Answers and Explanations

Section 1

1. B The passage says that H.R. means House of Representatives and that the number is given according to, "the order it was submitted in a particular session." (lines 12–13) So the 1 means that it was submitted first in a particular session. Choice (B) is the correct answer.

2. C This is a tricky question. The major clue is that only three entities are mentioned in the passage: the House of Representatives, the Senate, and the President. You should suspect then that the answer will be the Senate and the President since those are the only other two entities mentioned in the passage. You can get confirmation for this hunch in the sentence that says "Bills are presented to the President for action when approved in identical form by both the House of Representatives and the Senate." Bills must pass both houses, so if the bills originate in the house, they have to go to the Senate before reaching the President. The answer is (C).

3. A The paragraph is about how Native Americans have "long recognized and celebrated the connectedness among all natural things." The medicine wheel illustrates this point because it emphasizes the connectedness of the four basic elements. So (A) is the best choice.

4. E Remember the Native American view stated in the passage is that all natural things are connected; so we should expect that the scenario will demonstrate this belief. (A) is specifically opposed to that. (C) is also, to a lesser degree. (B) is neutral toward the Native American idea—it neither contradicts it nor realizes it. (D) and (E) are in accord with the Native American view because they recognize the connectedness of an organism and its habitat. However, (D) mention studying a specific

organism in its habitat, while (E) mentions studying a habitat as a whole. So, (E) is broader and, in this case, broader is better. The best answer is (E).

5. C Does the author portray Copland's music in a very negative or very positive light? Neither, so (A) and (E) are out. The author actually just describes the reactions of others to Copland's music and interjects little opinion of his or her own. That eliminates (D). Then again, the author is not *clinically objective* in tone (just think, the passage does not sound like a science passage). That makes (C) the best choice.

6. C The virtuoso passages are passages only a virtuoso could play—essentially, difficult. Eliminate (E). There is no negative judgment of that quality in the passage. That eliminates all but (C), which is the answer.

7. C The different fates were that the *Piano Variation* was known by many pianists, but played by few in concert, and the *Symphonic Ode* was largely unknown because it was too difficult. Choice (C) says as much, and so is the answer.

8. A In the passage, Koussevitzky is first mentioned in connection to the difficulty of playing the *Symphonic Ode*. The passage tells you that even he, a "champion" of Copland's music, did not conduct the piece until it had been simplified. Choice (A) correctly points this out. Don't be tricked by the difficult name into answering that he was European.

9. C The second paragraph begins, "Perhaps as a reaction to the performance problems of the *Symphonic Ode*, Copland's next two orchestral works deal in shorter units of time." So the author thinks that the pieces immediately subsequent to the *Symphonic Ode* were made shorter because the Ode was not being performed. Choice (C) says the same. (B) is tempting but the passage explicitly states that it was the length and not the complexity that Copland adjusted in the subsequent pieces.

10. E This sentence is essentially saying that, although brief, these works were also very difficult to perform. The answer is (E). This is essentially a vocabulary question, asking you to define "agile."

11. C First off, what does the passage state about Copland's views of the Americas and music? It says that Copland, "envisioned 'American music' as being music of the Americas." In other words, he thought they were related, or should be. (A), (B), and (E) run contrary to this meaning. (D) is irrelevant. The answer is (C).

12. D The Mexican material is more accessible to audiences. The opposite of accessible is inaccessible. (D) should look good to you right away. Don't get confused by (C). The emphasis in the sentence is on audiences, not musicians.

13. C You can eliminate (B) because it is too specific. You can eliminate (D) because the author never talks about eating or brushing teeth or other daily activities. (E) is also too specific. (A) is really off in emphasis; the author focuses on describing the Earth's appearance more than the trajectory of the Space Station. The answer is (C). It's also a good answer because it captures a little bit of the tone of the piece; the author seems to write the passage for an average person experiencing curiosity about seeing the Earth from space.

14. E The second half of the paragraph contrasts seeing the whole Earth to seeing just a limited part of it. But the emphasis is on seeing the whole Earth, because we've all seen limited parts of it. The answer is (E).

15. B Here you have to be careful because two different window views are discussed in the passage. The downward-facing window is discussed in the second half of the second paragraph. And there the author compares the view to looking at a big blue beach ball up-close, choice (B).

16. B This is where that second window view comes in. The author first discusses the downward-facing window and then contrasts it with looking through a sideward-facing window in the third paragraph. (B) is the answer.

17. B The passage discusses the "faint glow" in the last sentence of the third paragraph. There, he attributes it to the outer rim of the atmosphere. (B) says the same thing. (A) mentions the atmosphere, but it designates the wrong part of the atmosphere.

18. B Before the thought exercise is given the author states that, "a good way to imagine our view is to stand up and look down at your feet." In "imagining the view" through the thought exercise the reader gets a definite idea of the proportions of things within the space stations view (e.g. where San Francisco is in relation to Denver). Choice (B) says as much, and so is the best answer. Choice (C) is a tempting answer, because it is the idea with which the paragraph begins, but it ends up being too narrow a description of the thought exercise.

19. D You may be tempted to answer (A), because the passage can be confusing. But it's not dry or scientific, so "technical" just isn't a good word for it. Choice (B) doesn't capture it's informality. Choice (E) is too extreme—as far as poetic descriptions of the planet go, this one doesn't even rate. That leaves (C) and (D). Choice (C) isn't quite right, either, because it's not irreverent, it's just casual. Choice (D) best captures that sense.

20. D You don't know a lot about what the astronauts do from the passage, so you'll have to dig this answer up. Choice (A) seems silly, and would really be a disrespectful thing to say about the author. The SAT won't do that. So eliminate (A). There's no reference to gravity in the passage, so eliminate (B). There's no real reference to physical activity, so (C) seems wrong. You are left with (D) and (E). The astronaut uses a lot of numbers, and throws them around as though they were quite easy. (D) seems like a reasonable answer. There's no reference in the passage to *communication procedures*, which means you can eliminate (E) even though it's sort of a tempting answer.

Section 2

1. C This is the first question, so it should be one of the easiest, if not the easiest, questions in the section. For this reason, you don't have to expect anything too tricky about this problem. Substitute $x = -y$ into the first equation and solve for x:

$$\begin{aligned} x + 4y &= 3 \\ -y + 4y &= 3 \\ 3y &= 3 \\ \frac{3y}{3} &= \frac{3}{3} \\ y &= 1 \end{aligned}$$

(C) is the answer.

2. B There are two main parts to this problem:

1. the use of the variable d, and
2. the change of units from hours to minutes.

Start with the variable since d is half as much as 2d, it should take him half the amount of time, or 1.5 hours. One hour is 60 minutes, and half an hour is 30 minutes, so 1.5 hours is 90 minutes. That's choice (B).

3. A There is more than one way to solve this problem, but all paths involve manipulating the equation. You can solve for f in the first equation, and then plug that value into the second equation. You could also just leave the $3f$ as is, and monkey with the formula this way:

$$\begin{aligned} 3f + 15 &= 27 \\ 3f + 15 - 15 &= 27 - 15 \\ 3f &= 12 \\ 3f - 6 &= 12 - 6 \\ 3f - 6 &= 6 \end{aligned}$$

Whichever path you take, if you manipulate the equation correctly you'll get choice (A) as your answer.

4. A The first thing to notice is that this triangle is a 30-60-90 triangle, one of the SAT's favorite triangles. Since you can read off the relationships between different sides of a 30-60-90 triangle, it can be readily seen that the $x + y$ side is half the length of the hypotenuse (which is 14). Half of 14 is 7, so (A) is the answer.

