-up here. Yes, the intro phrase in (c) correctly modifies “analytical skills”; however, the rest of the sentence reads like a direct translation from a Kremlin guidebook. Since (c), which creates the correct comparison between technical and analytical skills, doesn’t work, we need to “root canal” the sentence, expecting that the correct answer will look nothing like the sample sentence. So, what’s the difference between (d) and (e)? Choice (e) has a serious parallel structure problem. After the way the sentence begins (“have a disinclination”), we’d need to write the second half, “while having a willingness....”

6) C. If we were to write this sentence starting with “Like Byron,” wouldn’t we need to follow immediately with “Percy Bysshe Shelley”? So, (a) and (b) are out. What’s the difference between “like” and “as”? “Like” compares things (“My bicycle is like Andy’s”); “as” compares actions (“Do as I say, not as I do.”) So, (d) and (e) totally misuse the “as” comparison. In (c), what’s compared? Not the poets, but rather their language—both poets are used as modifiers!
7) **E**. Who or what is using a Doppler ultrasound device? If we make the effort to understand how intro phrases work, sometimes we’re thrown a gift.

8) **C**. Who were the architects and stonemasons? Must be “the Maya,” right? If the sentence started, “Architects and stonemasons, the Romans...” you’d like it, wouldn’t you? If you picked (e), why insert a verb? Have we done so at any step along the way so far? “Architects and stonemasons, were the Romans....”

9) **D**. OK, we need a descriptive phrase that describes oregano, right? So, choices (a), (b), and (c), which refer to humans “using” something, are out. Next, what’s the difference between (d) and (e)? Choice (d), which uses the word “and,” creates a parallel structure between culinary and medicinal; choice (e) states one purpose and then adds an “oh yeah there’s a second purpose.” If you couldn’t decide between (d) and (e), what’s the recommended backup plan?*

10) **E**. Please refer to the answer to question 3 for a discussion on “throw-away clauses.” Next, what could be compared to a funded pension system? Wouldn’t it have to be another kind of pension system? If you chose (a) or (c), wouldn’t either create a parallel structure if the introduction read, “Unlike a funded pension system’s approach, ...”

* Pick the shortest answer you can stand.
IMPROVING SENTENCES—PARALLEL STRUCTURE—FIRST PREVIEW

The most important word in any grammar test may be “and.” As you read the following sentences that include and, circle the words each and connects.

1) From the earliest days of the tribe, kinship determined the way in which the Ojibwa society organized its labor, provided access to its resources, and defined rights and obligations involved in the distribution and consumption of those resources.

2) The end of the eighteenth century saw the emergence of prize-stock breeding, with individual bulls and cows receiving awards, fetching unprecedented prices, and excited enormous interest whenever they were put on show.

3) Geologists believe that the warning signs for a major earthquake may include sudden fluctuations in local seismic activity, tilting and other deformations of the Earth’s crust, changing the measured strain across a fault zone, and varying the electrical properties of underground rocks.

4) New theories propose that catastrophic impacts of asteroids and comets may have caused reversals in the Earth’s magnetic field, the onset of the ice ages, splitting apart continents 80 million years ago, and great volcanic eruptions.

5) The decision by one of the nation’s largest banks to admit to $3 billion in potential losses on foreign loans could mean less lending by commercial banks to developing countries and increasing the pressure on multi-government lenders to supply the funds.

6) Federal authorities involved in the investigation have found the local witnesses are difficult to location, reticent, and are suspicious of strangers.

Answers: (1) The first and completes a list of the three ways in which Ojibwa society acted (organized, provided, and defined ...); the second and connects rights and obligations; the third and connects distribution and consumption; (2) The first and connects bulls and cows; the second and completes a list that includes receiving and fetching; (3) The first and connects “tilting and other deformations,” which alerts us that tilting is a kind of deformation, and therefore tilting must be a gerund noun; the second and completes a list of the four signs of a major earthquake (fluctuations, tilting and other deformations, changing, and varying). At this point, although we know that we must use the same part of speech for all items or actions on a list, we’re not sure whether we should change fluctuations and tilting (both nouns) to make them parallel with changing and varying (both verbs) or the other way around; (4) The and completes a list of four conditions that were caused when the Earth was hit repeatedly by asteroids and comets (reversals, the onset, splitting apart, and eruptions); (5) Here, two things can happen: less lending and increasing the pressure. Can you make “less lending” parallel with “increasing the pressure”? How about the other way around? Won’t we have to do one or the other? (6) Here, the and ends a list of three adjectives shared by the local witnesses (“difficult, reticent, and [what ]?”)
Here in Stage Two, let’s highlight all (1) lists and (2) comparisons. Lists usually include commas, but always include “and.” Comparisons compare like things.

1) From the earliest days of the tribe, kinship determined the way in which the Ojibwa society organized its labor, provided access to its resources, and defined rights and obligations involved in the distribution and consumption of those resources.

2) The end of the eighteenth century saw the emergence of prize-stock breeding, with individual bulls and cows receiving awards, fetching unprecedented prices, and excited enormous interest whenever they were put on show.

3) Geologists believe that the warning signs for a major earthquake may include sudden fluctuations in local seismic activity, tilting and other deformations of the Earth’s crust, changing the measured strain across a fault zone, and varying the electrical properties of underground rocks.

4) New theories propose that catastrophic impacts of asteroids and comets may have caused reversals in the Earth’s magnetic field, the onset of the ice ages, splitting apart continents 80 million years ago, and great volcanic eruptions.

5) The decision by one of the nation’s largest banks to admit to $3 billion in potential losses on foreign loans could mean less lending by commercial banks to developing countries and increasing the pressure on multi-government lenders to supply the funds.

6) Ranked as one of the most important of Central America’s young novelists, Javier Garcia Lorca has written 25 novels; his works—translated into more than 20 languages—have sold more copies than any contemporary Mexican novelist.

7) In developing new facilities for the incineration of solid wastes, we must avoid the danger of shifting environmental problems from landfills polluting the water to polluting the air with incinerators.

8) Under the Safe Drinking Water Act, the Environmental Protection Agency is required either to approve individual state plans for controlling the discharge of wastes into underground water or that they enforce their own plan for states without adequate regulations.

9) Federal authorities involved in the investigation have found the local witnesses are difficult to location, reticent, and are suspicious of strangers.

10) Modern discus throwers use much of the same technique of ancient Greece.

No answers here—you can review your lists and comparisons after you finish the TEN FOR TEN.

IMPROVING SENTENCES—PARALLEL STRUCTURE

1) From the earliest days of the tribe, kinship determined the way in which the Ojibwa society organized its labor, provided access to its resources, and defined rights and obligations involved in the distribution and consumption of those resources.
   a) and defined rights and obligations involved in the distribution and consumption of those resources
   b) defining rights and obligations involved in their distribution and consumption
   c) and defined rights and obligations as they were involved in its distribution and consumption
   d) whose rights and obligations were defined in their distribution and consumption
   e) the distribution and consumption of them defined by rights and obligations

2) The end of the eighteenth century saw the emergence of prize-stock breeding, with individual bulls and cows receiving awards, fetching unprecedented prices, and excited enormous interest whenever they were put on show.
   a) excited
   b) it excited
   c) exciting
   d) would excite
   e) it had excited

3) Geologists believe that the warning signs for a major earthquake may include sudden fluctuations in local seismic activity, tilting and other deformations of the Earth’s crust, changing the measured strain across a fault zone, and varying the electrical properties of underground rocks.
   a) changing the measured strain across a fault zone, and varying
   b) changing measurements of the strain across a fault zone, and varying
   c) changing the strain as measured across a fault zone, and variations of
   d) changes in the measured strain across a fault zone, and variations in
   e) changing in measurements of the strain across a fault zone, and variations among
4) New theories propose that catastrophic impacts of asteroids and comets may have caused reversals in the Earth's magnetic field, the onset of the ice ages, splitting apart continents 80 million years ago, and great volcanic eruptions.

(a) splitting apart continents
(b) the splitting apart of continents
(c) split apart continents
(d) continents split apart
(e) continents that were split apart

5) The decision by one of the nation's largest banks to admit to $3 billion in potential losses on foreign loans could mean less lending by commercial banks to developing countries and increasing the pressure on multi-government lenders to supply the funds.

(a) increasing the pressure
(b) the increasing pressure
(c) increased pressure
(d) the pressure increased
(e) the pressure increasing

6) Ranked as one of the most important of Central America's young novelists, Javier Garcia Lorca has written 25 novels; his works—translated into more than 20 languages—have sold more copies than any contemporary Mexican novelist.

(a) than any
(b) than any other
(c) than are any
(d) than those of any other
(e) as are those of any

7) In developing new facilities for the incineration of solid wastes, we must avoid the danger of shifting environmental problems from landfills polluting the water to polluting the air with incinerators.

(a) landfills polluting the water to polluting the air with incinerators
(b) landfills polluting the water to the air being polluted with incinerators
(c) the pollution of water by landfills to the pollution of air by incinerators
(d) pollution of the water by landfills to incinerators that pollute the air
(e) water that is polluted by landfills to incinerators that pollute the air
8) Under the Safe Drinking Water Act, the Environmental Protection Agency is required either to approve individual state plans for controlling the discharge of wastes into underground water or that they enforce their own plan for states without adequate regulations.
   (a) that they enforce their
   (b) for enforcing their
   (c) they should enforce their
   (d) it should enforce its
   (e) to enforce its

9) Federal authorities involved in the investigation have found the local witnesses are difficult to location, reticent, and are suspicious of strangers.
   (a) the local witnesses are difficult to location, reticent, and are
   (b) local witnesses to be difficult to locate, reticent, and are
   (c) that local witnesses are difficult to locate, reticent, and
   (d) local witnesses are difficult to locate and reticent, and they are
   (e) that local witnesses are difficult to locate and reticent, and they are

10) Modern discus throwers use much of the same technique of ancient Greece.
    (a) of ancient Greece
    (b) of ancient Greeks
    (c) as ancient Greeks did
    (d) as they did in ancient Greece
    (e) like ancient Greeks
IMPROVING SENTENCES—PARALLEL STRUCTURE

1) A. Note that this list “organized, provided, and ...” needs that “and” to be complete, which eliminates all the choices except (a) and (c). If you chose (c), to what does “they” refer? The rights? What’s “its”? The obligations? Never accept a pronoun for which you can’t find an antecedent.

2) C. Exciting, isn’t it? Seriously, though, we’re paralleling verbs again (see explanation to question 1, above). What verb is parallel with “receiving” and “fetching”?

3) D. In a list, make sure you know what parts of speech are listed. Here, “may include sudden fluctuations....” What part of speech is “a fluctuation”? A noun, right? Now comes the difficulty, “tilting and other deformations .....” There seems to be a mixed message—“tilting” looks like a verb but “deformations” has to be a noun. How can we resolve this? Can we have “verb and other nouns”? No. Can we make a list of nouns and verbs? No. So, can “tilting” be a noun? Yes.* We should choose nouns to continue the list, right?

4) B. What did those asteroids and comets cause? “Reversals,” “the onset,” and what? Must be a noun to be parallel, no? In (d) and (e), can “continents” be parallel to “reversals”?

5) C. What does the decision portend? Less lending [adjective noun] and ... shouldn’t we look for [adjective noun]? Remember, strong writing uses parallel structure to help the reader understand how various parts of the sentence relate to each other.

6) D. Proper comparisons are parallel. Ergo, improper comparisons compare things or people that aren’t comparable. The original sentence compares Garcia Lorca’s novels to other novelists—can we compare books to people? Didn’t think so. What can we compare? People to people or books to books. So, we have to change our comparison to make sure that it compares his books to their books. Although the longest answer is seldom correct in the Improving Sentences subsections, it’s often the right answer when we need to fix an improper comparison.

7) C. Whenever we’re comparing, doesn’t it make sense to keep our structure parallel? Otherwise, the reader might not get our point ... you know? So, which is the only choice that’s strictly parallel? EXTRA CREDIT: What if we rewrote (c) to say, “the pollution of water by landfills to that of air by incinerators”? Ask if you don’t know, OK?

8) E. I love seeing “either,” which is known in the trade as a “correlative conjunction.” The construction that follows either has to be parallel with the construction that follows or. So, “to approve” or ...

9) C. Here, we learn that the witnesses can be described in three ways; which choice gives us a parallel list? If you chose (e), how’s this: “On Saturday, I cleaned my attic and my garage, and I cleaned the porch.” Why repeat the pronoun? Why repeat the verb?

10) C. “Modern discus throwers use ...” is parallel with “ancient Greeks did ...” No other choice comes close. If you chose (d), to whom does “they” refer?

* In fact, “tilting” is a gerund, a “verbal” (noun that looks like a verb) that we have discussed in other TEN FOR TENs.
Passage A: Please practice your Indexing. What is the Writer’s Intention?

(1) Elisha Graves Otis did not invent the elevator, even though his name is most closely associated with it. (2) Elevating mechanisms, usually ropes and pulleys, had been used throughout history. (3) Otis is also not credited with developing an elevator large enough and powerful enough to lift heavy loads. (4) They had actually been in use for half of his lifetime. (5) What Otis managed to do in 1854 was to demonstrate an elevator with a built-in safety device. (6) So that the elevator would not plunge to the bottom if the rope used to raise and lower it broke. (7) What was noteworthy about this was that it was then possible for people to use elevators, not just freight. (8) Prior to this time, hotels and other buildings were a maximum of only four or five stories high. (9) You can imagine why. (10) "Birdcage" elevators were made of open metalwork, just like bird cages. (11) Hotel guests were reluctant to climb many flights of stairs several times daily, rooms on the lower floors were considered premium. (12) In businesses, people as well as desks and other heavy equipment had to be moved up stairs. (13) So when Otis’ safe elevator was developed, it meant that buildings could be taller. (14) Before long, hotels and office buildings were nine and ten stories high.

1) In context, what is the best way to deal with sentence 4 (reproduced below)?

They had been in use for half of his lifetime.

a) Delete it
b) Switch it with sentence 5
c) Change “They” to “Such elevators”
d) Change “his” to “Otis”
e) Insert “supposedly” after “lifetime”
2) What is the best way to revise the underlined portion of sentences 5 and 6 (reproduced below)?

What Otis managed to do in 1854 was to demonstrate an elevator with a built-in safety device. **So that the elevator would not plunge** to the bottom if the rope used to raise and lower it broke.

a) device, by which the elevator would not plunge
b) device, and the elevator would not plunge
c) device because an elevator plunges
d) device to prevent the elevator from plunging
e) device, it prevented elevators from plunging

3) Which of the following is the best sentence to insert at the beginning of the second paragraph before sentence 8?

a) Freight had always been a major consideration.
b) Otis’ improvement had far-reaching consequences.
c) So Otis’s fame was based entirely on safety.
d) If Otis had not invented this device, someone else would have.
e) Elevators can move more than 1,500 feet per minute.

4) Which of the following is the best version of the underlined portion of sentence 11 (reproduced below)?

Hotel guests were reluctant to climb many flights of **stairs several times daily, rooms on the lower floors were considered premium.**

a) (as it is now)
b) stairs several times daily because rooms on the lower floors
c) stairs above the rooms on the lower floors several times daily but they
d) stairs several times daily above the rooms on the lower floors, which
e) stairs several times daily; as a result, rooms on the lower floors

5) Which sentence should be deleted from the essay because it contains unrelated information?

a) Sentence 1
b) Sentence 3
c) Sentence 8
d) Sentence 10
e) Sentence 13
In the last fifty years, computers in many forms have become increasingly accessible. (2) For example, today the calculator is regarded as an essential tool for basic calculations by students and business people. (3) The word processor is considered indispensable by most writers, researchers, and office workers. (4) In addition, many families use computers to organize information, to balance budgets, and to provide entertainment. (5) In spite of the growing popularity of computers, some people are genuinely afraid of these machines. (6) They fear that computers have intelligence and that they will take control over people and things. (7) Because of this fear, people lack the confidence to try the new technology. (8) This is unfortunate. (9) Computers perform many important functions. (10) What would happen if we did not have any computers? (11) Not only would the cost of communications increase, and many processes would require more time than before to carry out. (12) Further, technological achievements such as space programs and scientific discoveries would probably slow down. (13) Computers have become an integral and important part of daily life. (14) To those of you who are afraid, we should remember that computers are simply advanced adding machines and typewriters!

6) Which of the following would be the most suitable reference to insert immediately after sentence 1?
   a) The race is on to produce the “ultimate” computer.
   b) I have found the computer somewhat difficult to learn to operate.
   c) Many people are understandably intimidated by computers.
   d) They are now so common that they have a profound effect on daily life.
   e) Modern telephones belong to the family of computers.

7) To best connect sentence 3 to the rest of the first paragraph, which is the best word or phrase to insert after “The word processor,” in sentence 3 (reproduced below)?
   The word processor is considered indispensable by most writers, researchers, and office workers.
   a) surely,
   b) however,
   c) another form of computer,
   d) you see,
   e) contrastingly,
8) In context, sentence 8 could be made more precise by adding which of the following words after “This”?
   a) technology
   b) confidence
   c) example
   d) computer
   e) situation

9) The function of sentence 10 is to
   a) set up a hypothetical circumstance
   b) raise doubts in the reader’s mind about the usefulness of computers
   c) allow the writer to feign humility
   d) contest a common assertion about computers
   e) show the writer’s bewilderment about some aspect of computers

10) Which of the following is the best revision of the underlined portion of sentence 11 (reproduced below)?
    Not only would the cost of communications increase, and many processes would require more time than before to carry out.
    a) but so would the many processes require more time to carry out
    b) and also many processes require more time to carry out
    c) but they would require more time to carry out the process
    d) as well as to require more time for many processes to be carried
    e) but so would the time required to carry out many processes
WRITING—IMPROVING PARAGRAPHS

Improving Paragraphs is the last subsection in the 25-minute Writing section. If you have sufficient time when you reach this subsection, you might find the six questions to be among the easiest on the test.*

For questions 1-5: What's the writer's Intention? Inform: “The safety elevator changed everything (or a lot, anyway) way back when and Otis was the person responsible.”

1) C. The use of “such” seems to be difficult for today’s high school student. It means “of the kind already mentioned.” As Julius Caesar says of Cassius, “He thinks too much: such men are dangerous.” As for the wrong choices, is the sentence necessary (a)? Yes, the sentence provides information that is not duplicated anywhere else in the passage. Switching with sentence 5 (choice (b)) would make “they” even more mysterious. Choice (d) might be tempting until we realize that there is one and only one “he” in this passage (when used correctly, a pronoun has to refer clearly to a single noun, right?). If you were to incorporate the suggestion in (e), when Otis lived would be open to speculation. Is that the point of this passage?

2) D. Here, choice (d) connects the introduction of the safety device with why the device has been useful and necessary. If you chose (b), we connect clauses using “and” only when those clauses are parallel but independent (that is, one doesn’t cause the other).

3) B. Each opening sentence should contain a thesis that the writer attempts to support using evidence presented later in the paragraph. “Otis’s fame” is less relevant than anything the writer can tell us about his invention; choice (d) may also be true, but so what? And (e), while fascinating, has nothing in common with either what’s discussed immediately before or after. The “far-reaching consequences” include today’s high-rises.

4) E. We’re looking for a sentence that expresses the correct cause/effect relationship (stairs hard to climb, so ground floor good). Choice (a) is run-on (put “so” right after the comma to see how a simple conjunction would fix the sentence); choice (b) states that the rooms on the lower floors somehow influenced guests to resist climbing stairs; and choice (c) is nonsense (who are they?).

5) D. Although sentence 10 contains new information and could be interesting, it does not further the writer’s intention, which is to explain why Otis’s invention so revolutionized not only elevators but also the buildings that contained elevators.

* Redesign your Writing section experience! Skip over questions 25-29 (the toughest Identifying Sentence Errors questions—we call these questions “The Circle of Death”) in order to get to the Improving Paragraphs questions (30-35) while you still have time to read carefully. Doing so will allow you to get through Improving Paragraphs more efficiently (and quickly); you can then try your luck in The Circle of Death.
For questions 6-10: What's the writer’s theme? “Computers in many forms are everywhere!”

6) D. Note the first words of the second sentence: “For example ....” If you chose something other than (d), plug your choice in and continue with “For example, ...” Does the example support your choice?

7) C. In a well-written essay, every example supports the writer’s thesis. What’s this writer’s thesis? Isn’t it that computers in many forms have become increasingly accessible? In order to support this thesis, mustn't the writer provide us with examples of different kinds of computers? Sentence 2, which discusses the calculator, begins with the words, “For example,” cluing us in that we’re going to review some specific types of computers. One specific just won’t do the job, though, so in sentence 3 the writer tells us about “another form of computer.” If you chose (b) or (e), I want you to look closely at how similar they are. There is one right answer, and the choices will never be nearly that close. So, when two choices are that similar, they’re both wrong.

8) E. The writer uses paragraph 2 to discuss people’s unreasonable fears. So, what’s unfortunate—that computers exist or that people are afraid of them? If you chose (c): Saying in your essay that an example is unfortunate means that your thesis would have been better served by your using another example.

9) A. “What would happen ...?” Here’s where knowing the writer’s theme can help you eliminate answer choices quickly. The writer is pro-computer and seems savvy. So, can (b) or (e) ever be correct? If you chose (c), find the word “I” in the passage. It’s hard to feign anything without discussing yourself. Choice (d) is out of place in the middle of the third paragraph, since such assertions are discussed earlier in the passage.

10) E. This is a straight grammar question—more like those we see in “Improving Sentences.” First tip: Whenever you see the words “not only,” (1) any correct answer choice will also include the word “but”; and (2) the structure of what follows “but” must parallel the portion of the sentence that follows “not only.”

* Pretend
WRITING EXERCISE—PARALLEL POSSESSIVES

The table above shows four ways we can refer to the same car, which, if you haven’t noticed, belongs to my uncle.

A thing can “possess” another thing. So, we can use the same four methods.

Let’s try a few “parallel possessive” exercises. Some of the following comparisons are legal and should be marked “OK.” The others are flawed and should be marked “not OK.”

1. Like Mike’s skis, Hannah’s skis are red.
2. Like Mike, Hannah owns red skis.
3. Like Mike’s skis, Hannah owns red skis.
4. Like Mike, Hannah’s skis are red.
5. Like the skis of Mike, Hannah’s skis are red.
6. Like Mike’s skis, Hannah is red.
7. Like the skis of Mike, those of Hannah are red.
8. Like Mike’s skis, Hannah’s are red.
9. Like his, her skis are red.
10. Like Mike’s skis, those of Hannah are red.
11. Like him, her skis are red.
12. Like Mike’s, Hannah’s skis are red.
13. Like those of Mike, Hannah’s skis are red.
14. Like his skis, Hannah’s skis are red.
15. Like his skis, her skis are red.
After you check the explanations, try another set:

16. Like Japan, America is a major manufacturing power.
17. Like Japan’s industry, America is a major manufacturing power.
18. Like the industry of Japan, American industry is a strong economic force.
19. Like Japan’s industry, America’s industry is a strong economic force.
20. Like that of Japan, American industry is a strong economic force.
21. Like the industry of Japan, that of America is a strong economic force.
22. Like its industry, the American monetary system is a strong economic force.
23. Like that of Japan, America’s is a strong economic force.
24. Like Japan’s, the industry of America is a strong economic force.
25. Like its industry, Japan’s services sector is very strong.
26. Like the industry of Japan, American is a strong economic force.
27. Like Japan, American industry is a strong economic force.
28. Like that of Japan, America is a major manufacturing power.
29. Like its industry, America is a major manufacturing power.
30. Like Japan’s, that of America is a strong economic force.
PARALLEL POSSESSIVES

1. OK. Like Mike’s skis, Hannah’s skis are red. This couldn’t be better—it’s a perfect match of comparative possessive nouns.

2. OK. Like Mike, Hannah owns red skis. A perfect comparison—this time of ski owners.

3. Not OK. Like Mike’s skis, Hannah owns red skis. This sentence says that Hannah is like Mike’s skis. This is a classic improper comparison.

4. Not OK. Like Mike, Hannah’s skis are red. We’re comparing a person (Mike) to another person’s possession (Hannah’s skis). You might ask, “But what if Mike is has been reddened by the sun while on the ski slopes?” Yes, Mike may be red, but you’ll just have to find another way to communicate that fact, because doing so this way will confuse the reader, who will expect Mike to be as red as Hannah’s skis.

5. OK. Like the skis of Mike, Hannah’s skis are red. This seems to be English as a second (or possibly third) language, but the possessive preposition (of) is parallel with the possessive noun (Hannah’s).

6. Not OK. Like Mike’s skis, Hannah is red. As we saw in #4, a person can be red. That fact doesn’t justify this comparison.

7. OK. Like the skis of Mike, those of Hannah are red. This is perfectly legal, since both halves of the comparison make use of the possessive preposition (of), and the second half uses the demonstrative pronoun (those) to stand in for “skis.”

8. OK. Like Mike’s skis, Hannah’s are red. When we read #7, this is probably the way we wanted to rewrite it. Since the first half of the comparison uses a possessive noun (Mike’s), when we see parallel possessive noun in the second half (Hannah’s) we can assume (legally) that both possessive nouns modify “skis.”

9. OK. Like his, her skis are red. This sentence is intended to show you a legal if slightly confusing parallel possessive comparison that you’d never use in real life unless you were being charged by the word.

10. OK. Like Mike’s skis, those of Hannah are red. We can use the possessive noun (Mike’s) and a demonstrative pronoun (those) with the possessive preposition (of).

11. Not OK. Like him, her skis are red. As we saw in #4, Mike may indeed be red, but because confusing the reader is severely frowned upon, it’s improper to compare a person to another person’s possession.

12. OK. Like Mike’s, Hannah’s skis are red. Note how similar this is to #9; however, since as readers we’re more comfortable comparing possessive nouns than possessive pronouns, this comparison is much less likely to confuse the reader.

13. OK. Like those of Mike, Hannah’s skis are red. This is a variation on #5; here, we’re using a demonstrative pronoun (those) to create a parallel construction with a possessive noun (Hannah’s).

14. OK. Like his skis, Hannah’s skis are red. This is fine as long as Mike has been identified earlier in the story.

15. OK. Like his skis, her skis are red. Again, like #14, this is fine as long as we can identify the people to whom this refers as “his” and “hers.”
16. OK. **Like Japan, America is a major manufacturing power.** Note that we can only compare things that are comparable. Here, Japan is compared to America—they’re both countries!

17. Not OK. **Like Japan’s industry, America is a major manufacturing power.** This sentence says that America is like Japan’s industry. Note the difference from sentence 16, where one country was compared to another. We can compare one country to another, and we can compare one country’s industry to another country’s industry, but we cannot compare a country to an industry.

18. OK. **Like the industry of Japan, American industry is a strong economic force.** This sentence is legal. Note that “of Japan” is a possessive modifying “industry”; similarly, in the second half of the comparison, “American” modifies “industry.” So, this sentence compares one industry to another—pretty easy once you get the hang of it, eh?

19. OK. **Like Japan’s industry, America’s industry is a strong economic force.** This is a variation on sentence 18; note that we can use “the industry of Japan” and “Japan’s industry” interchangeably. Also, we could substitute “Japanese” for “Japan’s” and/or “American” for “America’s” here, although matching the format of the modifiers is stronger than mixing, say, “Japanese” with “America’s.”

20. OK. **Like that of Japan, American industry is a strong economic force.** This is the same comparison we just saw in sentences 18 and 19. Here, we’re using a demonstrative pronoun (that) to stand in for “industry.”

21. OK. **Like the industry of Japan, that of America is a strong economic force.** This isn’t the smoothest way to make this comparison, but it’s legal. Note that the demonstrative pronoun “that” is parallel to (and stands in for) “the industry.”

22. OK. **Like its industry, the American monetary system is a strong economic force.** The possessive can create the parallel construction (“Like Hannah’s skis, her ski hat is blue”). Here, “its” is parallel with “American”; “industry” is parallel with “monetary system.”

23. Not OK. **Like that of Japan, America’s is a strong economic force.** This could be usable if the essay’s subject were the industries or economies (or something) of both countries. However, we need to know what we’re comparing.

24. OK. **Like Japan’s, the industry of America is a strong economic force.** Here, it’s clear that “Japan’s” refers to that country’s industry, and as we’ve noticed, it’s legal to compare one country’s industry to that of another.

25. OK. **Like its industry, Japan’s services sector is very strong.** Here, the possessive pronoun clearly refers to Japan, which allows a legal comparison between two sectors of the Japanese economy.

26. Not OK. **Like the industry of Japan, American is a strong economic force.** You’re unlikely to run into this sort of sentence, because even though the possessives (the
preposition “of” and “American”) seem to be parallel, the sentence itself makes no sense? American what?

27. Not OK. **Like Japan, American industry is a strong economic force.** This is a classic SAT-type error, which says that Japan is like American industry. We make this mistake all the time when we say something like, “Our football team is better than Deering.”

28. Not OK. **Like that of Japan, America is a major manufacturing power.** This is the flip side of #27, since it compares a possessive (that of) with America.

29. Not OK. **Like its industry, America is a major manufacturing power.** I have no idea what this one means (and I wrote it!), so remember the editor’s rule #1, “Don’t confuse the reader.” How about this? “Like his ski hat, Bob’s family is close-knit.”

30. Not OK. **Like Japan’s, that of America is a strong economic force.** As opposed to #21, which told us what was being compared, here we don’t have a clue.
PREVIEW  PRONOUNS AND THEIR ANTECEDENTS

A. Please box each pronoun.

B. Please underline the noun, if any, that each pronoun replaces.

1) If one is interested in learning even more about Edna St. Vincent Millay, you should read Galloway’s biography.

2) Lytton Emerson was one of a small group of linguists who dedicated their life to learning the seventy-nine official variations of Esperanto.

3) Between the engineering chief and I existed an easy, cooperative working relationship; neither of us hesitated to discuss problems.

4) More than 10,000 earthen mounds, built by prehistoric Native Americans for ceremonial purposes, they have found in Minnesota.

5) The charm of Marra’s books lies in the humorous reversal of roles—the animals guide, assist, and generally they take care of the helpless humans.

6) Among the most widespread of marine animals, starfishes and sea urchins inhabit all seas except that of the polar regions.

7) Just as parents vary in their readiness to have their children leave home for college, young people vary in his or her readiness to leave.

8) People who wish to be a soldier should remember that not all soldiering is adventurous and that a great deal of it is simply dangerous.

9) The factory manager and her coworker, Ms. Patton, received equal pay from the company until she got a raise for helping to boost efficiency.

10) My history teacher always gives the other’s test scores to my twin brother Bob and I even though we each wear such different articles of clothing.
IDENTIFYING ERRORS—PRONOUNS AND THEIR ANTECEDENTS

**Pronouns**: The College Board’s own book of practice tests and SATs given since 2005 reveal a pattern: An underlined pronoun turns out to be the correct answer almost 70% of the time.

1) If one is interested in learning even more about Edna St. Vincent Millay, you should read
   - A
   - B
   - C
   - D
   Galloway’s biography. **No error**
   - E

2) Lytton Emerson was one of a small group of linguists who dedicated their life to learning
   - A
   - B
   - C
   - D
   the seventy-nine official variations of Esperanto. **No error**
   - E

3) Between the engineering chief and I existed an easy, cooperative working relationship;
   - A
   - B
   - C
   neither of us hesitated to discuss problems. **No error**
   - D
   - E

4) **PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW**

5) More than 10,000 earthen mounds, built by prehistoric Native Americans for ceremonial
   - A
   - B
   - C
   purposes, they have found in Minnesota. **No error**
   - D
   - E

6) The charm of Marra’s books lies in the humorous reversal of roles—the animals guide, assist, and generally they take care of the helpless humans. **No error**
   - A
   - B
   - C
   - D
   - E

7) Among the most widespread of marine animals, starfishes and sea urchins inhabit all seas
   - A
   - B
   - C
   except that of the polar regions. **No error**
   - D
   - E

8) Just as parents vary in their readiness to have their children leave home for college, young
   - A
   - B
   people vary in his or her readiness to leave. **No error**
   - C
   - D
   - E

9) People who wish to be a soldier should remember that not all soldiering is adventurous
   - A
   and that a great deal of it is simply dangerous. **No error**
   - B
   - C
   - D
   - E
9) The factory manager and her coworker, Ms. Patton, received equal pay from the company until she got a raise for helping to boost efficiency. No error

10) My history teacher always gives the other's test scores to my twin brother Bob and I even though we each wear such different articles of clothing. No error

Answers to Preview:

The pronouns (and the noun each replaces): 1) one (none), you (none); 2) one (Emerson), who (the linguists), their (the group of linguists); 3) I (none), us (the engineering chief and me); 4) they (none); 5) they (the animals); 6) that (demonstrative pronoun that replaces “the seas”); 7) their (parents), their (parents), his or her (young people); 8) who (people), it (soldiering); 9) her (the factory manager), she (your guess is as good as mine); 10) my (me), I (none), we (Bob and I).
IDENTIFYING ERRORS—PRONOUNS AND THEIR ANTECEDENTS

1) **D.** The word “you” should always put you on alert. As I’m sure you’ve discussed in English class, writing in the second person (as I am doing here by addressing you) is always wrong unless you are addressing your reader. Therefore, on a grammar test, what are the odds a random “you” is correct? If by some chance it is, you’ll find another “you” elsewhere in the sentence.

2) **C.** If you chose the pronoun, did you luck out! Actually, in this sentence “their” is fine, since it refers to the linguists. However, since there are multiple linguists, how many lives did they have? One or more than one? Ah, so they dedicated “their lives.”

3) **A.** Do you know anyone who says, “Between you and I, ...” Do you like that person? If you don’t, here’s some ammunition. “Between” is a preposition, so the phrase that begins with “between” is a prepositional phrase, which means that the pronouns “you and I” are the collective object of the preposition. The object of a preposition can never be expressed using the subjective case (“I”) but rather must be expressed using the objective case (“me”). How likely is it you’ll bring this up in conversation?

PLEASE RETURN AND FINISH PROBLEMS 4 THROUGH 10

4) **D.** The most misused word in America is “they”—the “universal” third person. “A person shouldn’t leave their bike unchained.” Anything wrong with that sentence? If you said “yes,” I’ll bet you had to think about it first. So, any time you spot any variation on “they” in an SAT sentence, you should be on it like a hawk. Here, who are “they”? Does it matter? Can you use a pronoun to refer to a noun that doesn’t appear anywhere else in the sentence?

5) **D.** Any time you see a pronoun, immediately identify the noun the pronoun replaces. Here, in (d), “they” refers to “the animals.” However, the clause in which “they” appears seems to contain a list of the animals’ activities: “they guide, assist, and take care of ....” If that’s the case, why interrupt the list by repeating the subject pronoun? As Yoda might say, “Answer that one, you should.”

6) **D.** Welcome to the realm of demonstrative pronouns, of which there are four: *this, that, these,* and *those.* The first two replace singular nouns; the last two replace plural nouns. In choice (d), we see “that”—what does “that” replace? Would be “seas,” no? Wait a minute! “That,” as we just saw, is singular. What could we use instead of “that”? How about “those”? Right.

7) **D.** Just when you thought you had an edge (“they is always wrong”), it turns out that using “they” is appropriate in this sentence because the pronoun replaces “people,” which is a plural noun. “His or her” would replace a singular noun (such as “a young person”).

8) **A.** As we saw back in sentence 7, “people,” which is plural, cannot wish to be “a soldier,” which is singular. A person can wish to be a soldier, or people can wish to be soldiers. How
silly would this sound: “A person who wishes to be soldiers...”? No sillier than the sentence as written. Yes, “soldiering” is a gerund noun (look it up), just like “skiing” or “surfing.”

9) **C.** Who is “she”? This is a common error that actually shows up in people’s essays! Every pronoun must replace a specific identifiable noun in the sentence. So, since both people in this sentence are female, we need a little more help than a non-specific female pronoun to learn who got the raise.

10) **B.** Were you taught that using “Bob and me” is always incorrect? If so, you probably received that advice in fifth grade when the teacher was trying to stop you from writing, “Bob and me went to the store.” New instruction: Whenever you’re asked about a compound subject or object (“Claire and I”; “Ramon and me”), cross out the first part of the compound (“Claire and I”; “Ramon and me”) and see if what’s left is appropriate in the sentence. Here, “always gives the ... test scores to my twin brother Bob and I” just doesn’t work.
SUSPECT THE VERB

First, this: The test maker’s challenge is to insert an error into a sentence without making that error obvious. If you were writing the SAT, what would be your plan?

Verbs: Your best bet would be verbs, where you can hide both tense and singular/plural errors.

The Stats: A survey of nine recent SATs showed that in sentences where there was an error, the error specifically related to singular/plural or verb tense about 50% of the time. So, if there isn’t a pronoun in the sentence, the verb has to be your prime suspect.

1) Many baseball teams, and Major League Baseball itself, has issued coins
   that commemorate the sixtieth anniversary of the signing of Jackie Robinson, baseball’s
   first black superstar. No error

2) Because the flood has made the bridge inaccessible to automobiles and pedestrians
   alike, we had rented a small boat to reach the island. No error

3) Before he wrenched his knee, Steven spends much of his free time engaged in
   outdoor sports, particularly biking and rock climbing. No error

PLEASE READ THE ANSWERS AND EXPLANATIONS FOR PROBLEMS 1 THROUGH 3 NOW

4) The professor’s insistence on high standards and rigorous examinations are not, despite
   what students think, part of a plan to withhold high grades from them. No error

5) In the past, the city-state had experimented with incentivized socialism, a system
   under which the workers, rather than the state, owns most enterprises. No error

6) Studying the language and culture of a foreign country is highly recommended to the
   tourist who expect to learn from his or her vacation abroad. No error
7) People were employed to perform one tiny part of one process in one department of 
industrial sector, and so having no sense of the process as a whole. No error 

8) The origin of amusement parks lie in ancient and medieval religious festivals and trade 
fairs, where merchants, entertainers, and food sellers gathered in order to take advantage 
of the large crowds. No error 

9) The Paiute Indians of eastern Utah take justifiable pride in their traditional craft of sand 
animation, an art that has brought them fame throughout the Southwest. No error 

10) From 1566 until 1576 Santa Elena, now an excavation site in South Carolina, was the 
capital of Spanish Florida; however, it will be an English settlement by 1735. No error
SUSPECT THE VERB

1) **B.** “Who has issued coins?” Well, multiple teams and major league baseball. If that doesn’t constitute plural, nothing does.

2) **D.** The SAT test makers use parallel structure a lot, so always compare any underlined verbs to any non-underlined verbs in the sentence. Early in this sentence the writer says that the flood “has made” the bridge ... Not that it matters right now, but “has made” is the present perfect tense. However, we “had rented” a small boat uses a different tense, the past perfect.

3) **A.** We’re talking about before he wrenched his knee, right? That has to be in the past. So, can we use a present tense verb to discuss what happened in the past?

4) **A.** As we discuss in the TEN FOR TEN Dedicated to the Preposition, the SAT uses prepositional phrases to separate words that we should consider together. Here, just for fun, take your pencil and cross out the prepositional phrase, “on high standards and rigorous examinations.” Have you done so? I’ll wait. OK. Now, read the sentence without the part you just crossed out. Ah, “insistence” is singular!

5) **D.** As we saw in sentence 3, we don’t discuss the past in the present tense. If you say, “I used to play Frisbee,” is it likely that you still do? No, because if that were the case, you’d use the present perfect tense, instead, saying, “I have played Frisbee for many years.”

6) **C.** Did you pick (a)? “Studying” is a “verbal,” which is a non-verb that looks like a verb.* So, what’s wrong with (c)? How many tourists are there? According to the sentence, just one. So, here’s where you can use the “she/they” test: If you can’t tell at first glance whether a verb is singular or plural, just use “she” and “they” with the verb. One will sound right and the other wrong. So, “she expect” or “they expect”?

7) **B.** As we discussed in the answer to problem 2, always compare underlined verbs with those that aren’t underlined. Here, the sentence starts, “People were employed ...” (past tense). Unless a sentence uses a time sequence (“I used to be a rodeo clown, but now I am a physics teacher.”), you’ll need to match up your verb tenses.

8) **A.** If you scoured this sentence for underlined verbs and pronouns, you probably came up empty, since “gathered,” seems just fine. However, subject/verb agreement is a two-way street. If the verb looks OK, shouldn’t you check the subject to make sure it matches the verb? What’s the subject of this sentence? If you’re not careful, you could answer “amusement parks.” You did? Note that “amusement parks” is the object of the preposition “of,” meaning that “amusement parks” cannot be the subject of the sentence. How about we cross out the prepositional phrase of amusement parks? Would that be OK? Yes, because although prepositional phrases are modifiers and thus necessary to a sentence’s

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* Noun “verbals” are called gerunds; adjective “verbals” are called participles. In case you’re interested.
meaning, they are never necessary to a sentence’s structure. So, what’s left? Ah, “origin.” “The origin lie …” Try the “she/they” method we discussed in problem 7.

9) E. Did you think there wouldn’t be an (e) in this question set? Sorry, but we have to keep you honest. Actually, about 18% of right answers in the Identifying Sentence Errors subsection happen to be (e). That percentage is close enough to 20% that you should never think about it again and should never be afraid to pick (e).

10) D. Did you ever have one of those history teachers who likes to imagine he’s living in, say, colonial times? Here’s a sample: “It’s 1732; Ben Franklin has just opened a small shop here in Philadelphia. By 1773, he will be one of the most prosperous merchants on the East Coast …” But sir, you might say, all of that happened a long time ago—so, how can we speak about it in the future tense? What should we have used instead? How about a future conditional, such as, “it would be …”? Or plain old past tense?
AN SAT COMPANION

If you have been lucky enough to get your hands on a copy of the January 2006 SAT (perhaps your big sister took the test and your mother ordered the “Q&A Service”; perhaps you have a copy and don’t know where it came from—no matter), you might notice that although The College Board provides you with the answers to all the questions, it doesn’t tell you WHY those answers are correct. So, welcome.¹

SECTION 1: ESSAY

Yes, every SAT begins with a 25-minute first draft. Yes, it’s not fair. Yes, it’s awfully hot in August.

SECTION 2: MATH

NOTE: Problems in math sections are arranged from easiest to most difficult. This split section includes two such progressions, the first in the multiple choice problems and the second in the student-produced responses (“grid-ins”). So, because every problem is worth the same one point, if you have time problems in the math sections, you might want to answer, say, problems 1 through 6 and then skip over 7 and 8 to get to the easier grid-ins (9 through 14). Then, if you have time, go back and work on 7 and 8.

1. **A.** When taking the SAT, the most overrated math talent one can have is the eagerness to distribute. Here, if you do so, you end up with \( px + pk = 36 \). That’s not so good. Rather, because you know that any information you’re given in a math problem is necessary and useful, you can ask yourself, “Why is it important that \( x + k = 12? \)” Then you notice that inside the equation’s parentheses is \( x + k \). Oh. So, we substitute 12 for \( (x + k) \) and get \( p(12) = 36 \).