5. D Translating the English into algebra is the key to all word problems.

Since the snack costs twenty cents less than the drink, you can write down $d - 20 = s$. Since a snack and drink together costs \$1.30, you also know that $s + d = 130$. You have two equations and two variables. Substitute the first equation into the second and then solve:

$$\begin{aligned} s + d &= 130 \\ (d - 20) + d &= 130 \\ 2d - 20 &= 130 \\ 2d - 20 + 20 &= 130 + 20 \\ 2d &= 150 \\ \frac{2d}{2} &= \frac{150}{2} \\ d &= 75 \end{aligned}$$

A drink costs 75 cents (\$0.75), so (D) is the answer.

Tip

For problems dealing with units of money, always decide whether you want to work in dollars or cents. If the amount of money is great, using dollars is typically the best way to go. On this problem, converting to cents might work better since you won't have to deal with any decimals.

6. D This problem looks really complicated, but don't let that ruffle your test feathers. With function problems, just plug in whatever the problem tells you to plug into the equation. Be a machine! Here, you are considering when $x = 2$, so $f(2x)$ is the same thing as $f(4)$. (Of course, the question could have just said $x = 4$, but that would have been too easy).

Now just replace every x in the problem with a 4:

$$f(x) = x + x^x$$
$$f(4) = 4 + 4^4$$
$$f(4) = 4 + 256$$
$$f(4) = 260$$

Your answer is (D).

7. D This one looks strange, and it is as straightforward to solve as it appears. If you only consider $\sqrt{x^2}$ to be x, then you only get the extraneous solution, and not the correct one. You start by squaring both sides and then factoring.

$$x^2 = 4x^2 + 12x + 9$$
$$0 = 3x^2 + 12x + 9$$
$$0 = 3(x^2 + 4x + 3)$$
$$0 = x^2 + 4x + 3$$
$$0 = (x + 3)(x + 1)$$
$$x = -3 \text{ or } x = -1$$

Checking both solutions in the original equation, you see that only $x = -1$ works. This is choice (D).

8. E If $|x + 1| > |y|$, what do you know about x and y? Not much actually. x could be -10 and y could be 5, and the inequality would be true. But x could also be 10,000 and y could be 9,998, and the inequality would still be true. This means you cannot nail down the relationship between x and y, so (E) is the answer.

9. A This question is almost all Math Speak, but hopefully you are getting better at this language. The whole thing sets up an equation. "Percent" means "divide by 100," and "is the same value" works the same as an equal sign. "What number" is Math Speak for "place a variable here." Here's the translation:

"75 percent of 104 is the same value as 60 percent of what number"

$$\left(\frac{75}{100}\right)(104) = \left(\frac{60}{100}\right)n$$
$$(0.75)(104) = 0.6n$$
$$78 = 0.6n$$
$$\frac{78}{0.6} = \frac{0.6n}{0.6}$$
$$130 = n$$

Choice (A) is the answer.

Note

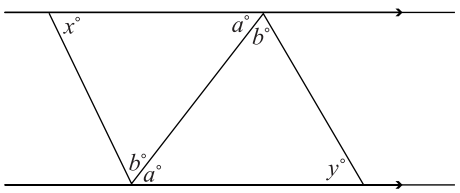
The percentages were rewritten as decimals instead of fractions to make it easier to use your calculator. Dividing 78 by 0.6 is not something most people can do easily, but for a calculator, it's a cinch.

10. D Equations of lines can be put into the $y = mx + b$ form, and then the y-intercept, b, can be read off.

$$3y - x = 12$$
$$3y - x + x = 12 + x$$
$$3y = x + 12$$
$$\frac{3y}{3} = \frac{x}{3} + \frac{12}{3}$$
$$y = \frac{x}{3} + 4$$

If 4 is the y-intercept, and twice this number is 8, choice (D).

11. C



As you can see from this figure $a = a$, and $b = b$ because alternate interior angles are congruent. If two angles of a triangle are congruent to two angles of another triangle, what can you deduce about the relationship between the third angles? The third angles must also be congruent. If you don't see this, pick values for a and b and remember that the sum of the mesures of the interior angles of a triangle is 180. Choice (C) is the answer.

12. D These next three problems test your ability to deal with unfamiliar symbols. Recall that you will be told everything that you need to know about the new symbol. Carefully read the instructions and don't get rattled; everything you need to know about the new symbol will be handed to you on a platter.

In the subtraction problem, convert each term one at a time:

$\in 2323 = 3322$ and $\in 2321 = 1322$

(It's helpful if you write out the middle unchanging middle digits first, and then write the first and last digits.)

So $\in 2323 - \in 2321 = 3322 - 1322 = 2000$, choice (D).

13. A You know that A is a two-digit number between 10 and 20, which narrows the field of possible answers to 11, 12, 13, 14, 15, 16, 17, 18, and 19. This may seem like a lot, but the second part of the problem will narrow things down. The equation $(\in A)^2 = \in(A^2)$looks confusing, but the key word is "equation." The two values are equal, even though you've flipped the first and last digits. Flipping 19 makes 91, which is quite a difference, and it's highly unlikely that $19^2 = 91^2$.

At this point, you might suspect that 11 was the answer because reversing the digits does not change the value of the number. That is a good suspicion, and if you see it, you can easily read off that (A) is the answer. If you did not have that suspicion, just dive into the problem trying different choices.

14. E Since each variable is a digit and the inequality is true, plug in some numbers to try to make the smallest difference possible:

$$A > B > C > D > E$$
$$5 > 4 > 3 > 2 > 1$$

Now look at the subtraction problem and plug in the numbers above:

$$ABCD - \in(ABCD) = 5432 - 2435 = 2977$$

The difference is greater than one thousand, so choice (E) is the answer.

Note

There is a theoretical path that leads to the same answer on this problem, but when dealing with weird symbols problems the theoretical path is usually not the best one to take. As you can see, generating some numbers and then placing them into the equation works well and didn't take too long.

15. C There's no answer choice that says, "It cannot be determined," so you have to realize that there is a way to determine the area of the circle. Since the area formula for a circle is $A = \pi r^2$ this means there has to be a way to find the radius of the circle, which in this case is line segment *RS*.

The two statements underneath the drawing give you the tools you need. If "line *q* is tangent to circle *R*," then angle *RST* is a right angle. And if $RS = \frac{RT}{3}$, then you can determine the value of *RS* since the problem gives you the length of $\overline{RT}$ as 18. For line segment *RS*, the radius will be 6, since $\frac{18}{3} = 6$. If you place this value of the radius into the area formula for a circle, you'll find answer (C) at the end.

$$A = \pi r^2$$
$$A = \pi 6^2$$
$$A = 36\pi$$

16. E All of the answer choices mention August and September total sales, so the first step in this problem is to figure out what these values are. In the table, August has two squares (1,000 each) and three triangles (50 returns each), so total August sales are:

$$2(1{,}000) - 3(50) = 2000 - 150 = 1{,}850$$

Doing the same box-and-triangle conversion, you should find that September total sales were 1950. Therefore, there were 100 more sales in September than in August. This lets you cross out (B) and (D), because they have September total sales as being *less* than August total sales.

The final three answers all have different percentages. The difference in monthly sales is 100 (1950 − 1850), so what percent of 1,850 is 100?

$$\left(\frac{n}{100}\right)1850 = 100$$

$$(100)\left(\frac{n}{100}\right)1850 = 100(100)$$

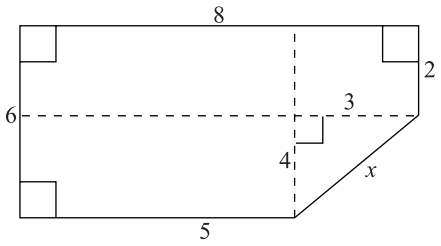
$$1850n = 10000$$

$$\frac{1850n}{1850} = \frac{10000}{1850}$$

$$n = 5.4$$

100 is 5.4 percent of 1850, which means that September total sales were 5.4 percent greater than August total sales. (E) says the same and is the correct answer.