2. **C.** There are two methods of solving this problem: (a) The straightforward way is to write down the equation. If 13 is added to something, then we get “something + 13,” right? What’s that “something”? It’s half of a certain number. What variable do you usually use for “a certain number”? Most teachers want you to use “\( x \),” so we’ll do so here. So, one-half of \( x \) translates to \( \frac{1}{2}x \), which, when substituted in for “something” gives us, “\( \frac{1}{2}x + 13 = 37 \)” (b) The test-savvy way is to say, “One of these choices is right,” which would lead to your dividing each choice in half and adding 13 to see what you get.

3. **B.** This is a reading problem. There’s no math. So, what could go wrong? Well, if you rushed through the reading (or, shudder, you didn’t even bother reading the whole question because you just don’t have time for such foolishness), you probably did a lot more work than you bargained for and maybe got the problem wrong, too. A high price for a flawed approach. So, what should you do? Be willing to read each problem twice—once for the story, the second time for the numbers. Once you understand this story and what the question is asking, you realize that because the distance from A to B and the one from C to D is the same for both routes, all you have to do is figure out the mileage difference in the two routes from B to C. Well, the original route is 4 miles; the alternative, through E, is 12 miles.

4. **B.** Occasionally you’ll run across a “find the right equation” problem, one like this one that features a table. Here’s the quick way to solve it. Don’t start with “\( x = 1. \)” Rather, start checking the equations using the highest \( x \)-value. Here, when we plug 4 in for \( x \), only (b) gives us 24. Note that both (b) and (d) work if you plug in \( x = 1 \).

5. **A.** The one thing we know is that two or three unknowns with the same variable name (here, \( y \)) will always be equal to each other! So, the one thing we know is that when we add up the \( y \)

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¹ Although the test is given in more than one configuration, the layout of each “Q&A” students have shown me has been consistent. So, if your “Q&A” isn’t, let me know, and I’ll help you figure out how to reorder this Companion.

² If you need help isolating a variable, see the DISCUSSION PAGES at the end of this Companion.
angles, we will get a degree measurement of $3y!$ Now, that wouldn’t mean much if the problem didn’t explicitly tell us that both $x$ and $y$ are integers—did you miss that? So, $3y$ must be a multiple of 3. Now, as we saw in problem 2, the test savvy way of continuing is to subtract the answer choices from 180, knowing that one and only one will leave us with a multiple of 3.

6. **E. Averages are useless until you turn them into totals.** Let’s begin: First, we have seven real numbers (we’ll get back to this later). The smallest is 2 and the largest is 20; the median (middle number) is 6 and the number 3 shows up most often (we’ll get back to this too). So, our number sequence should look like this: 2, 3, 3, 6, ___, ___, 20. OK so far? Next, we’re asked which of the Roman Numeral answers could be the average of this group. Again, averages are hard to work with, but totals are easy—let’s get totals—but how? Well, if you have two members of a set that average 10, you know to multiply by 2 (the number of members of the set) to get a total of 20. Here, we have seven members of the set—so we should multiply the averages by 7, right? So, the totals are (by Roman Numeral): I 49; II 59.5; III 70. Next, if we’re working with totals, wouldn’t it be a good idea to find out what our “running” total is (that is, the subtotal without the two missing numbers)? Add it up: It’s 34. So, to satisfy Roman I, the two unknown numbers would have to add to 15—how about 7 and 8? OK, to satisfy Roman II, those numbers would have to add to 25.5. If you thought they couldn’t, you misread the problem. Remember, the problem mentioned “real numbers,” not “integers.” Real numbers include not only integers but also non-integers. Here, we could add, say, 11.5 to 14 and get 25.5. So, Roman II works. For Roman III, we would need to find two numbers that add to 36 (70 – 34). How about 17 and 19? So, they all work. Now, getting back to the part of the problem that stated, “the number 3 occurs most often in the list.” If you weren’t careful, you might have decided that “the number 3” could be “the digit 3,” which would create an ambiguous sequence that could be the one above, could be 2, 3, ___, 6, 13, ___, 20, or any of a few other possibilities. So, “real” doesn’t mean “integer,” and “number” doesn’t mean “digit.” Right.

7. **E. Did you Draw It?** If not, why not? Remember, this is a 25-minute section, not a 25-second section. You have time to do productive, helpful stuff. So, when you Draw It, you realize that, yes, you can find coordinates on the axes (0,4), (4,0), (-4, 0), and (0,-4) that are four units away from the origin, but how about the wide open spaces between the axes? If you draw a line four units long with one end at the origin, doesn’t it look at lot like a radius? So, the “other” end sweeps through an infinite number of points as it passes through the quadrants.

8. **A. SAT problems that include a lot of “reading” are as much about how much of the reading you understand as any math you can do.** First, if the Liu and Benton families did not stay on the same nights, so one or the other of the families (but not both) stayed overnight on all of the fourteen nights. Therefore, since the Jackson, Callan, and Epstein families could be there simultaneously (or not), we have to assume they were, which means the only relevant stay (because it was the most consecutive nights) was that of the Jacksons. If you were to draw 14 blanks, and then make a “slider” ten blanks long that represented the nights the Jacksons stayed, you would find that when you placed the slider on the blanks, the only nights you could possibly leave uncovered would be the first four and the last four.

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3 See the Maine Prep TEN FOR TENS, AVERAGE AND TOTAL A and B. Note Rule 1 at the top of the first page.
9. **12.** What’s a third of a fourth? If you can’t answer that question quickly, why not draw a circular cake (there’s lots of room), divide the cake into thirds and then divide each third into fourths? Then count how many “slices” you have.

10. **2.** Any time you see a problem that seems to have a lot of variables, remember this: You can’t be asked to solve for more than one variable! So, we plug in 3 for y and 4 for x, getting: $3 = h/4$, which means that $h = 12$, right? Next, $y = 12/6$ (note that the value of x has changed to 6) = 2.

11. **120 < x < 125.** If you answered 122, were you right? Yes. In this “range” solution, any answer you provide that’s more than 120 and less than 125 will be credited as the right answer. OK, how do we come up with those values? Well, if y is in between those degree measurements, let’s pick a value for y (how about 58?). So, if y is 58, then x is 122. Pretty simple, eh?

12. **2035.** There is almost always more than one way to solve an SAT math problem. Here, we’ll try MPDM⁴. Make two columns: In one column put $10 in the first row and then count up by 2’s as you go down the column ($12, $14—you can leave out the dollar signs!). Next, go to the other column and start counting up by years (the top row, opposite $10, you can write 1990—or just 90!) until you reach $100 in the left-hand column and whatever year shows up opposite that sum. Let me anticipate your question—doesn’t this take too long? I’ll bet if you started out using this method, you realized very quickly that every five years the total increased by $10, which means that 9 $10’s would take 9(5), or 45 years, which, when added to 1990 ....

13. **5.** First, identify the point on the parabola where the y-value is greatest (that means the highest point, right?). Now draw a line straight down from that point to the x-axis. It starts to be apparent, doesn’t it, that if the figure is “regular,” the highest point must have an x-value that’s halfway between the x-values of where the parabola intercepts the x-axis. Quiz: If you don’t see the caption, “Figure not drawn to scale,” is the figure drawn to scale? In other words, can you use your eyes and common sense to solve SAT geometry “figure” problems?⁵

14. **89.** We referred to the MPDM in the explanation to question 12 (see the footnote below), and we can use it again here. What do we know so far? The number has two digits. So, in MPDM fashion, let’s put two dashes (on which we can put the two digits) in the scratch area. Next, we know that when the number is divided by 10, the remainder is 9. Quick remainder lesson: If the number we’re looking for has a remainder of 9 when divided by 10, then mustn’t the number be 9 more than a multiple of 10? Try this: when x is divided by 12, it has a remainder of 5. Might it be easier to think about it as, “x is 5 more than a multiple of 12”? Just wondering. Anyway, when we try to find two digit numbers that fit the “9 more than a multiple of 10” condition, we find that they all have a ones (units) digit of 9! So, now we’ve got this: ______ 9 , which means we just have to find the tens digit by using the second condition, translated: “n is 8 more than a multiple of 9.” When we try 19, we find that it’s 1 more than a multiple of 9; 29 is two more—maybe we should be looking at the other end of the list? 99 is a multiple of 9, so that doesn’t work; 89 is 8 more than a multiple of 9—bingo.

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⁴ The MPDM (Maine Prep Dumb Method) reminds us that our only purpose while taking the SAT is to get each problem right—who cares how elegantly or quickly? There are no points for style! Just get it right. So, we count on our fingers and toes or do whatever other dumb thing that will push us closer to our goal—the right answer.

⁵ You bet.
15. **6.5.** Whenever you’re asked to work with an irregular shaped figure, draw interior lines that divide the irregular shape into two or more shapes to which you can relate. Here, there are two possible lines we can draw: (a) one straight down from the middle of the top line, which would divide the figure into a square on the left and a rectangle on the right, or (b) one that extends the horizontal line at the bottom left across the figure, thus dividing the figure into a 1-by-2 rectangle on top and a smaller rectangle (we don’t know its height yet) on the bottom. Let’s use (b): So, we know that the area of the upper rectangle is 2 (1-by-2), which means that, since the area of the total figure is 9/4, the area of the small silver rectangle must be 1/4. We know that the base of that small rectangle is 1, so the height must be 1/4, right? We write ¼ next to that tiny vertical side, and as a result, we know that the right side of the original figure must be ¼.

The only measurement that we still need is the lower left horizontal line, but that must be 1, since the lower right horizontal is 1 and the top is 2.

16. **5/9 or .555 or .556.** A LITTLE MATH: Probability is most easily expressed as a fraction. The numerator is “the number of desired results”; the denominator “the number of possible results.” So, if Aunt Sophie is coming to visit for one day next week, the probability that that one day is Tuesday, which means that you’ll have to give up bowling, is 1 in 7, or 1/7. Here, since we’ll combine two sets of 3, we must have 9 possibilities (in that each of the 3 possibilities in the first set can be matched with any of 3 possibilities in the second set—try it out with 1, 2, 3 and a, b, c if you don’t believe me), so the denominator of our probability fraction is 9. Next, since we want to find out how many of these 9 possibilities can be divided by 5, let’s do the math: 4 x 10; 5 x 10; 5 x 11; 5 x 12; 6 x 10. Thus, the numerator of our probability fraction must be 5. Side note: In the “grid-in” section, there are only four grid slots, so it’s OK to express the decimal equivalent of a “repeating” fraction like 5/9 either by rounding up (.556) or not rounding up (.555).

17. **700.** This is a tough problem because even if you do the math right you could end up answering the wrong question. That’s why if you finish a math section early, don’t waste time “checking your work,” which almost always means repeating the same successful or insane methods you used the first time; rather, go back and make sure that your answer matches the question! So, if we translate the information here into algebra, we get: $300 + .2s = 200 + .25s$ (.2 is the decimal equivalent of 20%), which simplifies to $100 = .05s$. Dividing both sides by .05 (or multiplying by 20) gives us $s2000 = s$. Did you answer 2000? Unfortunately, since the question asked not for the sales figure but for the compensation. Rats. So, going back and plugging in $2000, we get $300 + .2(200), which is $400 = $700. You should try it with $200 + .25s.

18. **120.** We’re asked for the slope; do we care what the intercept is? No. So, after we manipulate the equation to come up with $y = mx + b$ (here, $y = -3 – tx$, the whole thing divided by 12), we see that we don’t need the intercept, and so can drop the -3, leaving $y = -tx/12$. Well, since we know that the slope is -10, we can plug that in for $y$, so -10 = -tx/12, or -120 = -tx, or $120 = tx$.

**SECTION 3: WRITING**

**NOTE:** Problems in the first two writing subsections are each arranged from easier to more difficult, so while problems 10 and 11 are very difficult, problem 12 begins the easier-to-harder progression all over again—be careful to switch gears! However, by the time you reach problems 25 through 29 (known affectionately at Maine Prep as “the Circle of Death”), you’re looking at some of the toughest problems...
on the SAT. Note that right after the Circle of Death comes the Improving Paragraphs subsection, which is generally pretty easy if you don’t need to rush. So, skip over the Circle to do the paragraphs, and then try your luck with 25 through 29.

1. D. The operative words here are “older than … but just as beautiful.” Would you say, “My brother Bill is shorter than my cousin Tim but just as athletic as him”? No, you wouldn’t need the “as him.” Go Short

2. C. The present participle “painting” denotes simultaneous action (“What were you doing yesterday?”) and so is appropriate here. Go Short

3. A. Whenever a sentence contains a comma followed by “which,” whatever comes right after the comma modifies the word right before the comma. (“I will come to your house on Wednesday, which is between Tuesday and Thursday.”) If you chose (b), remember that while choices that include semicolons are more often right than wrong, you still have to use your judgment.

4. A. You could say, “When the news spread that …”, but “how” works too. If you chose (c) or (d), who are “they”? Go Short

5. C. “It” never refers to an action—only to an object, in this case the Berlin Wall. So, five million people didn’t go to Berlin to celebrate the Wall. Go Short

6. B. Lists and comparisons should alert you that the sentence is looking for you to use parallel structure. Here, what must the student present? “One vocal performance, one instrumental performance, …” The end of the list must begin with “and,” not “with,” ever, OK? So, that kills choice (c), which is the most popular wrong choice, not the “second best answer.”

7. E. If you knew that “zookeepers” was plural, and that we always use the third person to refer to anyone who’s not you or me, we could eliminate (a) and (b) based on the “one’s” pronoun; didn’t verbs in choices (c) and (d) make you stop and say, “Wait a minute”?

8. C. First, if “the time and the place” looks like two different portions of the agenda, they are—and so they’re plural. Choices (b) and (e) are eerily reminiscent of “Borat,” so we can move on to choice (d), which gives us two ways to eliminate it: “subject to the approval of” in (c) is preferred to the construction in (d), and why on earth would we want to say “the office of the mayor” if we can say “the mayor’s office”? Would you say “the car of my uncle” or “my uncle’s car”? Don’t be perverse.

9. A. This problem should have been impossibly easy had you crossed out the unnecessary description right after “Peninsula.” How can you know to take such an action on test day? Well, bracket any portion of the sentence that’s surrounded by commas and then, leaving out what you just bracketed, read the sentence. Here, we have, “New Zealand’s Kaikoura Peninsula … what?” Note that if you picked (d), you probably didn’t notice that the “is” in the sentence was underlined, which means that if you chose (d) you ended up without an “is.”

10. E. How would you compare my car to your car? Right. You’d say, “Like Jack’s car, my car is made of metal.” I guess—if you were in an English as a second language class. But my point is: Don’t get fancy when simple will do. And simple will almost always do. That’s why it feels so simple.

11. C. If you look back to problem 5 you’ll see one kind of list; here’s another. Using “not [just/only]” and “but also” creates parallel structure, for why would we want to confuse the
reader with language when we can do so with our ideas? So, why is the book useful? Because it offers not just [noun] and [noun] but also [noun], wouldn’t you say?

IDENTIFYING SENTENCE ERRORS. Remember that in this section, you must identify clear errors and avoid picking choices that you might like expressed differently. Be a proofreader.

12. B. If you got this problem wrong, you probably didn’t remember that although problem 11 is very tough, this one starts a new “easier to harder” sequence (so the bottom line is—it’s pretty easy!). If you liked “growing more stronger,” you probably thought Borat spoke great English.

13. E. What I like to call “problem 13 syndrome” affects people who don’t realize that at this point the problems are intended to be very easy—note how obvious the errors are in questions 12 and 14—and try to find subtle errors. That’s where knowing where you are in the section can be so rewarding. You won’t go looking for tiny errors that just can’t be there. Don’t be “E-phobic.”

14. C. Any time you see a part of a sentence that is set off by commas, you can cross out that part without harming the sentence in any way (see problem 9 in this section). Here, we should first make sure that choice (b) is OK; since it is, start deleting. (I mean literally; if you haven’t yet done so, please cross out “to the dismay of opponents from other parties” right now.) So, how does the sentence begin now? The newly elected Prime Minister have argued ...

15. C. Whenever the test maker says that something can do two things, you can bet that more often than not you’ll need to check whether those two things are presented using the same tense. Here, nuts might help to do two things: to lower something and reducing something else. Note that the “to” in “to lower” isn’t underlined, which means it isn’t open to discussion. So, “lower” must be fine, which means that we need to change “reducing” to “reduce”—go ahead, try it. NOTE: As we will see in question 16, verbs that end in “ing” show simultaneous action, so if we were to change the “and” in line 3 to “while,” so as to read, “to lower blood cholesterol levels in humans while reducing ...” we’d have a winner. Luckily, we are only asked to consider whether to change the underlined portions. Doing so markedly reduces the number of eventualities we have to consider.

16. E. Progressive, or “ing” verbs, show simultaneous action. (“While I was walking to the store, the dog barked.” “Did it?” “Yes. During that time.”) So, if you chose (b), you probably did so for one of two reasons. The first might have been that you thought that “ensuring” wasn’t spelled correctly—you thought it should be “insuring.” Alternatively, you might have thought that “ensuring” should be parallel with “has achieved.”

17. C. Lists should get your attention. Something was a certain way, something else was another way, and a third something ... a third way. Back it up—shouldn’t the third description also have a verb? So, ... the windows had no shutters, and the lawn was overrun by weeds.

18. B. “Until recently” is before now, right? So, they felt ...

19. E. Brother Michael, who taught me physics when I was in high school, used to refer to certain things and ideas as “bassackwards.” This sentence is a good example of how twisting the order of the words can obscure the relationship between, say, the subject and verb. Next time you see one of these bassackwards sentences, write the sentence “forwards”; in other words, find the subject, then the verb, and then the rest of the sentence. Here, we would have, “The team members were able to salvage what was beginning to look like a lost cause only by tapping their

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6 The SAT grammar section does not check how well you spell!! So, you can put that worry out of your mind.
last reserves of energy.” When we rewrite the sentence, we note that “team members” is plural, so “were” is just fine. If you chose (a), that you did so just means that you aren’t comfortable with “bassackwards” constructions, and that you should make a special effort in the future to rewrite such sentences.

20. A. Since “herself” is a reflexive pronoun (you can’t say, “Steve awarded it to myself,” but you can say, “Steve awarded it to himself.”), we need Doris (or she) to be our subject here.

21. C. Every time I’ve ever seen an underlined adjective on its own, it should have been an adverb. Please read the preceding sentence again. Now, it would be nice if there were more underlined adjectives. However, we usually get one to two of them per test (the other adjective/adverb error is in question 24). So, when people tell you to “Drive careful,” you should accuse them of writing for the SAT. That’ll serve them right.

22. B. As we get closer to the end of the section, we need to pay more attention to how prepositions interact with “idiomatic partners.” Do we “succeed with” or perhaps “succeed at” or “succeed in”? In times like this, it’s great to put “succeed with” into your own sentence and see how it sounds.

23. B. As I pointed out in the last explanation, the end of the section usually holds a dispro-portionate number of pronoun and preposition errors. (The odds are over 65% that any underlined pronoun is the error in its sentence!!) So, why is “his or her” wrong here? Because it’s singular and refers back to “workers,” which is plural.


25. C. Were you one of those people who was taught by an English teacher that you could never say, “Carlos and me”? True, “Carlos and me went to the store” is pretty terrible. However, how about, “The storekeeper sold candy to Carlos and me”? So, here’s your rule: Whenever you see a compound subject or object (like “Carlos and me”), cross out the name and the “and,” thus: “and tour the United States, Mary invited Sandhya and I to her house ....” Would you say, “Mary invited I?” Then you can’t say, “Mary invited Sandhya and I ....” OK?

26. B. If you’ve worked on the Maine Prep TEN FOR TEN “Dedicated to the Preposition,” do you know that you should cross out all non-underlined prepositional phrases7 in every sentence—always? If you did so in the first line here, here’s what you’d read: “Ongoing research suggest that ....” Also, if you ever wonder if a verb is singular or plural, try the “it/they” test: “It suggest” or “they suggest” ... which one works?

27. B. In the explanation to question 23, I suggested that you closely watch your pronouns as you get to the end of this subsection. To what does “they” refer? Must be “rodeo,” which is singular. Be careful—these days, bad but “politically correct” usage has us referring to individuals as they: “A person shouldn’t leave their8 backpack on the sidewalk.”

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7 Prepositional phrases begin with a preposition and end with the noun or pronoun that’s the object of the preposition. “The hands of the clock indicate that we should go sit by the fountain.” Now, eliminating prepositional phrases can change the meaning of any sentence, but doing so will never change the structure of that sentence, and that’s really all we care about.

8 “his or her”
28. E. At first glance, this sentence looks like something must be wrong. However, “in the writing” is an established expression (you’ve probably heard that a movie was “three years in the making”), and the idiomatic expressions “response to,” “mistrust with,” and “elaboration of” are all fine. If you chose (c) because you thought it should be “mistrust of,” you’re right in a way. You can use “mistrust of,” but “mistrust with” is OK too. English is very tough sometimes.

29. B. Consider these sentences: “I went to the beach yesterday.” “I went to the same beach since I was a kid.” If you want to rewrite the second sentence as, “I have gone to the same beach since I was a kid,” meaning that you want to change the verb from the past to the present perfect tense, don’t you have to do the same thing here? Wouldn’t it have to be “has lost 70 percent since ...”? If you didn’t like choice (c), we discussed progressive (“ing”) verbs in the explanation to question 16. Essentially, a progressive verb is often used to show simultaneous action (losing subscribers and money at the same time during the 1950s).