17. C You cannot solve this problem unless you do some creative line drawing.



To find the unknown lengths, you have to subtract known values of opposites. Take the top and bottom sides, for instance. The larger top side is 8, and the lower part is 5, so the difference must be 3. A dashed line shows this value. Subtracting the right side (length 2) from the left side (length 6), you find another dashed line that has a value of 4.

From this sketch you can see that x is the hypotenuse of a 3-4-5 triangle, and so is equal to 5. This means the perimeter is 26, (C).

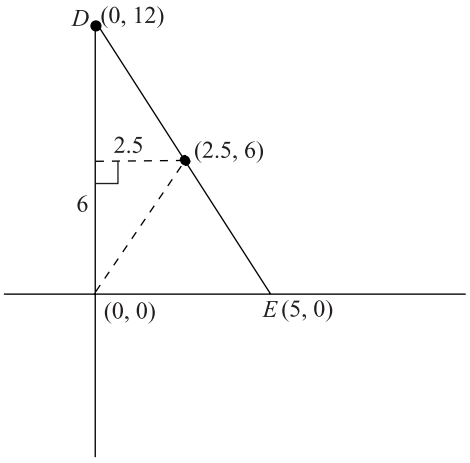
18. A Unpack the tangle of terms, and you'll find the answer. You are looking for two prime numbers that:

1. When you subtract them you get 21.
2. When you multiply them you get one of the answer choices.

It might not sound like enough information to find the answer, but it is. None of the answer choices are very great, so one or both of the prime numbers must be less than ten. If the two primes were greater, their product would not be as small as the answer choices. The difference between the two primes is 21, which means that one of the prime numbers must be small. Good candidates for the lesser prime are 2, 3, or 5.

Prime numbers starting in the 20s are 23, 29, 31, and 37. Use a little trial and error, and you'll realize that the difference between 23 and 2 is 21. Those are the two primes. What is 2 times 23? The answer is 46, choice (A).

19. B First, it always helps to draw a quick sketch of the scenario to get a better grasp on what is being asked.



The first thing to determine is the midpoint of $\overline{DE}$, which you can do by using the midpoint formula:

$$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right) = \left(\frac{0 + 5}{2}, \frac{12 + 0}{2}\right) = \left(\frac{5}{2}, \frac{12}{2}\right) = (2.5,6)$$

You can keep the x-value as a fraction if you like, but converting it to 2.5 will make it easier to punch into your calculator.

Looking at the dashed lines, you can see a right triangle with its hypotenuse from the origin to the midpoint of *DE*. It has sides of 2.5 and 6. Placing those values into the Pythagorean theorem yields:

$$\begin{aligned} a^2 + b^2 &= c^2 \\ 2.5^2 + 6^2 &= c^2 \\ 6.25 + 36 &= c^2 \\ 42.25 &= c^2 \\ \sqrt{42.25} &= \sqrt{c} \\ 6.5 &= c \end{aligned}$$

It's choice (B).

20. A It's a big equation, but in the end it's just that: an equation. You have to pull out two different techniques—FOIL and PEMDAS—to solve it, but so long as you write out your work carefully, you will reach the right answer.

$$\begin{aligned} -b^2 &= (b-7)(b+3) - (2b+2)(b+5) \\ -b^2 &= (b^2 + 3b - 7b - 21) - (2b^2 + 10b + 2b + 10) \\ -b^2 &= (b^2 - 4b - 21) - (2b^2 + 12b + 10) \\ -b^2 &= b^2 - 4b - 21 - 2b^2 - 12b - 10 \\ -b^2 &= -b^2 - 16b - 31 \\ -b^2 + b^2 &= -b^2 + b^2 - 16b - 31 \\ 0 &= -16b - 31 \\ 0 + 16b &= -16b + 16b - 31 \\ 16b &= -31 \\ \frac{16b}{16} &= \frac{-31}{16} \\ b &= -\frac{31}{16} = -1\frac{15}{16} \end{aligned}$$

Choice (A) is your answer.

21. A There's no table given for this question, so it's up to you to create one. In this respect it's like a diagram without a diagram given: You could conceivably answer it without the visual aids, but it's much easier with them.

For the table, start with the years:

1950 1960 1970 1980 1990 2000

Now place the number of people in Cree County in 1950 in the appropriate place, and then start multiplying by three.

1950 1960 1970 1980 1990 2000
1000 3000 9000 27000

In the 1980s, the population fell by one-half, so divide 27,000 by 2. Then go back to multiplying by 3.

1950 1960 1970 1980 1990 2000
1000 3000 9000 27000 13,500 40,500

Your answer is choice (A).

Section 3

1. A Something that can be counted requires "fewer" rather than "less." The answer is (A).

2. B In *for Ada and I*, *I* is used here as the object of a preposition (*for*). That should never be. *Me* is the object of a preposition, or a direct or indirect object. The answer is (B).

3. B Is the subject in this sentence singular or plural? *Team* is singular. Is the verb singular or plural? *Compete* is plural. The clause *which is comprised of four cyclists* obscures the subject-verb disagreement, but it is still there. (B) is the answer.

4. E Did you hear any mistakes in this sentence? Hopefully you didn't because there are not any. (E) is the answer.

5. A If you know that Louis and Clark were nineteenth-century explorers, the verb *have surveyed* might sound strange even before you read the rest of the sentence. If not, *were well prepared* suggests that the first exploration happened prior to an event which is, itself, in the past. The first verb should be *had surveyed*, and the answer is (A).

6. D There is a parallel structure problem here. *Focus*, a verb, should be paired with *follow up*, a verb, not *follow-up*, which is a noun. The answer is (D).

7. C Nothing in this sentence sounds wrong, but (E) is not the answer. Here's why, to whom does the *its* refer? It is not clear if it refers to the Ottoman or Austrian Empire. An ambiguous pronoun reference is an error, and so (C) is the answer.

8. A What is the subject, *census* (singular) or *statistics* (plural)? *Statistics*. *Census* is used as an adjective. The plural subject means you would need a plural verb, *were*. The answer is (A).

9. B *Scarcely no one* is a double negative. It should be *scarcely anyone*. (B) is the answer.

10. D This is a tricky question because the error arises with the implied part of the sentence. The full sentence with the implied part written out explicitly reads, "Even though he had the title of Vice-President of Operations, his duties and responsibilities were not much greater than a midlevel manager's duties and responsibilities." The short version should still say *manager's*. The answer is (D).

11. D After both, you especially need parallel structure. It should read *more accessible and more understandable*. The other answers only confuse the original. The answer is (D).

12. D The initial modifier should put you on the lookout for an incorrect noun, or reference to the "thing" that is being modified. You should examine the noun that directly follows the modifier carefully. Does the modifier modify the noun that follows it? Nope. The poet, Gerard Manley Hopkins, not his poems, is what is being modified here. The possessive form (*Hopkins's*) and the noun *poems* messes things up in the original and answer choices (A), (B), and (C). To make it work, you need to get rid of the possessive on the author's name. Only (D) and (E) do that. (E) makes an unnecessary change to the verb. The better answer is (D).

13. E The original underlined phrase is not glaringly obtuse or a grammatical disaster, but it is a little wordy. Also, *this includes the Human Rights Commission* is a complete sentence, so it would need to be attached with a semicolon. Only (E) addresses both problems without creating others.

14. C The most blatant mistake here is that, again, the clause that follows a comma is technically a complete sentence. The best way to approach this question is to read all the way through each of the answers to see if they contain problems. (B) has tense problems. (D) also has two complete sentences attached by a comma (this is called a comma splice). (E) just doesn't work. The answer is (C).