IMPROVING PARAGRAPHS. In our TEN FOR TENs, we suggest that you Index these paragraphs and answer the questions as you read. Who would want to read these passages twice?

30. B. Sentence 3 isn’t currently a sentence, since it dearly needs a subject. What exactly is governed by the Antarctic Treaty?

31. E. Here we need to relate the sentences to each other, and the only way to do so is by sticking them together using a conjunction (or a couple of conjunctions). I know what you’re thinking: Why on earth do we need to say and also? All I can tell you is that the construction is legal and it’s been on the SAT, which means you might see it again.

32. D. If you chose (a), that’s a little dramatic, wouldn’t you say? Can we create the preservation while still claiming to be English-speakers?

33. A. This would be tougher if the opening sentence of this paragraph didn’t read, “... relations among the researchers and their countries are both simpler and more complicated ...” Remember, if you choose an answer, it must be supported, whether you’re in the reading passages or here. If you chose (b), what problem? If you chose any of the rest, what argument or theory?

34. C. Sentences 10 and 12 discuss tourists and tour operators, while stuck right in the middle, sentence 11 discusses scientists. If you chose (a) and wanted to eliminate the first sentence, notice how long you would then have to wait to see the word “Antarctica.”

35. E. Since the third paragraph discusses the environmental impact of tourists, a little detail about how filthy those tourists really are would be nice.

SECTION 4: READING

NOTE: Problems in the Sentence Completion subsection (here, problems 1 through 5) are arranged from easier to harder, the right answer fits perfectly, and every clue to meaning of the unknown words is important. The vocabulary in sentence completion problems can be pretty tough for a high school student; so, it’s good to have a back-up plan (refer to your Maine Prep TEN FOR TEN, “The Scary Choice”). Problems in the passages can be easy or hard. So, don’t worry about the difficulty level; rather, Index the passage and find the Author’s Intention (refer to your Maine Prep TEN FOR TEN, “Passages Companion”), keeping in mind that no correct answer choice will ever violate the Author’s Intention.
1. D. Note that the mural is “honoring” the pioneers; since we paid attention to that word, we can look for a choice that works well with honoring. If “introduces” were right, we would see a synonym of introduces earlier in the sentence (such as “a mural that teaches children about aviation pioneers, also [ ] them to the 1992 spaceflight ...}).

2. D. Here, if you tried to understand the sentence before jumping to the answer choices, you might have come up with “a variety of” for the first blank and “multi-purpose” for the second. If you chose (b), does the sentence tell us explicitly that treating Dutch elm disease, for one, is an “innovative” (or new) use?

3. A. OK, the vocabulary is getting more difficult. However, this sentence is a good place to learn that the words away from the blank are the most important—especially any descriptive words that are separated from the blank by punctuation! If we pay attention to “a tendency toward aggressive behavior,” we know that the kid likes to fight (rather than resolve differences in any other way—you really don’t need to know that “amicable” means “peaceful”—honest!), so we if we don’t know “propensity for” (look it up), we can eliminate (b), (c), and (d).

4. C. Here, the Definition shows up after the comma. So, if we don’t know the right answer, we can at least eliminate any choices that we know aren’t positive and refreshing. If you chose (a), good try. Scary Choice will work often enough so you don’t have to worry about occasional misfires. Also, if you used Scary Choice, you probably ended up with more time to read the passages.

5. B. Any unusual descriptive words (like “sharp-edged” here), are vital. So, eliminate any choice that is inconsistent with the unusual description. The five choices here might all be Scary, so pick one and move on. (By the way, trenchant comes from “trencher,” which is a French word meaning “cut.”)

The SHORT PASSAGES comprise the most random questions on the SAT. Sure, they look cuddly, but after you’ve read through one of them five or six times trying to figure out what the question’s asking, you start to get the idea that these passages can be great time-wasters. If that’s the way you feel, reorder your section, leaving the short passages until you’ve finished the long passages, where you can answer more questions per minute. When you do work through the Short Passages, the author’s Intention is vital—make sure that any choice you go for is consistent with that Intention.

6. E. It’s safe to assume that if author is telling us about her 15-year-old grandniece, she isn’t doing so to trash the girl. What’s your take? So, choices like (a) and (b) violate every tenet of The Reasonable Rule.

7. B. If you don’t know the meaning of “nostalgia” yet, please look it up. It seems to end up being used on most SATs.

Science passages inform us of something new—either new now or new at some point in the past (which would make the passage an historical science passage). What’s new in this passage? Scientists have been surprised (line 10) that black hole activity is intertwined with star formation—not nearby—farther out in the galaxy. So, there’s no apparent connection.

8. C. If you chose (d), defend “recent.” Yes, you must look that closely at the wording of any specific choice—no matter how wonderful a choice is otherwise, one inappropriate word will kill it. Note how Reasonable choice (c) is; it’s only a “new view,” not a revision.
9. **A.** Go back two paragraphs and read the underlined sentence. Right. There’s no **apparent** connection. Of all the choices here, only (a) might cause a scientist to scratch her head and ponder how.

Third-person fiction passages are always Inform. Your next question should always be, “Inform me about what?” Here, the author gets inside Georgia’s head and **Informs** us of her thoughts as she is about to walk away from what she always imagined would be a life-long career and get married.

10. **B.** She was tired of having paper bags waved before her eyes, which looks like teasing.

11. **B.** When all the words you know are terrible, **mustn’t** the right answer be the word you **don’t** know? “Wistful” means “pensive in a melancholy way.” She couldn’t get very nostalgic (that word again) writing a story about pork packing. If you chose “excited,” you knew it was wrong, didn’t you?

12. **A.** Did you cross out “poor” in line 27 and then in the question? If so, doesn’t Georgia pity such a poor girl who would “slave through the years she should have been frivolous, only to have some man step in at the end and induce her to surrender the things she had gained through sacrifice and toil”? If you look at the context, choices (b) and (c) just don’t make sense.

13. **C.** She chose the profession, and then chose to work her way into a position of responsibility. She is now choosing to walk away. If you opted for (a), note the lack of choice.

14. **E.** This simple choice is also well within the confines of what the author is doing. Note that choice (b) is way over the top, while (c) generalizes from Georgia’s life to that of all reporters.

15. **C.** She had taught herself to be tough and independent. Now she was giving it all up—pretty out of character.

Social Sciences passages are usually **Persuade.** Here, the author **Persuades** us that every new entertainment form has had its harsh critics, and goes as far as to share with us the great philosopher Plato’s views of poetry and drama (the Grand Theft Auto of his day, as he saw it).

16. **C.** The author is going after television’s critics. Especially in a Social Science passage, an opening paragraph is a great place to put things in an historical context.

17. **D.** If you got this one wrong, you probably missed the LEAST in the question. Please. Slow your reading speed (you won’t really slow down, since you’ll get confused less often).

18. **D.** Did you cross out **drawn** in line 26? And then in the question? Did you plug in the choices? If so, only one answer made any sense at all.

19. **E.** Let’s look at the Reasonable Rule. Does the **author** have to be reasonable? You bet. Does the author have to make his **subject** reasonable? How about Hitler or Stalin? Can you imagine? So, when the question asks about what the author’s saying or doing, you need to find reasonable answers. When the question asks about someone the author’s describing, that person can be quite unreasonable. Does it seem strange that Plato, one of the elite in Athens, would have contempt for heroes enjoyed by “the common people”?

20. **E.** The academic describes Plato as an “elitist,” which is a synonym for “snob.”

21. **A.** When you say something bad about Plato, you’d better have plenty of back-up. So, the author brings in the academic in the next paragraph to give him cover.

22. **D.** Again, poetry is enjoyed by “the common people,” whose morals need to be protected.

23. **B.** “If Plato’s Republic had become reality, it would have been a republic with a lot of empty libraries, theaters, and museums ….” So, not much in the way of arts for the great philosopher.
24. E. Sums up the Author’s Intention pretty exactly, wouldn’t you say?

SECTION 5 EXPERIMENTAL
What? You don’t have a section 5? Right, that was the section in which The College Board tried out new problems that it intends to use on future tests. So, Section 5 didn’t count. No—the Experimental section looks just like a real section. You won’t be able to tell. So don’t even try.

SECTION 6 MATH
1. D. Just think of “power of 10” as “how many zeros?” So, if we put four zeros after the 7, we have just multiplied it by 10⁴.
2. B. If Sam’s number of miles is \(m\), then Kara’s is 2\(m\), right? Since Darin drove 20 miles fewer than Kara, that must be \(2m - 20\).
3. D. Whenever a question asks you, “Which of these answer choices will make this work?” use the guess-and-check method. Try the choices. If you chose (a) or (b), you didn’t read the problem, which asked “what are all the solutions”?
4. C. Problems that look like they’re taken from particle physics are often the easiest to solve as long as you start out by following directions and then continue to follow directions. So, if we plug in 10 for \(x\), we get \(P = 500(10) - 20(10²)\), or 5000 – 2000. This is a good place to mention PEMDAS, the order of operations. Exponents first, then multiplication—otherwise we would get \(P = 500(10) - (20(10))²\), which would be 5000 – (200)². If you chose (e), this is the route you probably took, but note that 200² isn’t 4,000 but 40,000!
5. B. Two ways we can figure this out; the classic way is to add them up and divide by 3 (you didn’t divide by 2, did you?); alternatively, we can notice that 12 – \(n\) is as far to one side of 12 as 12 + \(n\) is to the other side of 12, so 12 must be the mean (as well as the median).
6. A. Picture this isosceles⁹ triangle without the interior lines (\(AM\) and \(MC\)). We know that the A and C angles must be equal and so must each be \(140°/2\), or 70°. Now, we know that lines \(AM\) and \(MC\) bisect their respective angles, which means that angle \(MAC\) and angle \(MCA\) must each be 35°. If that’s the case, then they add up to 70°, leaving 110° for angle AMC.
7. A. If you’ve worked with the Maine Prep Ratios TEN FOR TEN, you know that I love to use tables to solve problems like this one. Since we’re asked for the ratio between the weight of the pineapple and the weight of the entire mixture, shouldn’t you just find out what the total is?

<table>
<thead>
<tr>
<th>Pineapple</th>
<th>Pears</th>
<th>Peaches</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>
8. C. Did you Draw It? If not, try this: Draw a straight line from \(S\) to \(U\). Now draw another one from \(R\) to \(T\). So, now you have four interior angles of 90°, right? A LITTLE MATH: The degree measurement of an arc described by any interior angle of a circle is equal to the measurement of the angle.
9. C. This is another problem that is a lot easier if you draw a diagram. Right now, draw a large circle. Now, draw a smaller circle inside that first circle. Which one is \(P\)? Which one \(Q\)? Try to label them before you read on. Right, the big circle is \(Q\), and the smaller circle included in \(Q\) is \(P\). Now, let’s go through the choices, keeping in mind that we were asked which choice CAN’T be true—you didn’t misread that did you? Choices (a) and (b) are clearly true, and now that we’ve

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⁹ An isosceles triangle has two equal sides and two equal angles opposite those sides.
drawn the circles we see that a number can be in $Q$ but not in $P$ (d) and that if a number is not in the bigger circle it can’t be in the smaller incorporated circle (e). However, since $P$ is included entirely inside $Q$, it would be impossible for something to be in $P$ but not in $Q$.

10. D. Let’s do the math: each small block is $3 \times 2 \times 1$, making the volume of each block 6. The large box is $6 \times 6 \times 6$, making its interior volume 216. Divide 216 by 6 and get the answer. Three dimensions always involves multiplying three numbers.

11. E. One of our tenets\(^{10}\) here at Maine Prep is that “denominators are never there for your benefit” (see THE MAINE PREP TEN TENETS on page 22 if you don’t believe me). So, your first job in any problem that contains any denominators is to get rid of them! How do you get rid of two denominators at once? By cross-multiplying. When we do so here, we get $5(x + a) = x(5 + a)$, or $5x + 5a = 5x + xa$. First, we can eliminate $5x$ from both sides, right? Now we are left with $5a = xa$; dividing both sides by $a$, we get $5 = x$.

12. E. With your pencil, draw a dark black line that shows triangle $DFH$. How many of the small triangles are inside the triangle you just drew? Four, right? So, dividing 10/4, we find that the area of each of the triangles is 2.5. Now, it’s just a matter of counting the triangles (25), and then multiplying.

13. E. So, what’s the variable we’re solving for here? Interestingly, it’s not $y$, not z, but $y + z$! So, how can we isolate $y + z$? ADDING AND SUBTRACTING WHOLE EQUATIONS! Draw a line right underneath $3x + y + z = 14$. Now subtract the bottom equation from the top one. The 3$x$’s go away, and we’re left with $y + z = 5$. Oh.

14. A. If you’ve been Picking Numbers right along, this problem should have been not so tough. First, what sort of number would we like to pick for $x$? Probably one that’s a multiple of 4 and 3, so we don’t end up with any fractions or decimals—wouldn’t you say? So, let’s pick one—say we pick 24. So, if the boat cost of 24 dollars is shared three ways, each person pays $8; if the cost is shared four ways, each person pays $6. What’s the difference? $2, right? So, now it’s time to plug in 24 for $x$ in the answer choices. When we do so, one of the choices will equal 2.\(^{11}\)

15. A. Here’s a suggestion whenever you’re asked to solve a problem in which one of the variables is given an open-ended range rather than a value. Just for comfort’s sake, here let’s begin by changing the range into the value at the closed end of the range (2). So, if $x = 2$, then $y = 7$, which means that if $x < 2$, then $y < 7$. If you got this wrong, you probably chose a number for $x$ that was in the middle of the range (like 1).

16. B. A LITTLE MATH: To move a function figure up or down on the $y$-axis, you take result of the original function and then add or subtract from it. So, if $y = f(x)$, and we would like to move this entire function down two on the $y$-scale, we just subtract 2! So, $y = f(x) – 2$. To move a figure left or right, we need to change the $x$-value before it interacts with the $y$-value—so, we must add to or subtract from the $x$-value while it’s still inside the parentheses! So, if $y = f(x)$, and we

\(^{10}\) A tenet is “any opinion, principle, doctrine, dogma, etc., esp. one held as true by members of a profession, group, or movement.” The SAT likes tenet.

\(^{11}\) In case you’re concerned that you got this problem right without understanding the underlying math, I understand. All your life you’ve been conditioned to do problems the “right” way, and on the SAT nobody cares how you solved the problem—just which answer you chose. So, playing by the rules of the “SAT game,” Picking Numbers is often the “right” way. OK?
want to move the figure two spaces to the right, we need to rewrite it thus: \( y = f(x - 2) \). Why minus 2 rather than plus 2? Because we are going to subtract two from \( x \)'s value before we perform the function (so we have to start two to the right). However, the important thing here is that to move left or right, change the value inside the parentheses, and to move up or down, change the value outside the parentheses.

17. **B.** This is one of the toughest problems I've ever seen on the SAT. Essentially, it comes down to this: You have to recognize that the angles of all four-sided figures (like the one formed by three sides of the unknown shape and the fourth side that's supplied by the top edge of the paper) add up to 360°. Yes, that means that \( x + y + \text{the two unknown angles} \) (which the problem tells us are equal) = 360°. Since \( x + y = 80° \), that leaves 280° for the unknown angles (or 140°) apiece. So, now we know that our unknown figure has equal angles of 140°. We're halfway there.

Next, how do we figure out how many total degrees there are in any regular figure? Well, the formula is that total degrees = \((n - 2)180°\), where \( n \) is the number of sides in the figure. Let's try the formula with a figure we know (four-sided): \((4 - 2)180° = 2(180°) = 360°\). So far so good. Now let's try the answer choices starting from (e): a six sided figure's interior angles would add up to 4(180°) = 720°. If all of those angles were equal, each one would be 720°/6, or 120°. A seven-sided figure's interior angles would add up to 900° (which isn't evenly divisible by 7). An eight-sided figure's interior angles would add up to 1080°, making each equal angle 1080°/8, or 135°. A nine-sided figure's interior angles would add up to 1260°, making each equal angle 1260°/9 or 140°. You've got to ask yourself: Is all this really worth it for one measly point?

18. **D.** Wouldn't it make sense to assign values to the points and then do the math? When we do so, we find that \( s \) (which we could label -2.5) minus \( v \) (which we could label 2.5) is -5, the absolute value of which is 5. None of the rest of the choices is close, although you could have been in trouble if you chose (b), which doesn't say \(|s| + |v|\). Honest.  

19. **C.** Often, when you get near the end of a section, you see problems that are very wordy (19) and/or very complex (20). Remember this: If you rush both problems, I make the odds about 70% that you'll get both problems wrong. So, even if it means you can't work on both problems, don't rush. Choose which problem to work on, and then go after it at your usual pace. In this problem, we can figure that if the water goes down 10% between 3 and 4 p.m., and that drop in the water level is 2 feet, the original depth must have been 20 feet. (Did you pick choice (d)? If so, you answered the wrong question.) So, the depth at 4 p.m. must have been 18 feet. In case you just added up the dashed lines, note the little symbol at the bottom left of the vertical scale—looks like a sideways “w”! That tells us that there is more to the table that we don’t see, which means that although each dashed line represents one foot of depth, we don’t know how many dashed lines there are in the “unseen” portion of the graph. Just for future reference.

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12 Note also that subtraction measures the distance between two numbers on a number line. Normally it would matter which number is bigger (subtracting the smaller from the larger results in a positive distance, whereas subtracting the larger from the smaller results in an negative distance), but absolute value distance makes all values positive. (If you drive from Chicago to Cleveland, it’s a certain distance; if you drive back the other way, is that distance negative?)
20. **D.** Here, picking numbers makes things a whole lot easier. How about \( x = 3, y = 5, \) and \( z = 7? \) So, Roman I becomes \( 3 \odot 5 = 5 \odot 3, \) or \( 15 + 3 + 5 = 15 + 5 + 3; \) that works. How about Roman II? Let’s rewrite it putting in our numbers: \( 2 \odot 4 = (3 \odot 3) – 1; \) so, \( 8 + 2 + 4 = (9 + 3 + 3) – 1. \) That works too. At this point, consider that if you found out that Roman I and Roman II work, you have two choices left, (d) and (e). So, even if you didn’t have time for the extremely time-consuming Roman III, you’d still have a 50/50 shot at getting this problem right. So, what about Roman III? \( 3 \odot 12 = (3 \odot 5) + (3 \odot 7). \) So, \( 36 + 3 + 12 = (15 + 3 + 5) + (21 + 3 + 7). \) Right, that doesn’t work. (Now, just in case you’re thinking: It takes too much time to Pick Numbers in this sort of problem—you’re right, it does take time. But how else are you going to get this right without getting lucky?)

**SECTION 7: READING**

1. **E.** *Every descriptive word is important.* Note that here you should pay close attention to “equal ability,” which means that no one can predict who will win. In two-blank sentences, I usually like to work on the second blank first. See a discussion of SECOND BLANK FIRST on page 22.

2. **C.** The Definition words are “clipped, broken,” and “split apart.”

3. **A.** SAT problems are logical and not tricky. So, if drug manufacturers do something with the supposed advantages, you and I might think that they emphasize those advantages, and we would be right. Second: Note the clue “while” in the first line; this clue tells us that we are looking at an Antonym sentence (where the two halves of the sentence go in different directions). So, if drug manufacturers emphasize advantages, must the generic versions be comparable or not comparable? The “while” tells us that the generics are equally as good (otherwise, what on earth would be the point of this sentence?). So, that’s what we’re looking for—emphasize and equally as good. You may not have known the right answer here, but you could eliminate (b) and (e) based on the first blank, and likely (c) and certainly (d) based on the second. Remember, if you don’t know what a word means, you can’t eliminate it.

4. **E.** As we elaborate in the Discussion Pages, this two-blank sentence should be solved second blank first, since we know that the second blank can be defined as “she can see ... else can.” This blank should allow you to eliminate every second-blank word you know—except “self-critical,” of course.

5. **D.** Again, every descriptive word is important. The lizard is a voracious eater—what does that mean? Let’s look at the end of the clue: “[I]t will consume as many insects as possible.” So, this probably means that the lizard is a hungry, hungry eater, eh? I hope that if you picked a wrong choice here that it’s a word whose definition you don’t know. Imagine picking “cannibalistic,” knowing that a cannibal eats members of its own species. Imagine.

6. **E.** If you had no clues from which to choose, what would you opt to put into the blank? Something like “father” or “creator”? Now that you have that word, you can look for its synonym in the choices. I would bet that you can eliminate every word you know and then guess Scary Choice—unless you take Latin, because then you’d know that *progenitor* (according to Dictionary.com) is “a person or thing that first indicates a direction, originates something, or serves as a model; predecessor; precursor.” By the way, what’s a *connoisseur*? Look it up.

7. **B.** Here’s another Definition sentence. As we’ve seen, we can identify Definition sentences because right after the blank there’s some punctuation and then the definition. So, we’re looking for something that’s “a bitter railing ....” Even if you could only eliminate (a) ...

**MAINE PREP**
8. A. The SAT likes to use one of the definitions of economy to describe things that we would never associate with economics. Here, “economy of expression” means expressing oneself with few wasted words—synonyms are terse and spare. Most people who get this one wrong pick (c), which contains words that are easily opposed (good) but, since you know that SAT clues are complete and clear (if you only knew all the vocabulary), it is hard to justify (c) when there is no mention in the sentence to anything vaguely academic. Note that in (d), baroque and embellished are synonyms.

SHORT PAIRED PASSAGES will sometimes be opposed, and other times they will just deal with the same subject matter. These passages discuss how one’s identity can change depending on what one eats. Passage 1, a Reveal, talks about how her family’s diet changed as that family assimilated into the cultural eddy of America; Passage 2, an Inform, relates food to national identity in a more general way.

9. C. Note that a Reveal and an Inform will never be at odds with each other; in fact they will never consciously relate to each other. So, the other four choices, each of which supposes a relationship between the two passages, can’t be right.

10. C. In Passage 1, the family members embrace other ethnic recipes as part of their assimilation into America. In Passage 2, the author pronounces that such choices are pretty normal.

11. A. Reveal passages always deal with particulars, and “comments” pretty much sums up the author’s point of view in the second passage. Note that if you chose (d), that would make the second passage a Persuade. I don’t think that passage’s author needs to persuade us that we can buy sushi, rice and beans, couscous, and many other ethnic specialties at the local grocery store.

12. E. This one should have been quick and easy if you labeled the first passage as Reveal. Wouldn’t you say?

PAIRED PASSAGES will always deal with the same subject matter. Your first job is to figure out each author’s Intention and then to assess how the passages relate to each other. Here, there is no clear relationship between the passages—Passage 1 is a Persuade (see line 12), and Passage 2 is an Inform (reports on other people’s points of view rather than advancing his own).

13. A. “Both passage” questions require you to find answer choices that are broad but still within the parameters of the passages. That means no inferences!

14. B. It’s hard to go wrong with this one if you identified the passages as Persuade and Inform. If you chose (d), you’re inferring way too much.

15. B. Note that the author says, “The reality, however, ...” in lines 4-5. If you chose (e), has scientific research really been influenced by science fiction? Would it ever be? This is a logical test; something that has no basis in reality will never be right. I find that fact comforting.

16. D. Did you cross out ran in line 17? Then did you cross it out in the question? Had you done so, you would have been left with a hole in the sentence that only one of the choices would fill.

17. C. “Fermi’s argument maintains that it is extremely unlikely that many other civilizations discovered science at exactly the same time we did. Had they acquired science a thousand years earlier than we, ...” (lines 26-30) Since assumption questions require us to identify the answer choice that firmly connects the evidence to the conclusion, let’s deny the statement in each answer choice to see which statement would, when so denied, leave any evidence intact but disconnect that evidence from the conclusion. When we deny choice (c), we realize that
there’s a second factor in Fermi’s argument that he didn’t address: When extraterrestrials developed their technology is important but so is how fast they developed their technology. So, although extraterrestrials could have discovered technology much earlier than humans did, if “extraterrestrial technology would develop at a radically different rate than human technology,” say 1/100 as fast, even though they started earlier than we did their current technology might not have advanced sufficiently so that they might communicate with us.

18. E. What’s a consensus? Isn’t that when everybody agrees? So, does the author of Passage 2 see complete agreement? Not according to the scientists she quotes.

19. A. I’ll bet that if you were asked to answer this question without consulting the passage, you’d probably like (a) a lot because it’s consistent with the author’s intention. Right answers are. Consider this: How many unrelated things will the author discuss? None? Right. So, every piece of evidence the author offers us is relevant to and (the author hopes) supports the author’s thesis.

20. B. Like in question 13, we need to find an answer that’s broad but still within the parameters of the passages. This choice fits what we’re looking for. If you chose (a), not only has Fermi not been misunderstood, but what did you think of “thoroughly”? Isn’t that the kind of unreasonable word we have learned to avoid like rabies?

21. A. Drake said, “High-speed interstellar travel is so demanding of resources and so hazardous that intelligent civilizations don’t attempt it.” (lines 60-62) Notice “may” in choice (a)—did you notice it when you were answering the question? If you chose (e), since that choice introduces politics, which was never discussed in these passages, you violated the parameters of the passages. Don’t.

22. B. Did you cross out claims in line 57 and then again in the question? Had you done so, you would have been left with a hole in the sentence that only one of the choices would fill.

23. D. If interstellar travel is expensive and dangerous (according to Drake), intelligent civilizations would opt for the practical alternative of communicating in some other way, right?

24. B. Right from the start in Passage 1, the author conditioned us not to hope to find Klingons and Coneheads out there in space, but to be happy even if we were to find a mere bit of slime on a rock. Zuckerman asks, “But what if we have an interest in simpler life-forms? If you turn the picture around and you have some advanced extraterrestrials looking at the Earth, until the last hundred years there was no evidence of intelligent life but for billions of years before that they could have deduced that this was a very unusual world and that there were probably living creatures on it. They would have had billions of years to come investigate.”

SECTION 8 MATH

1. A. Do you know SADMEP? That’s PEMDAS (the order of operations) backwards, and SADMEP is how we isolate a variable. First we subtract or add (here, we subtract 9) and then we divide or multiply (we multiply by 3).

2. B. If the radius of the large circle (the line from P to R) is 4, then the radius of the smaller circle (the line from P to Q or from Q to R) must be 2. Did you know that there is a “formula strip” that gives you all the circle formulas (among others) just above problems 1 and 2 at the beginning of every SAT math section?

13 See the full explanation of SADMEP on page 22.
3. D. If 45 is 1/5 of his land, then shouldn’t we multiply 45 by 5 to find out how much land he has?

4. C. Here’s a problem in which you have to use the answer choices. Let’s try (a): It works fine for 6 and 10, but doesn’t work for 10 and 18; (b) works fine for 6 and 10, but doesn’t work for 10 and 18; (c) works for 6 and 10; it also works for 10 and 18; it works for all of them. At this point, should you try (d) and/or (e)? Why? Could (c) ever be wrong?

5. C. We can see that the darkened curve makes two semi-circles, one with $S$ at its center and one with $R$. The first question we probably ask is, “How do we divide the 12 between the two semi-circles?” Good question. Let’s try, say, 8 and 4. Well, if the $S$ semicircle has a radius of 8, it has a diameter of 16. That means the full circumference would be $16\pi$, and so half the circumference $8\pi$. That would leave 4 for the radius of the $R$ semicircle, making its diameter 8, its full circumference $8\pi$, and so the half circumference $4\pi$. Adding $8\pi + 4\pi = 12\pi$. What if the $S$ semicircle had a radius of 10 and the $R$ semicircle had a radius of 2? Work it out. You’ll find that no matter how you divide up the $RS$ line, you get $12\pi$ for the length of the curve. So, next time you think that there is more than one way you can interpret an SAT math question, try doing so both ways—you might get the same answer both times.

6. A. We need to change the equation we’re given into the equation we’re asked for. How? Well, according to SADMEP, since we’re going to subtract $k$ to bring it over to the right side and we’re going to divide by $h$ to do the same thing, we should subtract first and then divide. So, subtracting gives us $h = 7 – k$. Then, if we divide both sides by $h$, the left side will become 1.

7. D. Whenever you see a problem that involves a table and a lot of prose, you have two choices: You can either slow way down to make sure you understand what you’re reading (recommended) or you can skip over the problem, planning to come back to it later (also recommended, but less vehemently). So, using your calculator, you can divide 6.5 million by 600 to get a little more than 10,800 square miles. Then, you can divide 7.6 million by 400 to get 19,000 square miles. Subtract. Let cool. Enjoy.

8. E. Just for laughs, let’s make a quadratic equation out of this by subtracting $x$ and 6 from both sides, leaving $x^2 - x - 6 = 0$. Breaking this down into binomials, we get $(x + 2)(x - 3) = 0$, which means that $x$ has to be either -2 or 3. Well, if $x$ is either of those numbers, $x^2$ has to be bigger. If you chose (b), notice that it says that $x$ is less than 3, not less than or equal to 3.

9. C. Here we’re given $x$-values and asked to plug them into the function equation. So, substituting 10 for $x$ we get $f(10) = 5(10) - 2a$; substituting 5 for $x$ we get $f(5) = 5(5) - 2a$. So, adding $f(10)$ to $f(5)$, we get $50 - 2a + 25 - 2a = 55$; simplifying, $75 - 4a = 55$. Subtracting 55 from both sides and adding $4a$ to both sides, we get $20 = 4a$.

10. A. Is there any such thing in real life as an “even-odd” number? Nope. Did you notice the words “is called” in line 1? Do we say that 1 “is called” an integer? No, 1 is an integer. So, this is what we call a Symbols problem, one in which you are given a made-up definition and then asked to deal with it. OK, on to this problem: You may have noticed that since adjacent integers always proceed, “odd, even, odd, even, odd . . . ,” in either order, an “even-odd” number is merely a number that ends in .5. So, Roman I must be true, but Roman II must not be, since $2x$ would be an integer. Roman III must also not be true, since our “even-odd” number is halfway between an even number and an odd one.

11. D. I really don’t know why anyone armed with a calculator wouldn’t Pick Numbers to solve this problem. Let’s say we make $m = 3$. So, our original expression is now $(2^3)^3 = 2^{12}$, or 4096. We
12. E. Even though the numerical difference looks similar for the years 1992 and 1994, we can approximate the percentage difference in 1994 as 50% and percentage difference in 1992 as 35%. Consider two sets of numbers that each has a range of 4: What's the ratio of 6 to 2? What's the ratio of 104 to 100? So, although the difference between the numbers is the same in both cases, the ratio is much higher between the smaller numbers.

13. B. We know that $n + k + p = 180^\circ$ (they form a triangle), and that $p + r + s = 180^\circ$ (they're supplementary), and that $r + p + t = 180^\circ$ (also supplementary). Unfortunately, none of these combinations comprises any one of the choices, so what do we do now? Before we go in that direction, which angles in the diagram are equal to each other? Note that lines $l$ and $m$ are parallel, so a line that cuts through both of them will form angles above and below each parallel line that are equal to the angles formed above and below the other parallel line. That means that $n$ and $s$ are equal and, less conspicuously, angles $k$ and $r$ are equal. Let’s look at the choices: Choice (a) offers us $k$ and $n$, which are part of the triangle, added to $r$, which has no real relationship to $p$; choice (b) offers us $k$ and $p$, which are part of the triangle, added to $s$, which as we saw above, is equal to $n$. Bingo. Do we really have to look at (c), (d), and (e)? Only if we like running out of time in math sections.

14. C. If you got this problem wrong, it was likely the reading that got you—not the math. The first range includes the end-points and includes even numbers only, while the second range excludes the end-points and includes all integers. So the $x$-set includes 4, 6, 8, and 10, and the $y$-set includes 5, 6, 7, 8, and 9. Now that we have our sets, what do we do? Well, we know that 4 in the $x$-set can be paired with each of the five numbers in the $y$ set, thus: (4, 5), (4, 6), etc. So, if each of the four numbers in the $x$ set can be paired any of the five numbers in the $y$ set, to find out how many possible pairings we can come up with, we simply need to multiply the number of members of the $x$-set by the number of members of the $y$-set.

15. C. Here are two rules when you see a problem like this one that looks impossible at first glance: (1) The problem will solve itself if you carefully follow the instructions, so (2) Slow down and make sure you understand the information and the question. Here, we know that $t$ represents the number of decades (10 years) after 1900. 1920 is two decades after 1900, so for our purposes we can plug 2 in for $t$: $n(2) = 500(0.81)^2$. Squaring 0.81, we get 500(.6561), which multiplies to approximately 328. So, in two decades the species dwindled from 500 to 328, which means it decreased by about 180. If you read too quickly, you might have answered (d).

16. E. Most three-dimensional SAT problems can be solved using two-dimensional methods. When we draw a square with a circle fitted snugly inside it, we can see that if the radius is $r$, then the diameter (and so the length of the square) is $2r$. Now, to get the volume, we only need to cube $2r$. If you chose (b), you cubed the $r$ but not the 2, as in $2r^2$, when we actually had to cube it all: $(2r)^3$. If you’ve got a minute, Pick a Number for $r$ and work it out.

## SECTION 9 READING

1. B. Two clues here: “however” tells us that this sentence will change direction in the middle; however, to do so, the wording used on both sides of “however” must be easily related to each
other. Next, we notice “stringent upbringing.” How often in the Sentence Completions do we see strongly descriptive words that don’t matter? How about never? So, as “stringent” is a synonym for “strict,” what goes in the blank must be a synonym for “upbringing.”

2. **D.** The description “stinging and burning” should have pointed us in the right direction, or at least allowed us to eliminate choices (a), (b), and (e), which mean something else. If you chose “cloying” because you didn’t know what it meant, no problem.\(^{14}\)

3. **E.** Since the sentence compares the marbled murrelet to other birds, it must do so to prove that the murrelet is like or unlike those other birds. In such cases, it’s our first job to figure out which case the sentence is making. Although we should note “other,” which distinguishes murrelets from other sea birds, we get our strongest clue in the second half of the sentence: “... nesting in forests many miles from the sea ...” reinforces that the murrelet is unlike other sea birds. So, the murrelet likely to nest miles from the sea, and that ain’t normal.

4. **D.** Can you believe how many unnecessary words the SAT writer included after the second blank? Oh, wait. Those words are necessary! Yes! What do they tell us? Well, that physicians have suggested more than 100 possibilities, including a lot of stuff that will kill people. Oh, so the first blank has to do with Mozart’s death, and the second blank tells us that it’s still something that people haven’t figured out.

5. **E.** The big clue here is “but,” which tells us that we’re going to look for the antonym of a word or words we find in the other half of the sentence. Here, we’re looking for the opposite of “laugh and talk eagerly.” Note that the vocabulary has become pretty tough here, but that just means you have to be more disciplined and not opt for a choice just because it makes you feel smart—OK? If you don’t know any of the vocabulary words, you can choose to skip the problem quickly; otherwise, Plan B is—Scary Choice.

6. **D.** This is a great problem for Scary Choice, which would likely lead you directly to the right answer. Picayune is from the Old French for “small coin,” which means something that’s too trivial to waste time with.

This INFORM passage is intended to teach us why, as the author says in line 1, “An understanding of any national literature depends ... on the awareness of the larger cultural context.” Then the author tells us the story about the porcupine woman and the beaver that was used by the Tanaina culture to instruct the young and naïve. If you thought of this story as not very much different from “Hansel and Gretel” or “The King’s New Clothes,” you were on the right track.

7. **A.** Refer back to line 1. All right answers fall within the author’s Intention.

8. **C.** As the author tells us, in order to understand a work of art we must understand the culture that produced it. Note “previously unknown society,” which means there are no clues, whereas in choices (b) and (e), since the cultures are well-known, there must be lots of clues.

9. **D.** How do you prove any point? If you’re good, you’ll produce relevant evidence—a specific (like the story here) that goes a long way to proving the general point you’ve made.

10. **D.** Don’t you love choice (b)? Yes, our author is bewildered, and he will teach us.

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\(^{14}\) Cloying: Too filling, rich, or sweet.
11. C. Do you know what a “euphemism” is? It’s a gentle way of saying something harsh. So, if the author says euphemistically that the conditions are difficult, wouldn’t another way to say the same thing be “the conditions are brutal”?

12. B. The author explains the symbols; if you got this wrong, it’s probably because you don’t think of a map’s key or legend by either of those words; what if the choice said, “The explanatory material in the corner of the map”? If you chose (a), not every restaurant describes the hamburger as “made of beef,” and the omelet as “made of eggs.”

13. B. If this “fairy tale” had a moral, what would that moral be? “Be careful what you agree to because you may be held to it” comes to mind. The beaver put no conditions on how many times he would ferry the porcupine woman across the river, so legally she was within her rights to demand that he do so as many times as she needed him to. Seems unfair, yes, but that’s the point of fairy tales—to warn about the best and the worst that can happen.

14. A. As the author states in lines 76-79, “Her stated aim is to go hunting, and yet she sets out without the three essentials of that endeavor ....” So, she doesn’t plan well.

15. E. At the end of the story, the porcupine woman is in a bad part of town without a weapon. If you don’t believe me, reread lines 83-87.

16. D. Her goal was to go hunting. She has nothing left with which to hunt. If you chose (e), you violated the Reasonable Rule—what was grandiose about her ambitions, and what, pray tell, does she really need?

17. C. Refer back to question 13. Over and over, these questions ask, “Did you understand the author’s Intention and how everything the author wrote was supposed to bolster her Intention?” So, the author offered this story to show how recognizing cultural symbols can help us when reading the culture’s literature. For instance: What is this story intended teach children? As we saw in question 13, it’s “be careful what you agree to.”

18. C. Once again, this choice clearly conveys the author’s Intention. If you chose (b), who is the storyteller? If you chose (e), you missed the point. Authors don’t recount folk tales to laugh at them.

19. E. Note how reasonable “necessarily” is; read the choice without “necessarily” and you’ll see what I mean. Note that if you chose (a) you chose not to notice “formal.” Did the author ever make the point that to understand one of these tales one would have to attend school?

SECTION 10 WRITING

1. C. This river carries more water than ... what? Must be another [individual] river, right?

2. C. If you opted for (a) or (b), you must have thought the writer was from Brooklyn. The rest of us have a problem ... deciding. The “ing” present participle form shows that the verbs “have” and “deciding” are simultaneous.

3. A. If you chose (d), remember that the whole point of language is to communicate clearly. If we leave out “during,” we have no idea where the sentence is going when we reach the comma. By reinserting “during,” we can communicate that something happened within that span of time.

4. C. Because this sentence starts with “because,” thus making the first clause dependent, we don’t need a conjunction to connect the first to the second clause. If you chose (d), remember ...

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15 Were you taught that you can never begin a sentence with “because”? Oh well, just another lie. No biggie.
that if you use a semicolon, you need to have an independent clause both before and after that semicolon. GO SHORT

5. B. All sorts of good stuff here. First, note that we have can use the language at the beginning of the choices to narrow our choices quickly. Choices (a) and (b) begin with “recently published,” whereas (c) begins with “recently published” (not so good unless you live in Maine where we aren’t fond of adverbs), and choices (d) and (e) begin with “history of comic books,” but then go straight downhill with “recently published” and “having been recently published.” So, what’s wrong with choice (a)? If you’ve worked on our DEDICATED TO THE PREPOSITION, you know that you should have crossed out or bracketed the words “of comic books” in the first line. Why? Do so right now. Oh. What’s left reads, “A recently published history reveal …. Can’t have a singular subject with a plural verb, right? GO SHORT

6. B. Since the discovery happened in 1714, wouldn’t it be silly not to use “when”? If you chose choice (d), please never choose the verb “being” again. Promise?

7. E. If we understand why a description at the beginning of a sentence describes the sentence’s subject, which must show up immediately after the comma, we know here that we have to ask ourselves, “Who or what was selected as an astronaut by NASA in 1990?” The answer (which as I mentioned earlier must show up immediately after the comma) must be a person, in this case Dr. Ochoa. So, we’re down to (d) and (e), and note that (d) isn’t even a sentence because the main clause doesn’t have a verb.

8. D. Avoid any underlined first person pronoun (like in (a) here) unless that pronoun is consistent with one or more first person pronouns in the non-underlined portion of the sentence. GO SHORT

9. A. Note “once favored” and “now see,” which create a parallel structure (in both cases the public opinion polls are the object). Note that when we refer to people, we use “who,” not “which” (b) or “that.”

10. D. A great use for a semicolon here: The first clause gives a general description of Santa Fe (it’s old), while the second clause gives a more detailed accounting of what makes Santa Fe attractive to artists. Note that (a) is run-on. The most attractive wrong choice, (c), would need an adjustment in the non-underlined portion of the sentence (putting “…, all of which” after “light.”)

11. A. Nice parallel structure here. What made production profitable? Two things: Increased literary rates and … wouldn’t it be nice to say increased something else? If you chose (b), note that you should always prefer “and” to “with” or “also.” GO SHORT

12. C. “Is revered … for” is the correct usage. Why “is”? Because it’s a band (singular) called the Chieftains.

13. E. This was a question of finding a choice that was internally consistent. If you chose (b), it’s because people use “their” as a universal third-person pronoun these days, when in real life grammar “their” is plural-only. If you chose (c), remember I’ve told you that you should pick the shortest answer that doesn’t make you sick.

14. E. If you chose (a) or (b), you said that the ocean could last for several days. Let’s hope that it lasts a little longer than that. Choice (c) is run-on, and in (d) the “while” comes out of nowhere. Choice (e) correctly resets the sentence by using the semi-colon.
DISCUSSION:

GENERAL
There is no such thing as a “second-best” choice. The right choices are right. The wrong choices are wrong. Otherwise, SAT scores would be meaningless, and The College Board would be out of business.

SENTENCE COMPLETION
Second blank first: In two-blank sentence completion problems, the second blank will usually be more “local,” which means you can use the words immediately surrounding the blank to figure out what the missing word means. Since to solve for the first blank usually means understanding the entirety of the sentence, it makes sense to fill the second blank first.

MATH
Isolating a variable: Use SADMEP. What’s that? Read it backwards. Ah, the order of operations. So, when we’re getting a variable all by itself, first we Subtract or Add; next we Divide or Multiply; then we remove Exponents (or Roots); finally, we take away the Parentheses. Let’s try something simple (no exponents):

\[ 9(x + 1) + 7 = 43; \] subtracting 7 from both sides, we get \[ 9(x + 1) = 36; \] dividing by 9, \( (x + 1) = 4; \) so, \( x = 3. \)

THE MAINE PREP TEN TENETS

1. The SAT is not a tricky test. However, paranoia can really get between you and the score you want. Even though feeling like a victim is comforting to most test-takers’, it’s an expensive feeling. So get over it.