15. B The underlined portion of the sentence reads awkwardly for two reasons. First, it includes the phrase *her plans of*, which is redundant because the list is a list of her plans. Second, the preceding plans in the list are given in infinitive form (i.e. *to refinance*), but the last plan of action is not in infinitive form. Any answer choice that deals with these two issues will be the best choice. (B) is that answer choice.

16. B You know the correct answer won't be a complete sentence, because it is attached by a comma to the main clause. Eliminate (E). You will also want to cut down on wordiness, rather than add to it. Eliminate (A) and (C). *Which* suggests that the clause modifies a noun that comes just before it. That isn't the case. The answer is (B).

17. C Again, you want to move toward parallel structure as much as possible. You don't want nouns in one part of the list and verbs in another, as you have now. Change the noun *tolerance* to a verb, *tolerate*. You can narrow the field to (C) and (E). (E) is wrong because you don't use a comma in a two-items list.

18. D Guess what? Parallel structure again. *To commit a crime* needs to be followed by (*to*) *conceal it*. That leaves (D), without you even having to know that *among* suggests more than two people, whereas *between* suggests two.

19. C Here's the test writers' other favorite trick: "not only" with "but also." Only (C) and (E) use this construction. (E) makes the tenses unnecessarily complex. The answer is (C).

20. D The sentence as it stands is muddy and unnecessarily wordy. These are things to be avoided in good writing. "If" should be followed by a "then" clause. What follows here doesn't fit that logical pattern. So *if* is out. That leaves (D) and (E). (D) gets rid of the repetitive and vague *it* in the second part of the sentence. Good. The answer is (D).

21. D The original version should wave a red flag at you that it is repetitive and cumbersome and will need to be changed. (B) is even more vague and wordy than the original, despite being a single sentence. (C) is weak because it begins the essay with the word *it*, which is never a strong opener. (E) is suspect because the essay is about the word *modern* not *modernity*. (Yes, modernity is later introduced, but that does not change the point that the essay is about the word *modern*.) (E) is also unnecessarily wordy. That leaves (D).

22. B Descartes is the thing that will link the two sentences. He is the subject of the first and the object of the second. This is a prime example of when to use *whom*. (B) is better than (C) and the others are longer than the original, not shorter. (B) is the answer.

23. E What is the logical connection between the opinions of academics other than philosophers and the opinions of historians in particular? The latter is an example of the former. The answer is (E).

24. B The original sentence is clunky because it has both *beginning of modernity* and *beginning of modern times*. You will want to replace the second with *it*. That leaves (B) and possibly (E). (E) adds unhelpful extra verbiage in other places, so (B) is the best answer.

25. E Anything separated by commas should be detachable from the rest of the sentence. Remove the phrase between commas and you get *Most of us. . . we are thinking*. Bad. Most of us *think*. (E) is the only answer that addresses that problem correctly. (B) actually changes the sense by eliminating the subject of "think" so that it becomes a command.

26. B Choices (C) and (E) have an imprecise and unclear *−ing* verb, so eliminate them. (D) is just a wordier alternative to (B), so eliminate it. (B) is so straightforward and clear that it is better than the original. The answer is (B).

27. E The passage is talking about the 1920s. Be as specific as possible, without being wordy as in (C) and (D). The answer is (E).

28. C The only punctuation marks that are possible here are parentheses, a semicolon or a colon. The second sentence gives more specific information to elaborate on the first sentence, so a colon is better than a semicolon or parentheses. The answer is (C).

29. D What's wrong with the transition in the original? Is it a logical problem or a grammatical problem? It sounds weird and wordy, so it's a grammatical problem. The sense is logical, so keep it. Eliminate (A); it changes the sense. Which of the answers simplifies and clarifies the grammar? The answer is (D).

30. A Eliminate (D) because it's grammatically incorrect. Eliminate (C) because it really doesn't go with the ideas in the passage. If you look back at the passage, you'll see that the last sentence is not about Macy's but Bloomingdales. (E) would be out of place, so eliminate it. You're left with (A) and (B). While (B) would be an adequate conclusion to the third paragraph, only (A) reflects back over the entire passage. The best answer is (A).

Section 4

1. D Jerome does not indulge much. He is an *ascetic*, (D). A *teetotaler*, (B), is someone who does not consume alcohol. A *gourmand*, (C), is someone who indulges a great deal in fine food. Neither (A) nor (E) have anything to do with indulgence.

2. A Begin with the first blank, since you know that it must be something negative since protests were planned. (B) and (D) are not negative, so eliminate them. Going to the second blank, *organized* fits well, while *negotiated* and *theorized* do not (you don't *theorize* about a protest event). This makes (A) the best answer.

3. B We know the first word will be negative, since it engendered criticism. All of the words are negative, so you can't eliminate anything yet. But what would a politician be if he "seized a ceremony" having to do with a "girl's tragic death to speak out against his opponent"? Not militaristic, or unreceptive, certainly not passive or defeatist. The answer is (B).

4. E All of the options in this question have a first word that could be something one software did to another. For the second word, all the choices, except (D), are things a user could likely do to software. *Preclude*, (A), means make something impossible, but the "prior version" clearly isn't impossible so eliminate (A). If the older version is *outdone*, you don't want to *implement*, or use, it. Eliminate (B). If something is *infected*, you don't want to *disregard* it, so eliminate (C). The answer is (E). *Supercede* means replace by being better, which would mean you could throw out, or *discard*, the now useless thing.

5. B Let's start with the first blank since it has to be paired with *long*. Which of the first answer choices pairs well with long? Only *storied*, *exemplary*, and *reputable* do (the others either are awkward or don't fit with the meaning of the sentence). Plug in the second answer choices of (A), (B), and (E) into the sentence. Can poetry initiate the dignity of humanity? No. Eliminate (A). Can it articulate, or express? Definitely. Choice (B) sounds too good to pass up.

6. C You should have a good sense of what kind of word goes in each blank because each blank has a pair. The second blank has a more obvious pair, so start with it. Which of the second answer choices goes with speedy? (A) and (C) are the best candidates. On the first blank, does *intricate* and *laborious* or *fragile* and *laborious* sound better? *Intricate* does because it provides a better contrast with the second half of the sentence. (Also, it is strange to speak of a surgery being *fragile*; someone in surgery might be in *fragile* health, but the surgery itself would not be *fragile*.) (C) is the answer.

7. A *Despite* at the beginning of the sentence is the main clue to unlocking the blank. You need one positive word and one negative word. Eliminate (B) and (C). Now what can clans do to each other? *Assist*, possibly *discount*. A problem is ameliorated, not a person or group of people. (A) is the better answer, especially since "feud" and "clan" are both words that seem to refer to the past.

8. B From the structure of the sentence, we can see that the word in the blank goes along with *humor* and *merriment*. Which of the answer choices fits with these two positive words? Only (B), *mirth*, does. (*Irony*, *history*, and *mystery*, are at best neutral terms in this context, not positive.)

9. A The Latin makes this sentence complicated. You can combat this by replacing the Latin words with the letters (A) and (B) in your head (i.e. although (A) has more subspecies than (B) . . .). The *although* is the key to the logic of the sentence structure. *Although* (A) has more subspecies than (B), (B) has greater numbers. (A) and (E) match this pre-guess for the first blank. (E) isn't really logical (how can a region be ominous?), so the answer is (A).

10. D Looking at the first blank, (B) and (E) can be eliminated because both are not conventional English. That leaves (A), (C), and (D). (A) is suspect, though, because *progression* is an odd word choice for the context. (C) is illogical. (D) is a best choice because it flows well in both blanks and because development is already a word you associate with "pregnancy" and "fetus."

11. C The word, *Though,* tells you that the ideals and the practices of the organization are at odds. So if the ideals are *outward-focused* then the practice must be inward-focused. Which of the answer choices matches this pre-guess? Only (C), *insular* (isolated, circumscribed), does. Hermetic means tightly sealed. It's not too far off in meaning, but it doesn't refer to group behavior.