2. CONFUSION is the great time-waster on standardized tests. How do you get confused? You read faster than you can process. So, try to slow your reading down to 90% of your maximum speed. You’ll end up getting more done and getting more right.

3. In the Essay, evidence is king. Provide evidence—lots of it.

4. In the Sentence Completion problems, the right answer fits perfectly. Every descriptive clue is vital to making the right decision.

5. Using Plan B: SCARY CHOICE requires discipline. You must eliminate the choices you know and not the ones you don’t. Nobody said this would be easy.

6. In the Passages, no answer that violates or even wanders away from the Author’s Intention will ever be right.

7. In the Improving Sentences questions (1-11 in the long Writing section and 1-14 in section 10), the shortest answer choice is right about 40% of the time and the second shortest 30% of the time, so if you have to decide between two choices, Go Short.

8. In the Identifying Sentence Errors questions (12-29 in the long Writing section), eliminating all prepositional phrases (either by crossing them out or bracketing them) will clarify the relationship between other parts of speech in the sentence.

9. In the Math section, asking “What else do I know?” will keep you moving forward. Gathering evidence, writing things down, and drawing whenever you can will jumpstart inspiration.

10. In the Math section, whenever you see a denominator, get rid of it. Immediately.
AN SAT COMPANION

If you have been lucky enough to get your hands on a copy of the January 2007 SAT (perhaps your dog found it in the neighbors’ recycling pile), you might notice that although The College Board provides you with the answers to all the questions, it doesn’t tell you WHY those answers are correct. So, welcome.¹

SECTION 1 ESSAY

Yes, every SAT begins with a 25-minute first draft. You’ve never been taught how to write a 25-minute first draft. Even if you go to [your school here].

SECTION 2 MATH

NOTE: Problems in math sections are arranged from easiest to most difficult. However, there’s nothing to say that a problem The College Board feels is difficult you might not find easy. So, don’t get hung up on a problem that’s got you stumped. If you haven’t done anything in one minute, move on. You can always come back after you solve the problems that are easy for you.

1. D. Just a matter of doing what we’re told. \( t = 2(10) + 2, \) right?
2. A. Conversion problems, whether the conversion is between feet and inches or minutes and seconds, demand that you stop and consider which way you want to convert. Here, it seems easier to convert 1 hour to 60 minutes. Then, because 5 minutes is \( \frac{1}{12} \) of 60 minutes, we’re looking for \( \frac{1}{12} \) of 24.

Problems 3 and 4 require that we use the table, so shouldn’t we get familiar with the terms and scale of the table before we tackle the questions? The table shows how many cars per month Cathy sold during the first six months of the year. The vertical scale shows number of cars, the horizontal scale shows months.

3. A. Reading the table, we see that Cathy sold 48 cars in May; in January and February, she sold 20 and 18 cars, respectively, which add up to 38. \( 48 - 38 = \)
4. C. Did you draw the circle? Visual aids are so much more important than you probably realize. Here, we need to figure out the ratio of April sales to all sales, and then we need to express that ratio in a circle graph, which (being a circle) means we need to convert the ratio into degrees (a circle graph comprises 360°). So, April/All is 30/180, which is 1/6. 1/6 of 360° is 60°.
5. D. Here’s a novel idea. Since we’re being asked what the shape would look like if we rotated it 90°, why don’t we rotate our book 90° so we don’t have to guess?
6. D. The SAT is not going to state this problem our way: “If two times a number plus 3 equals 10 ....” So, get used to this wording. Try this one, “If 7 less than 4 times a number is 21, what is the number?”
7. A. Working too fast has its disadvantages. (I know, I keep telling you the same thing.) Here, if you picked (d), did the problem seem just a little too easy? Do you really think the SAT will ask you, “Which is bigger, 7 or 5?” So, if your math teacher told you that you can ignore instructions in math problems, be sure to tell him (or her), “Thanks a lot.” Now, if you did see that a was negative and still wasn’t sure, why not pick a negative number and then plot \( a, 2a, \) etc. on a vertical number line?
8. B. Always split strange rectangular figures into multiple rectangles. Here, we have two choices: We can either draw a line vertically that splits the figure into a big rectangle (4 x 6) on the right and a small square (2 x 2) on the left, or we can draw a line straight across the figure that will

¹ Although the test is given in more than one configuration, the layout of each “Q&A” students have shown me has been consistent. So, if your “Q&A” isn’t, let me know, and I’ll help you figure out how to reorder this Companion.
split the figure into a (2 x 6) rectangle on top and a (4 x 4) square on the bottom. Either way we end up with the same answer.

9. D. Did you answer (b)? Then it’s time to start using a vertical number line. Not so hard: You just draw the line up and down rather than side to side. Put “0” in the center of the line. Now the bigger numbers are up and the smaller numbers are down. Now let’s do the problem. When we remove the square from \((x - 2)\), we know that \((x - 2) = \text{5}\), which means that \((x - 2)\) equals either 5 or negative 5. Since we read the directions we know that \(x < 0\), so \((x - 2) = -5\). OK, adding two to both sides, we get \(x = -3\). Consult your number line. Aren’t we looking for the number that when we subtract 2 from it we get -5? And where would that number be if not two above -5?

10. E. What’s the definition of similar triangles? Yes, they are triangles whose sides lengths are in proportion because their angles are the same. Think of one as a photocopy (larger or smaller) than the other. How do we identify similar triangles? Well, here we see two triangles that share an angle (P), which should get us started thinking in that direction. Next, we note that the SAT tells us that both the T and S angles are \(x^\circ\), which means that these triangles have two identical angles. Think about it: Would it be possible for two triangles to have two but not three identical angles? Not on Earth. So, these triangles are similar. How does that help? As I said earlier, think of one as a Xerox enlargement of the other. That means that if we double one side of the enlarged triangle, we double all sides. Here, we see that the ratio of the upper right sides is 8:10 (or 4/5), which means that the ratio of each side of the smaller triangle to the corresponding side of the larger triangle will also be 4/5.

11. D. We need to identify a formula that will best summarize the plotted points. So, why not plug the data into each answer choice to see which works? Choice (a) would mean that the numbers indicated on the vertical scale would be identical to that on the horizontal scale, and when we look at the scales we see that the vertical scale is in twenties while the horizontal scale is in ones. Choice (b) would be a horizontal line at \(y = 10\), right? At this point, we realize that because the vertical scale is so different than the horizontal scale, we’ll need a pretty big multiplier to equate them. So, let’s head to (d), which says that the \(y\)-value is 10 times the \(x\)-value. Well, when \(x = 1\), \(y = 10\); when \(x = 3\), \(y = 30\); when \(x = 5\), \(y = 50\). We need look no further.

12. A. Here are some terms from your past, especially mode, which means the numerical term that is represented most often. So, here we need to have more 5’s than any other single number. If the median is 6, can we rewrite the numbers in order? 5, 5, 5, 5, 6, 6, 6, 7. So, if we add another 6 to the sequence, there would be two modes, not one.

13. C. If you chose (b), you rewrote the question to say, “How many elements are in the intersection of sets \(Y\) and \(Z\) but not in set \(X\)?” As you may have realized, The College Board enjoys writing the SAT and so tends to give bad scores to those who want to rewrite the test. So, we’re counting any values that are included in sets \(Y\) and \(Z\), including those in set \(X\).

14. E. You can use either of two methods here: (1) Pick Numbers! If \(t = 2\), then \(m = 8\); so, let’s calculate \(m^2 + m\), which is \(8^2 + 8\), or \(72\). Now, plugging in 2 for \(t\), which choice gives us 72; or (2) substituting in \(t^2\) for \(m\), so \(m^2\) becomes \((t^2)^2\), which is \(t^4\) times \(t^2\), or \(t^6\) plus \(m\), which is \(t^6\). If you’re not completely comfortable with exponents, Picking Numbers will get you to the right answer with a minimum of anxiety.
15. B. Notice that in the first line the words “be defined to be.” If the SAT has to define what operation we should perform when we see the little triangle, you can rest assured that it’s not an operation that you or anyone else in the room has ever seen before. So, this problem tests whether you are the type of person who can be trusted to install the new phone machine—can you follow directions to the letter or will you get creative? So, here, we’re told that we should treat whatever turns up to the left of the triangle the way the test maker treats $x$ in the instructions. Thus, just as $x \Delta = (x - 1)(x + 1)$, so $6 \Delta = (6 - 1)(6 + 1)$, or $(7)(5) = 35$, and $5 \Delta = (5 - 1)(5 + 1)$, or $(4)(6) = 24$. Subtracting $35 - 24 = 11$. So, now we’re looking for an answer choice that equals 11. Because we know that SAT math answer choices are almost always ordered from smallest to largest, let’s begin with the middle choice, which either will be right or will be too big (thus eliminating bigger choices) or too small (eliminating smaller choices): So, choice (c): $4 \Delta + 3 \Delta = (4 - 1)(4 + 1) + (3 - 1)(3 + 1)$, or $(5)(3) + (2)(4)$ = too big. So, let’s try a smaller choice, (b): $3 \Delta + 2 \Delta = (3 - 1)(3 + 1) + (2 - 1)(2 + 1)$, or $(2)(4) + (1)(3) = 11$. Yes!

16. D. There are two conditions in this problem. Those who get it wrong usually ignore the first condition, that $x^2/y$ is an integer. If you chose (b), that was your problem, since $x^2/y$, or $9/2$, isn’t an integer and so doesn’t qualify. In all of the other choices, $x^2/y$ is an integer, so all of them satisfy the first condition. Now we need to find for which of those choices $x/y$ isn’t an integer, and choice (d) fits the bill.

17. B. What is the definition of absolute value? It’s the distance from zero, and that’s why it’s always expressed as a non-negative number (zero has an absolute value of zero). Note that when a function says $y = |$something$, |y$ cannot be negative! Here, we are asked to find the function line that satisfies the second function equation, which is merely the absolute value of the first equation. So, where the $y$-value would normally be positive, will anything need to change? Is the absolute value of 3 not 3? It sure is. So, where would the line need to do something different? Ah, where it would cross the $x$-axis, because as soon as the line crosses the $x$-axis the $y$-value is negative, and the $y$-value here cannot be negative! So, note that choice (b) “bounces” when it reaches the $x$-axis, and that the new $y$-values mirror what the original $y$-values would have been had the line continued downward. A $y$-value of -2 becomes 2 (because 2 is the absolute value of -2, right?) and a $y$-value of -7 becomes 7.

18. B. First, picture (or better yet, draw) a cylinder like a Coke can. How many dimensions does the can have? So, the answer we want must contain three dimensions, which eliminates choice (a). Next, the rectangular box would have to be as long as it is wide, and that width would need to be the can’s diameter, which means that the base would be $d$ times $d$. And then the box would have to be as high as the can’s height, which is $h$. So, $d^2h$. Keep it simple.

19. E. Here are the equations as we translate them: $x^2 = 4y^2$ and $x = 2y + 1$. OK? Now, whenever we have two variables and two equations, we have two possible ways to solve: (1) Systems of equations (adding or subtracting the equations); and (2) Substitution. Usually (1) will do the job better and more quickly, so let’s try it. Write the two equations, one over the other, then subtract: we’re left with $x^2 - x = 4y^2 + 2y - 1$ (remember, we subtracted the second equation from the first one). Not helpful; so, let’s try method (2): First, let’s sub in $x$ for $y$: Subbing in $2y - 1$
for $x$ in our first equation, we get $(2y + 1)^2 = 4y^2$. Now, let’s rewrite: $(2y + 1)(2y + 1) = 4y^2$. Multiplying the binomials gives us $4y^2 + 4y + 1 = 4y^2$. Subtracting $4y^2$ from both sides, we’re left with $4y + 1 = 0$. So, $4y = -1$, which means that $y = -1/4$. WAIT! Read the question again. Right. It asks us to solve for $x$, not $y$; so, we sub $y$ into the second equation so that $x = 2(-1/4) + 1$, or $1/2$. You do realize that when you get to the end of a math section the problems will be tough or time-consuming or both, right?

20. **E. Did you Draw It?** So, the first line that contains points (0, 0) and (2, 1) has a slope of $\frac{1}{2}$. So, the slope of any line that is perpendicular to a slope of $\frac{1}{2}$ must be that slope’s negative reciprocal, or -2. What does -2 mean? It means that as we follow the line, each time we trace one $x$-value to the right, the line’s $y$-value must go down by 2, and each time we trace one $x$-value to the left, the line’s $y$-value must go up by 2. We know that the line contains two points, (2, 1) and (0, t). Well, the $x$-value of 0 is two to the left (along the $x$-axis) of the $x$-value of 2, correct? As we said, each time we trace our straight line one $x$-value to the left, we note that the line’s $y$-value must go up by 2, so tracing two $x$-values to the left, the $y$-value must go up by 4. Interestingly, students who have tried to draw this as accurately as possible have known intuitively that the value of $t$ had to be **more than 3**, and so were forced to pick the correct answer.

**SECTION 3 EXPERIMENTAL.**

What? You don’t have a section 3? Right, that was the section in which The College Board tried out new problems that it intends to use on future tests. So, Section 3 didn’t count. No—the Experimental section looks just like a real section. You won’t be able to tell. So don’t even try.\(^5\)

**SECTION 4: READING**

**NOTE:** Problems in the Sentence Completion subsection (here, problems 1 through 8) are arranged from easier to harder, the correct answer fits perfectly, and every clue to meaning of the unknown word(s) is important. The vocabulary in sentence completion problems can be pretty tough for a high school student; so, it’s good to have a back-up plan (refer to your Maine Prep TEN FOR TEN, “The Scary Choice”).

1. **C.** We know here that the blanks in the two halves of this sentence will essentially agree with each other. So, the only choice that seems to fit a movie is the right one.

2. **B.** When you saw the first blank, did you think “the additive is making groundwater more tasty”? Of course not; because each sentence will be internally consistent and every descriptive word is important, we knew that the unknown must have something to do with pollution, right? So, at this point we’re down to (b) and (e), and the second word in the (e) answer is from a different sentence (note how appropriately “well-intentioned” and “backfire” work together).

3. **A.** We know from our work on Definition sentences that whenever a blank is followed by a piece of punctuation, the definition of the missing word comes next. So, we’re looking for a word that means “devoid of any emotion or personal prejudice.” “Dispassionate” means “without passion.”

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\(^4\) The rise is 1 and the run is 2.

\(^5\) One of my students in New York thought he had identified the Experimental Section and so took a 25-minute power nap. He was very chagrined when he received his test results—he had wasted an entire morning in an effort to be clever.
4. B. In two-blank sentences, plan to work on the second blank first. Here, if we look at the sentence beginning with the comma following the first blank, we realize that the belief must be false or untrue (since descendants of the Taino have been identified). If we’re familiar with the vocabulary, we can narrow our search to choices (b) and (d). So, reading “erroneous” from choice (d) into the sentence, we read, “No longer considered erroneous, the belief ...” Wait a minute! The belief is considered erroneous. So, let’s try (b): “No longer considered tenable, the belief ... Even if you don’t know tenable6, you know that (d) can’t be right.

5. E. This Antonym sentence begins, “Although easily angered ...” So, the second half must have the person in question calming down, right? If there’s any justice in the universe, yes. Thus, “our mother could be immediately calmed down by ...” At this point, eliminate the words you know mean something other than calmed down, and then guess.

6. A. Many years ago, when wooden ships plied the seas, a lot of them sank. When that happened, the junk in the ships would either float to the surface (flotsam) or sink to the bottom (jetsam). Since then, “flotsam and jetsam” has been a term meaning junk or detritus.

7. A. It would have helped to know what “irascible” means, right? It means “easily angered.” So, we can figure that the first blank has something to do with personality, which should eliminate choices (b) and (e)—unless you didn’t know that “disposition” means “characteristic attitude.” Next, “laconic” means “using few words” (like the Spartans, who came from a part of Greece called Laconia), “benevolent” means “with kindly feelings,” and “cantankerous,” much like the way it sounds, means “disagreeable to deal with.” Kind of like people who are mad all the time.

8. A. What’s the clue? How about “unpredictable and given to constantly shifting moods”? This is a problem in which you probably need to eliminate all the words you know and then guess, but what word does “mercurial” remind you of? How about “mercury”? Why do we use mercury in our thermometers? Ah, because it expands and contracts when the temperature changes. So, up and down. If you’ve read Romeo and Juliet, you might think of Mercutio, who seems bipolar, as mercurial.

SHORT PAIRED PASSAGES will sometimes be opposed, and other times they will just deal with the same subject matter. These passages discuss how to assess the Earth’s capacity to support ever higher populations. Passage 1, a Persuade, argues that because there are so many square miles of land that are devoid of people the Earth is underpopulated; Passage 2, a Persuade, takes issue with Passage 1’s conclusions by noting that “empty” land isn’t actually empty.

9. D. Note that passage 2 begins by asserting that using statistics based on “people per square mile” is to miss the point that vast tracts of the Earth are either used to grow food or provide raw materials (and so aren’t habitable). Note that a choice like (a), which attacks the first author for providing incorrect data, will never be right on a standardized test, because SAT essayists don’t fudge the data, although their conclusions might be based on faulty assumptions based on that data.

10. C. If you got this one wrong, you probably thought that choice (c) said “empathetic.” Oops. Someone who’s emphatic says something with emphasis. Reread the first sentence of Passage

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6 According to dictionary.com: “capable of being held, maintained, or defended, as against attack or dispute: a tenable theory.” If you read a lot, you will probably see this word at least 500 times during your life, so you may as well learn it now.
2. If you chose (b), note that “dismay” means “to surprise in a way so as to disillusion.” One can’t be dismayed by an argument one hasn’t ever believed in.

11. C. Whenever you use or see quotation marks around normal words, isn’t it clear that (a) the author is directing your attention to the word and/or (b) the author is using the word to mean something that’s different from the word’s ordinary meaning? Think about when someone you know uses “air quotes.” Usually a little sarcasm involved? Sure. So, when the author of Passage 2 says “empty,” she is saying “not so empty really.”

12. A. One fact isn’t in dispute: There is a lot of land where people don’t live. Problems in the passages can be easy or hard. So, don’t worry about the difficulty level; rather, Index the passage and find the Author’s Intention (refer to your Maine Prep TEN FOR TEN, “Passages Companion”), keeping in mind that no correct answer choice will ever violate the Author’s Intention. All fiction passages, except those written in the first person that primarily describe the narrator’s feelings, are Inform. Your next question should always be, “Inform me about what?” The italicized paragraph at the beginning of the passage fills you in—pretty well I’d say. Don’t ever skip over the italicized portion, OK?

13. B. What unrolled slowly? Must be the map that was “curling and snapping back,” like it was alive. Did you know that “animate” is also an adjective?  

14. C. We’re seeing the map and Lewis through the narrator’s eyes. Does Lewis really have power over the land? No. But that is the author’s impression. If you chose (a), an anecdote is an entire story.

15. D. As the narrator says, “[Lewis’] hand seemed to have power over the terrain, and when it stopped for Lewis’ voice to explain something, it was as though all streams everywhere quit running, hanging silently where they were ....” “Omnipotent” means “all powerful.”

16. E. Did you cross out hanging in line 13? Then did you cross it out in the question? This would have been easier had you done so. Didn’t the streams seem to quit running?

17. E. Lewis says, “I mean wild; it looks like something up in Alaska.” So, if you chose something else, your imagination was working overtime. Stop that.

18. A. Authors must be Reasonable. Characters in stories, like authors’ subjects in Inform and Persuade nonfiction passages, do not have to be Reasonable. Is it possible that Lewis might think that building a dam and drowning all this wonderful untamed land so that the developers might build little condominiums is a good idea? Is he likely to say, “Well, the jury’s still out?” Unlikely. At best.

19. E. If you got number 18 right and this one wrong, what happened? Would Lewis change his mind in mid-sentence?

20. B. The narrator says, “I leaned forward ... trying to see the changes ..., the nighttime rising of dammed water bringing a new lake up with its choice lots, its marinas and beer cans, and also trying to visualize the land as Lewis said it was at that moment, unvisited and free.” The way it is now and the way it will be. Note that the right answers are the right size as well as totally appropriate. Don’t infer. Please.

7 A good clue is that all the other choices are adjectives, so “animate” must be one, too.
21. **A.** The narrator gets a physical sensation that anticipates their trip. Again, the other answers are pretty silly and far from the story we’re reading.

22. **A.** Did you cross out picking up in line 34? (Yes, it’s still the best technique when the SAT asks us what “two words” means.) How about in the question? If so, the sentence read, “I looked around the bar and then back into the map, _________ the river where we would enter it.”

23. **D.** Tough question because few high school students, who are taught every day, know that “didactic” means “teacher-y.” Clearly, Lewis is turning this into some sort of instruction, right?

24. **C.** As the narrator tells us, “He liked particularly to take some ... difficult form of sport—usually one he could do by himself—and evolve a personal approach to it ...” So, if we missed the first clue, there was a second!

25. **C.** Another tough question, because Bobby’s statement isn’t particularly humorous. But it’s pretty clear that Bobby intended the remark as humor.

**SECTION 5 MATH**

This split section includes two easier-to-harder progressions, the first in the multiple choice problems and the second in the student-produced responses (“grid-ins”). **SO, because every problem is worth the same one point,** if you run into a time problem in this math section, you might want to answer, say, problems 1 through 6 and then skip over 7 and 8 to get to the easier grid-ins (9 through 14). Then, if you have time, go back and work on 7 and 8.

1. **B.** If $87908796x = 0$, what does $x$ equal? Must be 0. So, if $x = 0$, what’s $x^2$ equal?