12. B On the first blank we know that the word goes with *base*, and we know that the prosecuting attorney is probably not saying nice things about the defendant. (A) and (B) fit this (*motley* doesn't; even though it has a negative connotation, it means a random or ungainly assortment). This leaves *misunderstanding* the testimonials or *misconstruing* the testimonials, for the second blank. The latter is a better choice since the prosecuting attorney is more likely to be making the defendant sound bad on purpose than by mistake.

13. B This sentence is either really positive or really negative about the new drug regime. It is more likely positive since a new drug wouldn't come out if it was known to be really negative. So your inclination should be that the blank is very positive. Only (B) fits this, and it fits well. If you have extra time, you can check to see if there is a really negative response that might fit better. *Bane* could work in terms of meaning, but it doesn't work syntactically.

14. C The blanks in this sentence are a little more complicated because they must be considered together. The first blank is negative and the second blank is even more negative (in the same way, or to a greater degree). The second blank isn't negative in (A) and (D), so they are not it. That leaves (B), (C), and (E). Of the three, (C) is the best since *self-centered* and *egocentric* are synonyms and *solipsism* is a more negative form of both words. You might be tempted to go with (B) because you don't know what solipsistic means, but you can eliminate it because *ill-tempered* has little to do with *self-centered*.

15. B What is a good pre-guess for the blank? Really hectic (that is, opposite of *alleviating demands upon our time*). Only (B) matches this pre-guess, and it fits in the flow of the sentence.

16. A This is a global question since it cannot be answered by looking at one specific place in the text but has to be weighed considering the passage as a whole. Ask yourself, does the author present Dr. Rael positively or negatively, sympathetically or unsympathetically? The article describes Dr. Rael's career, generally in positive terms, and no criticisms of Dr. Rael's work is discussed. So the answer should be positive. That eliminates (C)—(E). (B) might seem appealing, but realize that an article can *engage* a person's work without being positive about that work. Also the passage more tells about Dr. Rael's work than *engages* it. So (A) is the best choice.

17. C Again this is a global question. To rephrase the question, what is the passage about? It tells the story of Dr. Rael's life with specific emphasis on his professional career. Choice (C) captures this. You might have been attracted by (E), but remember the passage only discusses the Rael family when it contributes to the story of Dr. Rael.

18. B You can answer this either as a detail question or as a global question; you will get the answer more quickly if you answer it as a detail question. You can find in paragraph 3 that "José Ignacio had the foresight to recognize the changes that were coming with the increasing Americanization of New Mexico and realized that a fluent knowledge

of English. . . would be necessary." Choices (B) and (D) seem to echo this sentence. But the passage does not go on to say that Dr. Rael did not learn English. The answer is (B). If you answer it as a global question, use the process of elimination. The passage doesn't mention job discrimination. The passage refers to Rael studying far from his family, but doesn't mention that problem in regard to teaching. It strongly suggests that Rael was successful in American schools with English names, so eliminate (D). The passage doesn't specify what Rael studied before his Ph.D. Choices (C) and (E) are hard to eliminate, but an overall view of the passage should convey that the folklore was precious and disappearing.

19. E Relinquished means he gave something up, but the passage does not state that Rael was *relieved* to give up his family duties. Eliminate (D). There is no mention of sibling rivalry, so you can eliminate (A). The passage doesn't say if the family was wealthy or simply OK, so (B) is out. It certainly doesn't say Rael had tried to be a rancher, choice (C). That leaves (E).

20. E This question is similar to question 18, but it is definitely a global question. The basic gist of the passage is that Rael's work was important. He collected Spanish-language folklore and studied the particular Spanish used in the area. The answer is (E).

21. C Someone you study under is your mentor. This is a vocabulary question. The answer is (C).

22. B Corpus refers to a body of work. The only answer choice that reflects the idea of more than one book is (B).

23. B Looking over the choices, there is no reference to Dr. Rael enjoying working on the ranch (or using his scholarly pursuits to avoid it, which would already be using logic too strained for the SAT). The passage does mention his love of *Pastores*. Just after the mention of *Pastores*, the passage says this influenced his later work. Bingo. The answer is (B).

24. A This is a tough one. But "diffusion of motifs" seems to be related to the number of variants of a particular story. That eliminates (C) and (E). The passage goes on to emphasize how many variants there were, suggesting that the answer will emphasize difference more than sameness. Eliminate (B) and (D). The answer is (A).

25. B If you do not know the definition of *provenance* you are not lost on this one. Replace it with each of the answer choices and see which one makes the most sense. If you do know the definition of *provenance* (origin), then (B) pops out as the answer.

26. D The end of the seventh paragraph states, "But inevitably the historic-geographic approach led more to collection building than to analysis." This is the most critical sentence in the passage. The answer (D) includes the word "analysis" and is a fair paraphrase of this sentence. The answer is (D).

27. B This one is also hard. First of all, do you know what *formidable* and *quixotic* mean? Impressive, difficult, and errant—which is to say, traveling a lot. This comes from Don Quixote, who traveled a lot. He was also a little crazy, which is why the test writers try to trick you with (A) and (C). But these don't apply to Dr. Rael. Remember, the overall tone is "laudatory." (E) tries to trick you by getting you to admit that you were confused at this point in the passage. Admitting you don't know will never be the answer on the SAT. The answer is (B).

Section 5

1. A The wrinkle in this word problem is correctly translating what a "quarter" of the factory's capacity means. A quarter is one-fourth of something, so a quarter of full capacity—200 sheets of paper per second—is one-fourth of 200, or 50. If a quarter-capacity is 50 sheets per second, in 12 seconds the factory would produce 600 sheets since $50 \times 12 = 600$. Choice (A) is what's going on.

2. E This is a straightforward variable/equation substitution problem. If $Z = 3$ and $Z = \frac{2x}{5}$, then you substitute the value of 3 for Z in the second equation to get:

$$Z = \frac{2x}{5}$$

$$3 = \frac{2x}{5}$$

$$(5)3 = \frac{2x}{5}(5)$$

$$15 = 2x$$

$$\frac{15}{2} = \frac{2x}{2}$$

$$\frac{15}{2} = x$$

(E) is the answer.

3. A There are two prime ways to approach this problem. You can do a factor tree for both numbers, find the common factors, and then look down the answer list for the greatest one. If you don't know what a "factor tree" is, you could go through the answer choices one by one to see which is the greatest that divides 32 and 42. Start with choice (E), since it's the greatest number, and if it works, it's the answer. 12 doesn't work, so try the next greatest one, 8, choice (D). Eight doesn't work, and neither does 6 or 3. This leaves (A).

4. B If you understand the idea of slope, the answer will fall into your lap. If you have trouble with this problem, review pages 350–352 in the Math section to make sure you are perfectly comfortable with slope and linear equations in the form $y = mx + b$.

Viewed from left to right, the line descends, which means the slope is negative.
That eliminates choices (C), (D), and (E). A slope is "rise over run," meaning you look at the change in *y*-values as the numerator of the fraction, while the change in *x*-values is the denominator. The line drops two points along the *y*-axis for every three points it moves over on the *x*-axis, so the slope is $-\frac{2}{3}$, choice (B).

5. E You need to know the total number of students in each grade to answer this question. The table tells you there are 32 in the 4^{th} grade, so you only need to determine the total in the 3^{rd} grade. There are 16 boys and 14 girls in the 3^{rd} grade, which makes 30 total. The overall total is 32 plus 30, which is 62, choice (E).

Note

The table is incomplete, but don't let this worry you. The SAT will always provide the information needed to answer the question, one way or another.