2. **E.** The diameter is twice the radius. So, the ratio of the diameters of any two circles will equal the ratio of their respective radii.

3. **D.** If you got this wrong, you probably talked yourself out of the right answer because it seems remarkably logical that if we double every number in any group, we’ll also double the average of that group of numbers. If you don’t believe me, let’s say that all of the members of set $N$ equal 3 (such as 3, 3, and 3). Well, if we double these numbers, don’t we get 6, 6, and 6?

4. **C.** 789 times $10^3$ is 789000. Note that the third power moves the decimal three places to the right. What would happen if the power is negative? Wouldn’t that move the decimal in the other direction? So, 789 times $10^{-2}$ would be 7.89.

5. **E.** Simplify! Can we subtract $k$ from both sides? When we do so, we’re left with $n < 0$.

6. **A.** “Real-life” slope problems should always be viewed as if they were on an $xy$ grid. If we put the low end of this ramp at $(0,0)$, then the high end of the ramp would be at $(16,7)$, right? Now, let’s trace down the ramp until we get to a $y$-value of 3.5, which half of the maximum $y$-value of 7. Since we have traced halfway down the slope, the $x$-value should be half of the maximum $x$-value as well, right?

7. **B.** What is $a$? It’s the number by which we have to multiply $x^2$ in order to compute the $y$-value. It stands to reason that the larger $a$ is, the bigger the corresponding $y$-value for each $x$-value, so as $a$ increases the parabola will become steeper and steeper. Make sense? OK, so this problem is asking what happens when $a$ is divided by 3, which make the $y$-value increase only 1/3 as fast and therefore lead to a much shallower parabola. If you want to try it for yourself, make $a = 3$ and compute the $y$-value for each $x$-values of 1, 2, and 3. Now, try it with $a/3$, which would be 1.

8. **B.** This problem could be tricky if you didn’t read it carefully. Normally in such a “combination of sets” problem we’d just multiply the 3 hats by the 3 sweaters by the 3 jeans, but here we’ve
been given an additional condition: She must wear one and only one item of each color in each outfit. So, the possibilities are much more limited. Let’s set them out. With the RED hat, she can wear either the BLUE sweater and the WHITE jeans or the WHITE sweater and the BLUE jeans. That’s it. So, two possible outfits that include the RED hat. Do you imagine that she could wear a similar number of outfits with the WHITE hat and then again with the BLUE hat?

9. \(9/2 \text{ or } 4.5\). So, \(2x + 5 = 14\). Subtracting 5, we get \(2x = 9\); so, \(x = 9/2\).

10. 135. I hope you didn’t answer 45. If so, you answered the wrong question. Here, we know that \(x + y = 180\), and that \(y = 3x\). So, substituting \(3x\) for \(y\), we get \(x + 3x = 180\), so \(x\) is 45.

11. 32. Both the box and the CD cases have measurements of 4 \(\times\) 4, so the only measurements we need take into account are that the box is 8 inches deep and each CD case is \(\frac{1}{4}\) inch deep. So, how many \(\frac{1}{4}\)’s are there in 8?

12. \(1/15, .066, \text{ or } .067\). If you follow the Maine Prep dictum, “Get Rid Of Denominators,” you might have wondered, “How do I get rid of two at once?” How about cross-multiplication? When we cross-multiply, we get \(6y = 5(3x + y)\), which simplifies to \(6y = 15x + 5y\). Subtracting 5y from both sides, \(y = 15x\). Divide by \(x\). So, if \(y/x = 15/1\), then \(x/y = 1/15\). Yes?

13. 1750. Although that almost all SAT math problems contain only information that you can use profitably, but I’ve also said that table and chart problems do contain extra information in order to test whether you can sort out what is and isn’t relevant. I did a lot of work on this problem before I realized that the average increase in profit from year 1 to year 2 would be the differences in the totals for each year divided by 3 (since there are three stores).

14. \(4.25 < x < 8.5 \text{ or } 17/4 < x < 17/2\). When we see a problem defined for \(f(x)\), can the test maker then ask us about \(f(a)\)? YES. We just need to remember that \(a\) is our new \(x\)-value, and so treat it the same way we would treat \(x\). So, \(f(a) = |3a − 17|\). Let’s plug in a number or two for \(a\) so that we might find one for which \(f(a) < a\), OK? Let’s try \(a = 1\). So, \(f(1) = |3(1) − 17|\), which is 14. So, 1 doesn’t work. How about, say, 5 for \(a\)? \(f(5) = |3(5) − 17| = 2\). Bingo.

15. 8. This is a major reading problem because if you got it wrong you probably answered a question of your own devising rather than the one that was posed in the problem. To begin, Ari had 25 red and 25 green. He’s taken 3 red and 4 green, which leaves him with 22 red and 21 green, right? So, if he takes 13 more candies and wants to end up having taken more red than green, how few red must he take? Let’s say he takes 7 red and 6 green; now he has taken 10 of each, so that doesn’t work. Therefore, he needs to take 8 red and 5 green, which would mean that he has taken 11 red and 9 green.

16. 9. Don’t you love “on-the-fly” definitions? How often have you worked with “tri-factorable” numbers? Never? Me neither. So, we have to pay attention to the definition and figure out a way to solve the question. I prefer the MPDM\(^8\)—let’s try to figure out what some of these numbers might be. Well, how about 1 times 2 times 3? We know that the product of those numbers is less than 1,000. 2 times 3 times 4? Yep. 3 times 4 times 5? Ditto. At what point will multiplying three consecutive numbers result in a product that’s more than 1,000? Let’s try 9 times 10 times 11—that’s 990. Oh, 10 times 11 times 12 must be more than 1,000 (if you don’t believe me, warm up the calculator).

\(^8\) The Maine Prep Dumb Method—patent pending.
17. **40.** How did you set this up? I had $1.00 + 0.07(t – 20) = 0.06t$. Why $(t – 20)$ and not just $t$? Because the $1.00$ already paid for the first twenty minutes. What? Do you want to pay for them twice? Next, since I don’t particularly like decimals, I multiplied through by 100: $100 + 7(t – 20) = 6t$. Then, distributing the 7, $100 + 7t – 140 = 6t$. Simplifying, $7t – 40 = 6t$. Adding 40 to each side and subtracting 6t from each side, $t = 40$.

18. **8/5 or 1.6.** We know that $p = a$ (it says so in the problem) and that $p = 16k$ (count the perimeter right now if you don’t believe me) and $a = 10k^2$ (the side of each square is $k$, so the area of each square must be $k^2$; there are 10 squares). So, $16k = 10k^2$. Dividing each side by $k$, we get $16 = 10k$. Dividing each side by 10, $16/10 = k$.

**SECTION 6 WRITING**

**NOTE:** Problems in the first two writing subsections are each arranged from easier to more difficult, so while problems 10 and 11 may be very difficult, problem 12 begins the easier-to-harder progression all over again—be careful to switch gears! However, by the time you reach problems 25 through 29 (known affectionately at Maine Prep as “the Circle of Death”), you’re looking at some of the toughest problems on the SAT. Note that right after the Circle comes the Improving Paragraphs subsection, which is pretty easy if you don’t need to rush. So, skip over the Circle to do the paragraphs, and then try your luck with 25 through 29.

1. **D.** The first thing we see is that we need an “ing” ending that’s parallel with “reading” and “relaxing.” The next thing we notice is that we would have to do our best Borat impression to make choices (a) and (b) sound anything like English.

2. **E.** If you chose anything else, what did you identify as the verb in the main clause? GO SHORT

3. **C.** First, who was “traveling through Yosemite”? Yes, finding the right choice is really that simple. Identify the subject that’s described in the opening phrase, and then put that subject right after the comma. Here, we can immediately eliminate everything but (c) and (d). Then, we can quickly rule out (d), which seems to have something tacked on at the end.

4. **C.** Ask yourself: Why did Firdawsi compose the epic? You’ll probably say, “To recount ...” If that’s the case, you can quickly pick (c). Otherwise, note “being,” the word that’s the kiss of death in this section, in choice (a); in choice (b), the first word, “and,” tells us that the author of the sentence wants to go on to another subject, rather than continue to describe why Firdawsi composed the epic; not sure why you would pick (d), since it tries to work without a subject; and (e) is just a pure run-on (comma splice). GO SHORT

5. **B.** Any discussion of someone who has done anything over a period of time (like Jamison here and her work in dance) needs to use the present perfect tense (for those of you who take Spanish, French, or Latin: think imperfect). So, that eliminates all but (a) and (b). Next, note that choice (a) is run-on. GO SHORT

6. **C.** If you liked choice (a) or choice (b), you really wanted a comma at the end of your choice, didn’t you? Whenever you are about to make a choice that you’d like to change in any way

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9 A run-on (or comma splice) sentence is one that uses a comma to splice together two independent clauses. What’s an independent clause? It’s a clause that can stand on its own as a sentence. We can splice together independent clauses, but only in two ways: (1) Use a semicolon (I couldn’t get enough of fishing; every day I headed out to the lake.) or (2) Augment the comma with an appropriate conjunction that relates the clauses (I couldn’t get enough of fishing, so every day I headed out to the lake.)
whatsoever, the choice is wrong. Choice (d) contains the SAT “kiss of death,” the verb “being,” and choice (e) was lifted word for word from a Borat press conference.

7. **C.** Refer back to sentence 1 and sentence 3, which both begin with an introductory descriptive phrase. Whenever a sentence begins that way, we need to ask “who or what is this phrase describing?” When we do so, we will immediately identify the subject of the sentence. Next, we need to make sure that the subject we just identified shows up right after the comma. When we do so here, only one choice fits. GO SHORT

8. **A.** We can use “ing” verbs to show simultaneous action. Here, the runners impressed the crowd while “shaving” time. To choose anything else here is either to change the tense completely ((b), (c), and (d)) or to create a non-sentence (e).

9. **D.** This may be my favorite SAT sentence of all time. If you look closely at the original sentence, you will see that it says that some people, because of their ability to eat large numbers of insects, are building bat houses in their backyards. Well, if I were able to eat large numbers of insects, I certainly would welcome the company of bats. However, it seems to me that if a sentence starts the way this one does, the word after the comma should be “bats,” right? If you liked choice (c), what’s more important, the bat houses or the people? Yes, the people who are building those houses in their backyards. If you chose (b), see the commentary to (a). Oh. GO SHORT

10. **A.** “For all their talk” and “about ecology” are both prepositional phrases that, if we rearranged the sentence, could be crossed out without changing the sentence. (“Major companies, for all their talk about ecology, have so far spent very little to fight pollution.”) People who get this wrong seem to like choice (d), which can be translated to say that, “in addition to the companies doing something, they’re also doing nothing.” GO SHORT

11. **A.** One of the clearest Parallel Structure clues is the word “both.” Here, we see that the survival of the marine life may depend on both ...” Well, think for a minute about how you would use “both.” Would you say, “Both my brother along with I like ice cream?” Of course not. You’d say, “Both my brother and I ...” So, we know that we need an “and” in this sentence, which leaves only (a) and (c). Next, Parallel Structure kicks in any time we see a list or a comparison. In this sentence, the list begins with “both” and continues with “and.” In any list, the construction must be the same before and after the “and.” So, “both the enforcement of waste disposal regulations” and “the education of the public.”

**IDENTIFYING SENTENCE ERRORS.** Remember that in this section, you must identify clear errors and avoid picking choices that you might like expressed differently. Be a proofreader.

12. **B.** Our research has shown that any underlined pronoun has a better than 65% chance of being the right answer (that is, the error in the sentence). Method: Cross out the members of the list before the pronoun: “Cindy, Leroy, and me went to the store.” Not really, right?

13. **D.** The past is the past. Repeat that. The past is the past. So, we must reject any choice that discusses the past in the present or future tense.

14. **C.** Prefer simple tenses. Here, note that in the second line the character “saw”; in the third line, note “and,” which connects like things. Which like things are connected here? How about that Oedipus “saw” and “believing”; oops, don’t we mean “saw” and “believed”?

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10 Note that both words in red are nouns; both expressions in blue are prepositional phrases.
15. B. “Neither” is always paired with “nor,” whereas “either” is paired with “or.” Okay?

16. C. As in problem 14, we should always prefer a simple (past, present, or future) tense unless we have a reason to suspect that (as here) we need a “perfect” tense. Simple past: “I went to the beach yesterday.” That’s fine if we’re discussing the past. Present perfect: “I have gone to the same beach since I was a kid.” That’s good too, because the present perfect tense is used when an action began in the past and continues into the present. (Usually, a word like “since” will tip us off that we’ll need to use the present perfect tense.)

17. D. We cannot say that “workers” are “a slave laborer.” Aren’t you amazed how often singular/plural is tested on the SAT? And how often we don’t notice?

18. C. Note the statistics in the explanation to problem #12. You must handle every pronoun as if it is the prime suspect—promise? Here, who are “they”? Must be “the proposed tax,” right? Can we use a plural pronoun to refer to a singular noun?

19. E. Note our explanation to #16. Note that here “eating garlic” was regarded in a certain way in the past, and it is regarded in that same way now. So, rather than say the same thing twice, i.e., “Eating garlic was regarded as ... and still is regarded as ...”, it’s a lot more efficient to use the present perfect tense (see problem 16), which describes a thought or activity that began in the past but continues to this day.

20. B. Sometimes, staying aware of pronouns (and playing the odds by picking a pronoun whenever one is underlined and you can’t find anything else that’s wrong with the sentence) can pay unexpected dividends. Here, the pronoun “us” is fine, since we are not the subject but rather the object of the clause. However, as we look closely at “us,” we notice the verb, “holds.” Who holds? The managers holds?11

21. C. The conjunction “and” always connects like things, and it’s pretty unlikely that the SAT can put a lot of false leads into such short sentences. So, what does “and” connect here? How about “strength” and “being agile”? Well, “being strong and being agile” would be parallel, if wordy. What would be parallel with strength?12

22. D. If you have worked hard at identifying prepositions, you might have noted that “with” is a preposition, which leads to the question: What’s the entire prepositional phrase that goes with “with”? How about “with saving time and money”? OK, bracket those words and then read the sentence without them.

23. A. Preposition idioms begin to show up either in or just before the Circle of Death (problems 25 through 29), so it’s good to readjust your radar in the early 20’s to include the possibility of improper preposition usage. When you’re in your car, do you arrive to your destination? Or, possibly, do you arrive at your destination?

24. E. Boy, there are a lot of suspicous constructions in this sentence, including choice (c), which is one of the few uses of the past perfect tense I’ve seen. Past perfect is used to separate an action in the more distant past from something that happened more recently. (“I had enjoyed ice cream sundaes at least once a week before I read Maxine Shorter’s article about trans-fats; since then, I have eaten lots of salads (with chocolate croutons) instead.”)

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11 When you start to lose the ability distinguish between a singular and a plural verb (believe me, I've been there), try the “it/they” test: Here, you would say, “it holds” and “they holds.” Which one sounds right?

12 Agility.
25. C. Portions of a sentence that are set off by commas are not necessary to the structure of the sentence. Does that make sense? If it doesn’t, be sure to ask. So, here let’s bracket “achieved through the use of sophisticated technical equipment.” Now, let’s read what’s left: “Peter’s seemingly effortless flights continues …” Oh.

26. D. One receives an offer “of assistance,” not “for assistance.” Read (or reread) the explanation for problem 23.

27. E. If you picked choice (b), ask yourself: Did I believe that “any” was wrong (and “a” was right), or did I just prefer “a” to “any”? This subsection is about “identifying errors,” not “making style choices.”

28. C. What’s the primary purpose of language? Isn’t it to transmit ideas without confusing the heck out of the receiver? If that’s the case, who does “her” refer to? Ms. Perez? Ms. Tanaka?

29. E. Note that choice (e) showed up three times in the last six problems—so, if you’re “e-phobic,” get over it. Substitute science for superstition, and you’ll see a lot fewer hobgoblins stalking you as you work through this test. “As it were” means “in a way,” so choice (c) is fine; if you picked choice (d), bracket “as it were” and note that “complicated by” is also just fine.

IMPROVING PARAGRAPHS. In our TEN FOR TENs, we suggest that you index these paragraphs and answer the questions as you read. Who would want to read these passages twice?

30. E. If you chose (b), you changed the focus of the sentence from the recent version of the play to the people who didn’t like the play. You also chose the past tense, which suggests that the purists no longer expect filmmakers to follow the original text. Note that “those” is a Demonstrative Pronoun that refers back to “purists.”

31. C. Did you cross out “ones” in sentence 3? Did you then cross out “ones” in the question? If you didn’t, please do so now. “The only positive ______ expressed relief that Shakespeare …”

32. C. The author is building a case. First, she told us about the critics’ reactions to the new version of Romeo and Juliet. Now she’s telling us about reactions to Clueless. Wouldn’t it make sense to use a transition like “Another supposed outrage” to link the two together?

33. A. Anytime you see a sentence that starts something like, “Many people think …”, do you expect the author to agree? Try it yourself. “Many people in the Middle Ages thought that covering a person with leeches would heal illness. …” “Some kids I know like to skip school …” (Don’t you just hear yourself continuing each sentence with “but”? ) So, it makes sense that if a sentence or paragraph starts with, “Many critics consider …” the author doesn’t agree.

34. E. If you’ve worked on preposition idioms, you know that we recognize something as … If you chose (d), recognize that “being” is a true kiss of death. People like the word but almost always misuse it. However, if it’s preceded by “human” or “supreme,” then it’s OK.

35. B. Note sentence 11, which reads, “No doubt he would recognize …” So, because parallel structure helps a reader follow the writer’s train of thought, and since Austen is also dead and so can’t actually witness remakes of her novels, why not use the same hypothetical13 tense? If you chose (e), you brought Austen back to life. Congrats.

13 Hypothetical: based primarily on surmise rather than adequate evidence.
SECTION 7 READING

1.  D. Every descriptive word matters, and the ones that matter most are those farthest from the blank. Here we see that Geoffrey was “corrupt” and in “disgrace,” so it’s pretty certain that he wouldn’t be reelected to the city council. Remember, water will never fall up on the SAT and the test maker is not trying to trick you, so if you understand the sentence and the answer choices, go with your instincts—not against them.

2.  C. This Antonym sentence (“although” is our clue) starts to reveal its secrets when we consider “uneven.” What does it say about the editors if an anthology’s content is uneven? Perhaps they weren’t selective enough? When we try (c), we note that “selective” is the antonym of “inclusive.”

3.  D. Clear clues here are “brief” for the first blank and “instructive” for the second blank. If you got this problem wrong, please look closely at it right now and determine whether you see that each blank has a clear clue, and that the clues are listed in the same order as the blanks. Then, note that if you chose (b), you paid attention to the first clue but ignored the second. Just because one word in a Sentence Completion answer is terrific doesn’t mean that the other one works, too. You really have to check. If you convinced yourself that “elaborate” could mean “instructive,” you need to go back to basics, since the right answer is perfect (which means that if you know what any word means, you know whether or not it’s right). Look up “succinct” if you don’t believe me (or even if you do).

4.  E. This tough problem can best be solved by using logic. If Essence magazine has recently been challenged, then it’s likely that until recently it wasn’t challenged. So, it held a leading position. Your problem here might have been the vocabulary. Remember that THE SCARY CHOICE, which should always be your Plan B, will sometimes lead you to the right answer and always save you time. Once you’re sure that the answer or answers you know don’t fit, go to Plan B—pick something! Then move on.

5.  A. Whenever the blank is followed by a piece of punctuation like the colon here, the words that follow are the definition of the missing word! So, here we’re looking for something that means “no doubt about her intentions.” I understand that the vocabulary is tough, but if you know any of the words, you know whether or not that word means “no doubt of her intentions.”

The SHORT PASSAGES include the most random questions on the SAT. Sure, they look cuddly, but after you’ve read through one of them five or six times trying to figure out what the question’s asking, you start to get the idea that these passages can be great time-wasters. If that’s the way you feel, reorder your section, planning to work on the short passages after you’ve finished the long passages, where you can often answer more questions per minute. When you do work through the short passages, the author’s Intention is vital—make sure that any choice you pick is consistent with that Intention.

6.  D. Note the humility of the answer choice, “define the meaning of a term.” Remember, the SAT hides right answers by making them appear unimpressive.

7.  B. This is a restatement of the last line of the passage. Note the sentence in red above. Stay close to the author’s Intention and you will seldom go wrong.

8.  C. “Durability” means “staying power,” so if you are looking to restate the first line of the passage you’re likely to pick the right answer. If you chose (b), was “cool” ever defined?
9. **B.** This is the question on this page that often proves to be the most difficult. It’s the vocabulary, right? Did you know what (b) and (d) meant? How about (e)? So, in cases like this, you eliminate the choices you know are wrong and then guess among what’s left. By the way, “ephemeral” means “short-lived” (literally, “lasting only one day”), whereas “esoteric” means “something known only by a select few.”

Science passages almost always Inform us of something new—either new now or new at some point in the past (which would make the passage an historical science passage). What’s new in this passage? Perhaps how scientists changed their views of how the surface of Venus might appear?

10. **E.** If you pegged this passage as an Inform, you were able to eliminate (a) and (c) as Persuade answers. Then, although you might have been tempted by (b), you realized that the author wasn’t who was speculating about life on Venus; rather, the author was Informing us about such speculation throughout history. Choice (d) is a wonderful “let’s totally blow this out of proportion” answer choice that I hope nobody who has ever worked with Maine Prep would pick. As for (e), note the beginning of the second paragraph.

11. **A.** It’s not only a supposition, but it’s a plausible supposition! Check out how closely this choice matches the passage: “…logically it might be expected to have the same kind of atmosphere—but this is emphatically not so.”