6. D If there are 18 girls in the 4^{th} grade, then there are 14 boys in 4^{th} grade ($32 - 18 = 14$). The table says there are 16 boys in 3^{rd} grade, so there are a total of 30 ($16 + 14 = 30$) in the 3^{rd} and 4^{th} grade. Choice (D) is the answer.

7. A Careful here. The problem asks for the value of the exponent, not the simplified expression. Simplifying this expression looks a little wiggy, but you need to be prepared to work with wacky-looking exponents problems like this:

$$\frac{\left(m^{\frac{3}{4}}\right)^{-2}}{m^{\frac{5}{4}}} = \frac{1}{m^{\frac{5}{4}}\left(m^{\frac{3}{4}}\right)^{2}} = \frac{1}{m^{\frac{5}{4}}m^{\frac{3}{4}}m^{\frac{3}{4}}} = \frac{1}{m^{\frac{5+3+3}{4}}} = \frac{1}{m^{\frac{11}{4}}} = m^{-\frac{11}{4}}$$

The exponent is $-\frac{11}{4}$, which is choice (A). If this makes no sense to you, you'll want to review the rules of multiplying and dividing exponents.

8. C You can't solve this problem without a little help from the algebraic expressions. You know that the two expressions sum to 90 (because the measures of the interior angles of a triangle sum to 180), but there are two variables and only one equation: $2x + y + 3x - y = 90$ (They equal 90 since the right angle takes up the other 90°.)

If the y variables didn't subtract out when you added the two expressions, you could not solve for x. The whole point to this problem is to brain freeze students who look at it and say, "There are two variables and only one equation. It can't be solved!" If you just write out the equation, you can avoid this type of paralysis. Writing down your work saves the day!

$$\begin{aligned} 2x + y + 3x - y &= 90 \\ 5x &= 90 \\ \frac{5x}{5} &= \frac{90}{5} \\ x &= 18 \end{aligned}$$

(C) is the answer.

9. E For word problems, always translate the English into algebra. Call the distance from Easton to Bethsaida via highway x. Traveling this route is 7 miles longer than going on surface streets, so going via surface streets is $x - 7$. Traveling both routes is 31 miles, which translates to: $x + (x - 7) = 31$. Once you have an equation, you can solve for x:

$$\begin{aligned} x + x - 7 &= 31 \\ 2x - 7 &= 31 \\ 2x - 7 + 7 &= 31 + 7 \\ 2x &= 38 \\ \frac{2x}{2} &= \frac{38}{2} \\ x &= 9 \end{aligned}$$

Here you might to double check that x is the highway route distance and not the surface street distance. Choice (E) is the answer.

10. E A function is undefined at a certain value, if at that value the function does not make any sense. For this function, the most probable way that it could be undefined is if the denominator is zero.

When is the denominator zero? Solve it like a quadratic to see:

$$\begin{aligned} x^2 + 3x - 18 &= 0 \\ (x + 6)(x - 3) &= 0 \end{aligned}$$

The denominator is zero if x equals -6 or 3, which is choice (E).

11. D The graph is a parabola, so it will have an x^2 term in it. Sometimes that will help you cross out an answer choice or two, but on this question all answer choices have an x^2 in them. Even so, it was a good technique; it didn't work on this problem, but it will work on others.

The parabola is facing downwards, so the x^2 term must have a negative in front of it. If you don't see why, plug some numbers into $-x^2$. That eliminates (A) and (B).

Our last clue will come from where the figure crosses the y-axis. At this point, x must equal zero, which means that $-x^2$ will also be zero. When x equals zero on the graph, the value of $f(x$ is -2. So you are looking for an answer choice that has both $-x^2$ and -2. Although it's hiding a bit inside some parentheses, (D) is the answer since $-(x^2 + 2) = -x^2 - 2$.

12. D With congruent triangles, corresponding angles and sides are congruent. Both are right triangles, so you should smell the Pythagorean theorem wafting about this problem as a method of solving for y.

$$\begin{aligned} a^2 + b^2 &= c^2 \\ y^2 + 5^2 &= 10^2 \\ y^2 + 25 &= 100 \\ y^2 + 25 - 25 &= 100 - 25 \\ y^2 &= 75 \\ y &= \sqrt{75} \end{aligned}$$

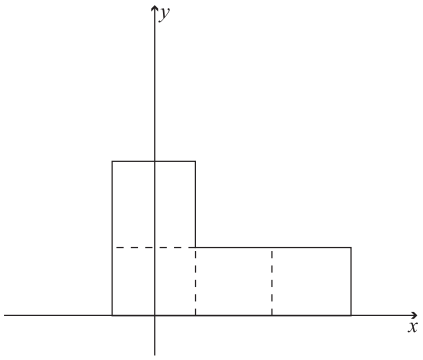
You might also have noticed that both figures are 30-60-90 triangles (you can infer this from the relationship between the hypotenuse and the smallest side of the triangle on the left). This means $y = 5\sqrt{3}$ which brings you once again to $\sqrt{75}$. Either method, choice (D) is correct.

13. A Plug in the answer choices and see which ones make the equation true. Many of the numbers repeat and the equation isn't that involved, so this doesn't take as long as you might think. 1 works, but -1 doesn't. If you try all the answer choices, you will see that only 1 works, which makes (A) the answer.

14. B There are multiple ways to approach this problem. Possibly the quickest is to count up the multiples of three that are even and 50 or less (if they are even, they will be divisible by 2). This list starts 6, 12, 18, 24 . . .

You might stop here and realize that the members of set Z are all multiples of 6. Even if you don't, you'll continue with: 30, 36, 42, and 48. 54 is the next item, but it's too great, so there are eight members of set Z. (B) is the answer.

15. D With similar figures, the ratios of each pair of corresponding sides must be equal. The tricky part to this problem is the bent-leg formation of the given figure. The L-shape could roughly be described as, "three squares up, then one to the right." Choice (A) is too thin, i.e. there was no corresponding increase in width even though there is an increase in length. With (B), the small part of L seems to be too big, and with (C) the big part of the L is too large in proportion to the skinny part.
Now look at choice (D). The fact that the figure has been rotated makes no difference with similarity. If you draw the following dashed lines on choice (D), you'll see why it's the right answer.



Here you have the same figure, "three squares, then one to the right." The squares are much larger, but they are in the same corresponding proportion. Choice (D) is correct.

16. C The figure is a square since the side lengths are all equal and all the angles are ninety degrees (if you don't see this, rotate the figure ninety degrees). To find the side length, it's Pythagoras time, but you get a shortcut since you have a special triangle. Each side length is the hypotenuse of a 45-45-90 triangle whose equal sides are of length one. So the hypotenuse/side length of the square is $\sqrt{2}$. Put this into the area of a square formula and you'll find answer (C):

$$A = s^2$$
$$A = \left(\sqrt{2}\right)^2$$
$$A = 2$$

17. B First, make sure you understand what all those words mean. You have eight numbers that are integers, and are also even, and when you add them up, they sum to 50. Furthermore, only two of the eight integers can be the same value. In other words, there are never three integers that are the same.

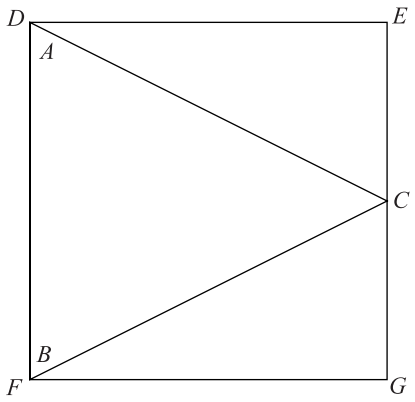
To find the greatest possible integer in the set, first make all the other integers as least as possible. The set could be 2, 2, 4, 4, 6, 6, 8, x. This would maximize x. Now solve:

$$2 + 2 + 4 + 4 + 6 + 6 + 8 + x = 50$$
$$32 + x = 50$$
$$32 - 32 + x = 50 - 32$$
$$x = 18$$

This is choice (B).