12. **E.** Clues like the opening line of paragraph 3, “Yet opinions differed,” should be taken very seriously. If you say, “opinions differed,” what’s the minimum number of opinions you’ll need to cite as evidence? Two, right? Our suspicion that the author is going to tell us about more than one theory is confirmed when the author continues, “According to one theory ....”

13. **B.** It’s amazing how often we tend to IGNORE words in capital letters. If you got this problem wrong, did you miss NOT in the question? A hypothesis suggesting that living beings like the ones on Earth are also present (and doing well) on Venus would be deflated by the that Venus’ atmosphere is pure carbon dioxide. Remember, no tricks. Follow the logic.

14. **B.** Since the author states in lines 32-34 that, “...Mariner 2 bypassed Venus ... and gave us our first reliable information,” it’s no stretch to say that the author doesn’t think we had reliable information prior to that time.

15. **D.** If I say, “The only explanation is that Americans want to be distracted from the real issues [emphasis added],” I may be right or I may be wrong, but one you can say for sure is that I’m decisive. If you automatically picked (c), remember, “skeptical” is great if you judge that the author has said something negative.

Next, we have a Reveal passage ...

16. **C.** Did you cross out “regular” in line 3? Did you then cross it out in the question? This is one of the tougher “vocabulary in context” questions, so it was very important to use good technique. Do we have any clues as to why the right answer is right? Yes. The narrator was “used to the sensual curves of Puerto Rico ....” Why would the author make this reference if not to contrast those curves with the same horizontal boxes she could see in every direction?

17. **B.** People really go overboard on this question. Although they know that there is only one right answer (and no almost-right answers) to every SAT question, and although they can see that the quote contains vivid imagery, their English classes have prodded them to go beyond what they can see and sense and try to figure out the deeper reasons why the author has said what she
has said. Pretty confusing, eh? So, one more time: There is no real subtext in the SAT reading passages. You are not supposed to figure out that the puddle is in reality her soul. So stop it.

18. E. As the narrator tells us, “Mami and Tata teased that I was disillusioned because the streets were not paved with gold.” If you keep reading, the narrator tells us why she’s really disillusioned. Any other choice would make inferences, which you will stay away from if you want a good score on this test.

19. B. Not just the second paragraph. She did so right from the start, when she contrasted the sensual curves of Puerto Rico to the regular, aggressive, two-dimensionality of Brooklyn.

20. E. This is the problem that separates those who infer (unfortunate) from those who don’t (good!). Note that choice (e) modestly restates the passage (“She appraised me shyly; I pretended to ignore her.”), while choices (a), (b), and (d) add interpretation to the author’s simple description. I’ll bet if you picked one of those incorrect answers you were torn between that answer and (e). Remember, you should always pick the Humble Choice, which is the appropriate answer that requires less supporting evidence from the passage.

21. D. The discussion revolves around the terms “Puerto Rican” (lines 33, 34, 43, and 53) and “Hispanic” (lines 31, 34, 38, 41, 47, and 52); so, it appears that the girls are trying to figure out whether one equals the other.

22. B. As we can tell from the discussion referenced in question 21, the narrator has always considered herself Puerto Rican. However, now that she’s in New York she’s become Hispanic. If you chose (d), you’re trying too hard.

23. E. As is explained in line 65, what her mother is saying is, “Something can happen to you.” If you assumed something bad, that should be the biggest assumption you ever make on this test.

24. D. As the narrator says, “But inside, I quaked. Two days in New York, and I’d already become someone else (uncertainty). It wasn’t hard to imagine that greater dangers lie ahead (fearfulness).”

SECTION 8 MATH

1. B. How about we set up a fraction that would represent the number of minutes into the film (15) over the length of the entire film (90)? So, we have 15/90, which reduces to 1/6.14

2. D. If JHK is a right angle, wouldn’t the hypotenuse of the larger triangle have to be the longest length possible in the diagram? IMPORTANT: If the problem doesn’t carry the legend, “Not drawn to scale,” it’s DRAWN TO SCALE! So, you could have solved this one just by looking at (or maybe by using your pencil to measure) the sides.

3. C. Note that the f(n) values go up by 6 per box; so, that would mean that p would have to be 6 more than 19 and 6 less than 31.

4. C. SAT writers love to write problems involving multiplication and addition “backwards.” You and I would say something like, “twice as long minus five years,” or something equally straightforward. If we were to do so, we would then translate 2n – 5. So, if you got this problem wrong, go back and look at it again. In the future, can you be willing to take the -5 and the 2n and then put them in the “right” order?

14 If you have become “fraction phobic” after working with a calculator in your math classes, here’s how to find the right answer here: (1) Divide 15/90 in your calculator; (2) then, divide each answer choice in your calculator. The right answer choice will give you the same decimal as did 15/90.
5. **B.** “Bisects” means “cuts in half.” How many degrees in a straight line? 180, right? So, if we remove the 80°, that leaves 100°. Since CP bisects that angle, there must be 50° on each side.

6. **C.** If you found this one difficult, how about using the #1 alternative math strategy, Picking Numbers? So, pick an odd number. What’s the next largest odd number? Write that down and circle it. Now, plug your original odd number into the choices. Which one gives you the number you just circled?

7. **A.** Here, it’s good to actually name point (a, b): How about (3, -2)? Next, when we look at point T, we realize that although the y-value is the same, the x-value is now negative. So, point T could be (-3, -2), or (negative a, b). If you chose (c), you didn’t notice that the original y-value was negative.

8. **A.** Let’s work backwards. We know that there are 3 times as many red glass beads as blue glass beads, so if there are 12 red, there must be 4 blue. That means we have 16 glass beads. According to the problem, there are 4 times as many glass beads as wood beads, so we must have 4 wood beads, for a total of 20 beads.

9. **A.** Whenever you’re reflecting anything across an axis, imagine that you can rotate that axis and “flip” whatever’s on the bottom onto the top (if you’re reflecting across the x-axis) or whatever’s on the left onto the right (for the y-axis). In this problem, since we’re reflecting across the x-axis, the reflection’s y-intercept will be negative! Note how many choices have a negative y-intercept …

10. **C.** Always be willing to convert any information you’re given. Here, we know that

\[(x + y)^2 = x^2 + 2xy + y^2, \text{ and } (x – y)^2 = x^2 - 2xy + y^2.\]

Now arrange the two equations so that one is directly above the other and then subtract:

\[
\begin{align*}
    x^2 + 2xy + y^2 &= 100 \\
    x^2 - 2xy + y^2 &= 16 \\
    4xy &= 84; \text{ so} \\
    xy &= 21
\end{align*}
\]

11. **A.** Simplify! First, we add 5 to both sides to get 4 ≤ 4x; next we divide by 4 to get 1 ≤ x. If you are more comfortable with x on the left (some people are), switch sides, being careful to maintain the relationship, x ≥ 1. Note that the solid dot at the end of the line means that the endpoint is included; an empty circular dot means that the endpoint is not included (so, if the final equation were x > 1, the right answer would be (b).

12. **E.** This problem tests the kinds of agreements you make with yourself. If you felt that even one more rectangle with perimeter 12 could be inscribed in the circle, you must have know that that rectangle could not be drawn without crossing over the two rectangles already in the circle. So, that being the case, why could an infinite number of such rectangles not be drawn in the circle? (Take PQRS and rotate it 1 degree to the right. Now rotate it another degree. See what I mean?)

13. **B.** I don’t know about you, but I wouldn’t dream of trying to solve this problem without picking numbers. Let’s pick something small for n (how about 3?) and then plug in: \(2^3 + 2^4 = k; \text{ so, } 8 + 14 = 24 = k.\) Write down that \(k = 24.\) Now, we need to calculate \(2^5\) and then figure out how to express it in terms of \(k: \) \(2^5 = 32.\) Plugging 24 in for \(k\) in the answer choices makes our job easy.
14. E. In a triangles problem, where we know that “equal sides are opposite equal angles,” any time
we’re told something about the relative sizes of angles, we know that the problem will be about
whether we can use that information to figure out which sides are bigger than others. Here,
we’re told about sides. We know that AB, which is opposite angle z, is bigger than AC, which is
opposite angle y. So, the one thing we know for sure is that $y \neq z$. NOTE: Whenever you see an
“isosceles triangle” problem on the SAT, remember that unless you’re told you will never know
which two sides are equal.

15. D. If you picked (c), remember that he shared the cost equally with 3 other people (which
means 4 people total). So, don’t we have to multiply $48 by 4?

16. E. Did you Draw It? This is a tough problem however you approach it, but if you Draw It you
have a chance to notice that no matter how many rows and columns you draw, the total of the
outside squares is always a multiple of 4. In a recent class, a normally bright student said, “So?
Several of the answer choices are multiples of 4.” Look again.

SECTION 9 READING

1. C. Every descriptive word is important, and words far from the blank are in general more
important than words closer to the blank. Here, “American Southwest,” along with “isolation
and loneliness” should be enough to point you toward the right answer choice.

2. B. If you have worked through our Definition TEN FOR TEN, you know that whenever a blank is
followed by punctuation, the words right after the punctuation will define the unknown word.
Really. So, here we see “a plant produced by ... crossbreeding.”

3. A. See problem 2. Again, we have a Definition problem, and to solve we need only look at
“more rigorous than the industry standard.” If the vocabulary was difficult here, I would bet you
could eliminate at least one or two choices and then guess Scary Choice, right?

4. D. This is quite difficult, and to work most efficiently here we should look at the second blank
first (which I recommend to you any time you aren’t sure immediately what should go in the
first blank). The colon tells us that the second half of the sentence will Define the first half, and
the pattern of the second half of the sentence tells us that we need to find an Antonym of
“communities that encourage it.” So, we’re looking for a negative (or at least discouraging)
word for the second blank (eliminating (a) and (e)). So, now that we know that the second half
of the sentence says that communities that encourage dissent do better than those that don’t,
we can infer that the first part of the sentence is telling us that freedom of expression is not a
negative force, right? So, of the choices left, we can eliminate (b) and (c). What could be
easier?

5. A. As I pointed out in the explanation of question 1, we need to look closely at any descriptive
words that are far from the blank. In this sentence, we need to notice “rural and agricultural
settings,” which, if nothing else, will eliminate (b) and probably (e). At this point, if you chose (c)
as your Scary Choice, don’t worry ... you only have to get more than 1 out of every 5 right and
you saved time that probably paid off in the passages.

6. E. Clues here are (for the first blank) “foolish,” and for the second blank “accuse ... skewed
data.” So, our clue for the first blank helps us eliminate everything but (a) and (e), and then
we’re probably down to Scary Choice. By the way, “remonstrance” is protest; “chicanery” is
trickery.
PAIRED PASSAGES will always deal with the same overall subject. Your first job is to figure out each author’s Intention and then to assess how the passages relate to each other. Social Sciences passages are usually Persuade. Here, the authors disagree about comic books, but not in a way that you might expect. They both agree that comic books are not serious reading, but where the author of Passage 1 deems them useless in every way, the author of Passage 2 argues that, because a comic book is junk, “it is there to be nothing else but liked. ... There are certain privileges inherent in second-class citizenship. Irresponsibility is one. Not being taken seriously is another.”

7. **C.** This is a question that you should only attempt after you’ve worked through both passages, right? At that point, you realize that both authors have pronounced comic books “junk.” By the way, if you forgot to answer this question: Whenever you’re working on a passage that features a “big picture” question at the beginning of the question set, put some kind of indicator (I use a star) in the white space after the last question in the set. Such a mark will alert you to go back and answer that big picture question.

8. **A.** Did you cross out “question” in the passage? Did you cross it out in the question? If so, you created a sentence completion problem, “For children, education is not merely a __________ of learning, but is a part of mental health.”

9. **C.** As the author says in line 11, “To make a sharp distinction between entertainment and learning is poor pedagogy, 15 and even worse psychology.” So, if we stay with the author’s Intention, only choice (c) fits. If you chose (b), please stick to the author’s argument—don’t make your own (you can do so in the essay, OK?).

10. **D.** The author laments how the time kids spend reading comic books isn’t available to them to actually learn real stuff like what the Old West was like. Remember, the author’s Intention here is focused on comic books and those who read comic books, so anytime you veer away from the author’s course and pick a choice that features other elements, you will pick a wrong choice.

11. **E.** In lines 24-27, the author of passage 1 claims that adults would never keep comic books throughout their lives. In response, the author of passage 2 discusses “adults ... who save old comic books, buy them, trade them ....”

12. **C.** The author of passage 1 argues that children spend time and money on comic books and have nothing to show for that investment. The author of passage 2 counters that there is a “more positive side of junk, [comic books’] underground antisocial influence,” because “within this shifting hodgepodge of external pressures, children, simply to stay sane, must go underground. ... And the basic sustenance for this relief was, in my day, comic books.”

13. **B.** Although the term “fanzine” 16 has become more mainstream, it’s likely when this essay was written in 1965 the term was as much underground as the comic books themselves.

14. **D.** The author of passage 2 argues that comic books are junk, and that’s a good thing. So, your dentist’s attempts to combine the comic genre with, say, admonitions to brush your teeth and get an annual checkup create a hybrid creature that can only be funny by accident.

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15 According to dictionary.com, “the function or work of a teacher; teaching.”
16 According to dictionary.com, “a magazine or other periodical produced inexpensively by and for fans of science fiction and fantasy writing, comic books, popular music, or other specialized popular interests.”
15. E. Did you cross out “compromised” in the passage? Did you cross it out in the question? As the author says, “Junk is there to entertain on the basest, most __________ of levels.” If you’re not distracted by what you think “compromised” means ....

16. D. This is pretty much a rehash of question 12, so if you got that one right and this one wrong be of good cheer because it turns out that these paired passages are a lot simpler than you’re making them. In question 12, in response to the assertion in passage 1 that comic books have no value, the author of passage 2 replied that yes, they do have value in allowing children to safely escape from the relentless stress of their daily lives.

17. E. Notice that choices (a), (b), and (c) don’t even deal with comic books. Could any of them be right considering the context of these passages? Next, what’s the overall Intention of the author of passage 1—essentially to say that comic books are useless and harmful, right? So, why not go with an answer choice that pretty much restates the author’s Intention?

18. C. Clearly, the author of passage 1 feels that something must be done about comic books before it’s too late. Society is full of such people. Someone once wrote, “A Puritan is a person who is bothered by the feeling that someone, somewhere, is enjoying himself.”

SECTION 10 WRITING

1. B. Here’s a rule: You can’t discuss the past using the future tense, which eliminates (c) and (e). Next, after you eliminate (d) as nonsensical (the children were known to an art?), you can choose between (a) and (b) on the basis of simple is best. Try this: “I would go if I had a ride,” or “I would be going if I had a ride.”

2. C. Wow. We need to pick a choice that describes three historical things about author Allende. First, never pick a choice that puts the history in the wrong order (a) and (d); next, as we have explained elsewhere, “being,” when used as a verb, will be wrong about 98% of the time (b); choice (e) is not only grammatically confusing (“and now she resides ...”) but also logically confusing, since there is no stated reason why a person who was raised in Chile and lives in California would be a Peruvian.

3. C. Here’s a sidebar: Whenever three choices start the same way and two start in other, individual ways, you can bet that the right answer will be one of the “group of three.” Let’s dispose of choices (d) (what is “it”?) and (e) (passive voice for no particular reason) first. Choice (a) contains “being,” which, as we’ve seen elsewhere, is the “kiss of death” for an answer choice; if you chose (b), did you want to put a comma after “United States”? You can’t, but even were you able to, your choice would lack a verb.

4. B. We’ve discussed elsewhere that simple is best. Here, simple means less punctuation. Choice (a) is run-on; if you chose (d), would you really say “risking them”? I didn’t think so. Choice (e) seems to say that there are two different things going on with these bees. The first thing is that they must leave the safety of the hive, and the second that they risk being eaten. The leaving and the risk of being eaten is one big problem for those bees—not two small ones.

5. E. Try this: “It took me all day and a lot of effort ______.” Didn’t you say “to”? If you chose (b), you ignored several problems, such as passive voice and the SAT “kiss of death,” the verb being.

6. E. As we discuss in some other problems in this set, simple is best. If you need to choose between a choice with punctuation and one without punctuation and you like them equally,
always choose the choice without punctuation. Also, if you can start a sentence with a subject, do so.

7. A. The choice here is between “would” and “will.” Pretty simple: When discussing the past, you can’t use the future tense. Ever.

8. D. Although you should check every sentence to see whether what’s being tested is your ability to notice or fix parallel structure, anytime you see a list or a comparison you need to make sure that the beginning and end of such a list or comparison is expressed in a parallel fashion. Here, Pravika has “considerable ability in math and in foreign languages.”

9. A. I have noticed that when one has to make a decision between choices that have punctuation and those that don’t, any attractive choices with less punctuation tend to be correct. If you chose (d), you didn’t read to the end of the choice. Do so now.

10. B. If you’re choosing between (b) and (d), change the order of the sentence. Start with, “It is a good idea to measure all ingredients in advance ______ many Szechuan recipes.” Did you put “and” into the blank? No, you probably used “because.” You can use this technique in any sentence that seems “backwards” to you.

11. D. As we have discussed in Parallel Possessives, a prepositional phrase can be used as a possessive (“the music of Gershwin” is the same thing as “Gershwin’s music”), so any correct answer must provide a parallel prepositional phrase. Next, to what can we compare “music”? If you replied anything but “music,” you need to review your rules of parallel structure. So, we can compare “the music of Gershwin” to “the music of his contemporaries,” or (using the demonstrative pronoun “that”), to “that of his contemporaries.”

12. E. This is an unpleasant problem, so let’s go through the choices. Choice (a) includes the “kiss of death,” being, which I will guarantee will be wrong 98% of the time when it’s used as a verb; (b) and (c) are both run-on or comma splice (your choice of term); (d) uses “whose,” which likely refers back to the poet, when it’s the poem that inaugurated the new style of poetry. Choice (e) includes “thus,” which is an adverb meaning “consequently,” thus denoting how and when Howl began the new style of “Beat” poetry.

13. A. If you’ve worked on the Maine Prep TEN FOR TEN Intro Descriptive, this problem should have been a piece of cake for you. Any time a sentence starts with a descriptive phrase, you must ask yourself, “Who or what is this phrase describing?” Here, the simple answer is “Canadians,” which must then be the subject of the sentence. Note that if you chose (b), try these sentences: (1) Although he is often late, Bob drives as fast as he can to every appointment; or (2) Although he is often late, Bob’s car drives as fast as it can to every appointment. Clearly, the Intro Descriptive describes Bob, not Bob’s car. So, for the record: A possessive of a noun (Bob’s, my car’s, Cindy’s, the Grand Canyon’s) can never be the subject of a sentence.

14. C. The author of this sentence lists two things that researchers do, so the author must construct the sentence so that there is parallel structure between the first and second parts of the list. The first thing part is straightforward subject/verb: “researchers tend to praise studies …”; therefore, the second part must be straightforward subject/verb: “they rarely show kindness.” If you chose (a), why choose an implied subject when you can choose a stated subject? If you chose (d), you needed a conjunction to connect those two independent clauses.
DISCUSSION:

GENERAL
There is no such thing as a “second-best” choice. The right choices are right. The wrong choices are wrong. Otherwise, SAT scores would be meaningless, and The College Board would be out of business.

SENTENCE COMPLETION
Second blank first: In two-blank sentence completion problems, the second blank will usually be more “local,” which means you can use the words immediately surrounding the blank to figure out what the missing word means. Since to solve for the first blank usually means understanding the entirety of the sentence, it makes sense to fill the second blank first.

MATH
Isolating a variable: Use SADMEP. What’s that? Reading it backwards. Ah, the order of operations. So, when we’re getting a variable all by itself, first we Subtract or Add; next we Divide or Multiply; then we remove Exponents (or Roots); finally, we take away the Parentheses. Let’s try something simple (no exponents):

\[9(x + 1) + 7 = 43;\] subtracting 7 from both sides, we get \[9(x + 1) = 36;\] dividing by 9, \((x + 1) = 4;\) so, \(x = 3.\)

THE MAINE PREP TEN TENETS
1. The SAT is not a tricky test. However, paranoia can really get between you and the score you want. Even though feeling like a victim is comforting to most test-takers, it’s an expensive feeling. So get over it.
2. CONFUSION is the great time-waster on standardized tests. How do you get confused? You read faster than you can process. So, try to slow your reading down to 90% of your maximum speed. You’ll end up getting more done and getting more right.
3. In the Essay, evidence is king. Provide evidence—lots of it.
4. In the Sentence Completion problems, the right answer fits perfectly. Every descriptive clue is vital to making the right decision.
5. Using Plan B: SCARY CHOICE requires discipline. You must eliminate the choices you know and not the ones you don’t. Nobody said this would be easy.
6. In the Passages, no answer that violates or even wanders away from the Author’s Intention will ever be right.
7. In the Improving Sentences questions (1-11 in the long Writing section and 1-14 in section 10), the shortest answer choice is right about 40% of the time and the second shortest 30% of the time, so if you have to decide between two choices, Go Short.
8. In the Identifying Sentence Errors questions (12-29 in the long Writing section), eliminating all prepositional phrases (either by crossing them out or bracketing them) will clarify the relationship between other parts of speech in the sentence.
9. In the Math section, asking “What else do I know?” will keep you moving forward. Gathering evidence, writing things down, and drawing whenever you can will jumpstart inspiration.
10. In the Math section, whenever you see a denominator, get rid of it. Immediately.