You can also start with the greatet numerical answer choice and then see if it works, but this will take more time than setting up a formula.

18. **E** Time to sketch! Here's one where two of the triangle's vertices coincide with two of the square's corners.



You could also have $\overline{AB}$ run along $\overline{DE}$. In fact, using $\overline{AB}$ you could put the triangle in the square four different ways (along $\overline{DF}$, $\overline{DE}$, $\overline{EG}$, $\overline{GF}$). Using $\overline{BC}$, you could put the triangle in the square four different ways also. The same is true for $\overline{AC}$. That is a total of 12 different ways that the triangle could be placed in the square such that two angles of the triangle coincided with two corners of the square. It means that (E) is the answer.

19. **D** You only know the distances between these points. You don't know their orientation in relation to each other. If T is on a line between G and S, then G and T are 4 away from each other ($9 - 5 = 4$). That is the closest that they could be to each other. But if T is on a line with S and G, and S is between G and T, then they are 14 away from each other ($9 + 5 = 14$). This is the farthest that they could be from each other. Therefore I is not possible, but II and III are. Choice (D) is the answer.

20. **C** If you connect A, B, and C, you have an equilateral triangle with a side length of six. $\overline{BD}$ cuts the triangle into two 30-60-90 triangles. This means that $\overline{AD} = 3$—because of the relationship between the sides of a 30-60-90 triangle—and so $\overline{BD} = 3\sqrt{3}$, choice (C).

21. **E** This problem has many steps, which is why it's number 21. First, ask yourself, "What point on the fan travels the greatest distance through one revolution?" The answer is the point on the corner tip of the fan blade, as it is the farthest from the axis of rotation. In going through one revolution, this point describes a circle because it rotates about a fixed point with a constant radius.

To find out how far this point travels, you need to determine the radius of this circle. This can be done with some help from the triangle shape at the top of the fan. The dashed lines through the two sides show that these sides are congruent. Combine this with the right angle, and you have a 45-45-90 right triangle with two sides of length 4. The hypotenuse of this triangle will be $4\sqrt{2}$, and this length will also be the diameter of the circle.

Therefore, in one rotation that point travels the circumference of the circle it describes:

$$C = \pi d = 4\sqrt{2}\pi$$

But there's more! In 30 seconds, the fan can do 300 revolutions. You know this because the problem states that maximum blade speed is 100 revolutions in 10 seconds, and you can multiply both of these numbers by 3 to get 300 revolutions in 30 seconds. This means that the farthest the point could travel would be:

$$300 \times 4\sqrt{2}\pi = 1200\sqrt{2}$$

Choice (E).

Section 6

1. D The passage reads, "As he matured, however, Remington turned his attention away from illustration, concentrating instead on painting and sculpture." (lines 5–9) So the passage links Remington's concentration upon painting and sculpture as key for his maturation. Eliminate (A). However, the rest of the passage focuses on his paintings, so the answer can't just be sculpture. Eliminate (B). We know he paints nocturnal scenes, so eliminate (E) (this answer isn't specific enough). He is a great artist of the American West, painting before there were any big cities in the West. The passage also implies that he paints natural scenes. The best answer is (D).

2. C Go back to the passage. In the same sentence with *vindicates* is *claim to the status of literature.* This phrase indicates that literature has more status than fiction. You can confirm this hunch in the next sentence, too. It says a *work clearly rises to the auspicious status of literature.* Again, the emphasis is on the loftiness of literature. Choice (C) best captures this sense.

3. C The passage states that the *test of time* method, *by definition excludes contemporary works from consideration*. Choice (C) is a reasonable paraphrase.

4. E There is only one topic that the paragraph mentions twice in relation to the exploration of Mars: detection of life. So this topic is the best candidate for what the paragraph most emphasizes as the motivation for the Mars exploration. The paragraph also concludes with this point. Choice (E) is the answer.

5. B Does the author of Passage 1 criticize the English system? He says it is quirky, but he does not outright criticize it. That eliminates (D) and (E). The author does not strongly praise the system either. That eliminates (A). The author is also not *neutral* toward it (he argues that it is part of the inheritance of the English-speaking world). That eliminates (C). Choice (B), *qualified acceptance*, sounds about right since the author does accept the system but still points out its *quirkiness*.

6. D What is Henry I's role in the passage? Not simply to demonstrate that the monarchy was involved in the development of the English system. Eliminate (B). The story of Henry I is definitely not included to *suggest the practicality of the English system*, since that is contrary to the basic thesis of the passage. Eliminate (E). The basic point of the passage is to argue that the English system developed arbitrarily over time. Choice (D) sounds like a good answer. (A) isn't right, since the author says the anecdote is surprisingly true. Answer (C) is off base, because the passage isn't simply interested in the length, but also the quality, of the English system's history. Choice (D) is correct.

7. C *Earthy* in context must mean something slightly better than ridiculous, because it is used in the discussion of the arbitrary nature of the English system. Choice (C) is the best answer.

8. E Go back to the phrase in the passage. It talks about one system developing in Rome and another in medieval Europe. They reconciled the two by making an estimate of one (the mile) that is an even number of the other (furlongs). Is that synonymous with *determining which one is accurate*? No. Eliminate choice (A). With developing a more accurate system? No. (B) is out. Settling the public's disagreement? Possibly. Hang on to (C). Finding a metric equivalent? Definitely not, so eliminate (D). Ceasing to use two different systems? Definitely. Between definitely (E)and possibly (C), pick definitely. The answer is (E).

9. B Again, use your knowledge of the main idea to help guide you. You can therefore eliminate (A) and (E). Does the English system continue to evolve? Use common sense—no. You are left with (B) and (C). The passage specifically mentions a variety of sources. (B) is the best answer. (C) is less good because it emphasizes the length of history instead of the quality of that history.

10. A You've established that the history of the English system is long and colorful. In the second passage, the author is also interested in history. So she/he would probably not happily agree that that history is less interesting. But there are dates in both passages. The English system goes back to the sixteenth century. Even if you forget that's actually the 1500s, you still know it's before 1840. So the history is factually shorter. That makes the answer (A).

11. D Go back to the reference to the French Revolution in the passage. The author specifically mentions its anti-traditionalist bent. So (D) looks good. She/he doesn't go so far as to indicate that the greatest accomplishment of the French Revolution was the metric system. Eliminate (A). The author indicates that the metric system was in keeping with the rest of the revolutionary thinking. So eliminate (B). There's no mention of the revolutionary calendar in the passage. Eliminate (C). (E) is the only tricky wrong answer. The passage says the metric system wasn't adopted in France until 1840, but it doesn't say it wasn't fully *invented* before then. The answer is (D).

12. C In the sentence in question, you find that it has been called, or *dubbed*, "voluntary" and "preferred." The implication is these are some sort of official designation, but they specifically are not required. Choice (C) sounds like a reasonable, noncommittal paraphrase. Eliminate (D). These words also don't suggest any pending official adoption. Eliminate (B). (A) overstates the case in the other direction: the view of the metric system reflected in the sentence in the passage is favorable. (E) overstates how favorable—the words in the passage are warm but don't suggest "superiority." The answer is (C).

13. E *Refined* in the passage is synonymous with recalculated. The passage doesn't say whether it's to make the meter smaller or bigger. That only leaves (E).

14. B There is no indication of any ideological shift motivating the 1983 move. That eliminates (A), (C), and (E). Which is more logical: new calculations of the Earth's circumference or new ways to calculate fractions? The former, especially where the speed of light is involved. The answer is (B).

15. A As soon as you find an answer that isn't addressed in one passage, you're done. Do both passages mention kings who were ruling at the time of their invention? No. Passage 2 talks about the French Revolution, which overthrew the king; it only mentions a king in regards to the English system. Choice (A) is the answer.

16. A Which of the answers is something that the author of Passage 2 would agree with but does not explicitly state? Which is most plausible? Choice (A) is the most reasonable answer on its face. You can find evidence for it when the author says *It is the great asset of the metric system, at least for scientists, that units for measuring weight and energy are also derived from the basic unit of the meter* and *The adoption of the metric system, also known as the international system, or S.I., coincided with great advances in science.*

Section 7

1. There is nothing fancy about this problem. Substitute and solve for x.

$$2y = 12$$
$$y = 6$$

$$2\sqrt{x} + \sqrt{x} = y$$
$$2\sqrt{x} + \sqrt{x} = 6$$
$$3\sqrt{x} = 6$$
$$\sqrt{x} = 2$$
$$x = 4$$

2. The first five even integers are 2, 4, 6, 8, and 10. Rev up that calculator start multiplying. The answer is 3,840.

3. If the probability that a senior would be picked is three-eighths, then seniors are three-eighths of the entire student body. Since Rider High has 400 students, the equation would be:

$$400 \times \frac{3}{8} = \frac{1200}{8} = 150$$

4. The volume of any rectangular solid is the length times the width times the height. The figure tells us the width and the height, and you can determine the length from what you know about the area of the shaded side. Start with the area of a rectangle formula and you can find the length:

$$A = l \times h$$
$$24 = 4 \times l$$
$$6 = l$$

Place this length of 6 into the volume formula for the box:

$$V = l \times h \times w = 3 \times 4 \times 6 = 72$$

5. First use the area of a circle formula to determine the radius.

$$A = \pi r^2$$
$$16\pi = \pi r^2$$
$$\frac{16\pi}{\pi} = \frac{\pi r^2}{\pi}$$
$$16 = r^2$$
$$4 = r$$

The diameter of a circle is twice the radius, so the diameter is 8.

6. There are some fancier ways to solve this problem, but the surest way is to count up the options. She could have:

1. No toppings.
2. Just a
3. Just p
4. Just r
5. a and p
6. a and r
7. p and r
8. All the toppings.

That is a total of 8. Sure, there's a fancier math way of handling this problem, but since you have the right answer, what does it matter? Is your SAT score in any way determined by whether you used the "fancy method" or not?

7. If x is the sum of the five numbers, you know:

$$\frac{sum}{number\ of\ items} = Average$$

$$\frac{x}{5} = 16$$

$$(5)\frac{x}{5} = 16(5)$$

$$x = 80$$

Make y the number taken away from the set y. You know that 80 minus y is the new sum, and that the new average is 14. With this information you can solve for y using the equation:

$$\frac{80 - y}{4} = 14$$

$$(4)\frac{80 - y}{4} = 14\ (4)$$

$$80 - y = 56$$

$$80 - 56 - y = 56 - 56$$

$$24 - y = 0$$

$$24 = y$$

8. Since the triangle is a right triangle, you can use the Pythagorean theorem to determine the third side of the triangle:

$$c^2 = a^2 + b^2$$

$$100 = 64 + b^2$$

$$36 = b^2$$

$$b = 6$$

If 6 is the length of one side of the square, the area of the square is the square of that, 36.

9. You need to remember the right formula for this one. At least you know that since you can't grid in negative numbers, the slope must be positive. Here's the rise over run calculation:

$$slope = \frac{rise}{run} = \frac{y_1 - y_2}{x_1 - x_2} = \frac{-2 - 1}{-1 - 3} = \frac{-3}{-4} = \frac{3}{4}$$

10. If you work backward from what you know, this problem contains no difficult steps. If Bo is 15 and Gina is five years younger than he, then Gina is 10. And if Gina is 10 and Susan is three times the age of Gina, then Susan is 30. And if Susan is 30 and Tom is twelve years older than Susan, then Tom is 42. There's your answer, 42.

11. This one tries to intimidate you with a new symbol and a complicated definition. By now, this sort of attempted distraction should not even faze you, as you are well aware that everything you need to know about the new symbol is right in front of you.

The phrase *greatest prime divisor* means the greatest number that is prime and also divides the original number. So the greatest prime divisor of 15 is 5 since no prime numbers greater than 5 evenly divide into 15. As for 12, the greatest prime divisor is 3. This means $(15^*)(12^*) = (5)(3) = 15$.

12. The graph might look messy, but you only need to pick out the five *y*-intercepts and add them up.

Line 1: at (0, 2)
Line 2: at (0, 1)
Lines 3 and 4: at (0, 0)
Line 5: at (0, −1)

Adding up these five *y*-values gives you: $2 + 1 + 0 + 0 - 1 = 2$

13. The problem says that the numbers are *distinct*, so none of the four numbers are the same. That's your first clue. Since the sum of the four numbers is 26, the numbers in the sum must be less than 21. Here's a Rogue's Gallery List of all the less prime numbers: 2, 3, 5, 7, 11, 13, 17, and 19. To find the greatest possible integer in the set, first make all the other integers as least as possible. The set could be 2, 3, 5, x. This would maximize x. Now solve:

$$\begin{aligned} 2 + 3 + 5 + x &= 21 \\ 10 + x &= 21 \\ 10 - 10 + x &= 21 - 10 \\ x &= 11, \text{ also prime.} \end{aligned}$$

11 must be the answer.

Section 8

As you might expect, answers will vary. If possible, politely ask a teacher, fellow student, or some other person knowledgeable about formal essay writing to review your essay and provide feedback on ways in which the essay is commendable and on areas where it could be improved.

Scoring Worksheet

MATH				
	Number Correct	**Number Incorrect**	**=**	**Raw Score**
Section 2	_____	− (.25 × _____)	=	_____
Section 5	_____	− (.25 × _____)	=	_____
Section 7	_____	− (.25 × _____)	=	_____
CRITICAL READING				
Sections 1, 4, and 6	_____	− (.25 × _____)	=	_____
WRITING				
Section 3	_____	− (.25 × _____)	=	_____
Section 8	Go to www.petersons.com/satessayedge/ for instant online scoring and feedback.			

Score Charts

MATH

Raw Score	Math Scaled Score	Raw Score	Math Scaled Score
60	800	28	500
59	800	27	490
58	790	26	490
57	770	25	480
56	760	24	470
55	740	23	460
54	720	22	460
53	710	21	450
52	700	20	440
51	690	19	430
50	680	18	420
49	670	17	420
48	660	16	410
47	650	15	410
46	640	14	400
45	630	13	390
44	620	12	380
43	610	11	370
42	600	10	360
41	600	9	350
40	590	8	340
39	580	7	330
38	570	6	320
37	560	5	310
36	560	4	300
35	550	3	280
34	540	2	270
33	540	1	250
32	530	0	240
31	520	−1	220
30	510	−2	210
29	510	−3 and below	200

CRITICAL READING

Raw Score	Verbal Scaled Score	Raw Score	Verbal Scaled Score
78	800	37	510
77	800	36	510
76	800	35	500
75	790	34	500
74	780	33	490
73	770	32	490
72	760	31	480
71	750	30	480
70	740	29	470
69	730	28	460
68	720	27	460
67	710	26	450
66	700	25	450
65	700	24	440
64	690	23	440
63	680	22	430
62	670	21	420
61	670	20	410
60	660	19	410
59	650	18	400
58	640	17	390
57	640	16	380
56	630	15	380
55	620	14	370
54	610	13	360
53	610	12	360
52	600	11	350
51	600	10	340
50	590	9	330
49	590	8	320
48	580	7	310
47	570	6	300
46	570	5	290
45	560	4	270
44	550	3	260
43	550	2	250
42	540	1	240
41	540	0	230
40	530	−1	220
39	520	−2	210
38	520	−3 and below	200