

**Answers And Explanations  
To The**

**2011-2012 SAT: Reasoning Test  
Student Bulletin  
Sample Test**



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**LEARNING SYSTEMS  
HOUSTON, TEXAS**

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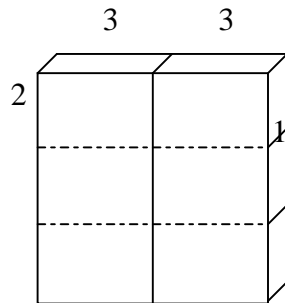
## SECTION 1 – Written Essay

The Written Essay has no answer or answers. It is scored, by two graders, using a 1-6 scoring system. This results in a score range of 2-12. The SAT Student Bulletin discusses each of the six scoring categories (1-6 scale). Students should practice outlining an SAT written essay at least 3 times, using a 4 minute time frame, before taking the test for real.

## SECTION 2 - Regular Math Answers

1. (D). **ATQA.** In Scientific Notation, moving the decimal to the left denotes a positive number. In the number 70,000, if we move the decimal point to the left 4 places to get  $7.0 \times 10^4$ , we can see that  $n = 4$ .
2. (B). Use the **MNL** to get this one. Make  $m = 10$ . This would mean that Kara drove 20 miles (twice as many as Sam) and Darin would have driven 0 miles. Which answer equals 0 when  $m = 10$ ? Mark (B).
3. (D). **Use the P-I Tactic!** In answer (E), plug in (2,2) and quickly learn that  $3(2) + 2(2)$  does not equal 11. Eliminate (E). In answer (D), plug in (1,4) and (1,3) to see that both sets of numbers equal 11. Mark (D). You can try the rest of the answers just for fun, but we are moving on to question #4.
4. (C). **Use what is given!** Just plug 10 in for  $x$  in the equation given. This would be  $P = 500(10) - 20(10)^2$  or  $P = 5000 - 2000$ . Mark (C).
5. (B). Use the **MNL** to solve this one quickly. Make  $n = 1$ . This would result in  $12 - 1, 12, 12 + 1$  in the sequence of the quantities given. The average of 11, 12, 13 is 12. Mark (B).
6. (A). **Put The Facts On The Figure.** If the big triangle  $ABC$  is isosceles, then the two base angles are the same size. The angle at the top is  $40^\circ$ , so this means the two base angles are each  $70^\circ$ . If these base angles are bisected (and they are), that means the lower two angles of the smaller triangle are each  $35^\circ$  or sum  $70^\circ$ . This would make angle  $AMC$  equal  $110^\circ$ .
7. (A). When a ratio is given, such as 2:3:5, you should recall that the sum of these numbers equals the whole or 100% of what is being represented. Since the sum of 2, 3, and 5 is 10 and pineapple is 2 of the 10, it represents  $\frac{2}{10} = \frac{1}{5}$  of the total fruit salad. Mark (A).
8. (C). There are a couple of ways to get this one. Here is the way we saw it. A circle has  $360^\circ$ . There are 4 arcs drawn. Thus, each arc is  $\frac{1}{4}$  of the perimeter of the circle.  $\frac{1}{4}$  of  $360^\circ$  is  $90^\circ$ . Mark (C).

9. (C). The **Key Words** in this one are “cannot be true.” In other words, which answers are false. In Answer (E), if 8 is not in Q, then it cannot be in P because this would contradict the original statement. In Answer (D), 7 is in Q but it might not be in P. For example, P could be {5} and Q could be {5,6,7}. Thus, every number in P is in Q but not in P. In Answer (C), it is stated that 6 IS in P. This means that it **MUST** be in Q. The statement in (C) is therefore false and what we are looking for. Mark (C). For the record, in Answer (B), it is possible for 5 to be in neither sets of numbers. If P = {8} and Q = {4,6}, then 5 would not be in either. In Answer (A), if 4 is in P, then it must be in Q by the definition given in the first sentence in the question.



10. (D). **Draw It!** In our figure above, each of the six rectangular blocks are 3 x 2 x 1 representing 6 cubic inches of space. The cube-shaped box mentioned in the question has sides 6 x 6 x 6 or a total of 216 cubic inches. Dividing the volume of the small rectangular box (6) into the available space of the cube given (216), we get 36. Mark (D). **Be sure to ATQA on this one.**

11. (E). Use the **P-I Tactic** to get this one quickly. Plug in Answer (E) and see what happens. If  $x = 5$ , then the given equation becomes  $\frac{5}{5} = \frac{5+a}{5+a}$ . Since the left side equals 1 and the right side equals 1 (dividing bottom into top on both sides),  $x$  satisfies the equation. Mark (E) Another way to get this one is to cross-multiply and do it mathematically, but our way was faster...at least for us.

12. (E). **Think!** If 4 of the smaller triangles make up triangle  $DFH$  and they total 10 in area, wouldn't  $\frac{4}{10} = \frac{25}{x}$ ? Yes! So,  $4x = 250$  (cross-multiplying) or  $x = 62.5$ . Mark (E).

13. (E). This is an old standard SAT question. Just subtract the bottom equation from the top one to get  $y + z = 5$ . Mark (E).

14. (A). Use the **MNL** in modified form to get this one quickly. If the boat cost \$12 (yeah, yeah, we know....cheap boat), 3 people would equally chip in \$4 as their share. If there were 4 people sharing the cost, each would chip in \$3. The difference between \$4 and \$3 is \$1. So, we rephrase the question like this: “Which answer equals \$1 when  $x = \$12$ ?” Start with (E) and plug in  $x = \$12$  to find which answer equals \$1. Mark (A). By the way, did you notice the “triplet” we just past up? This one had almost no chance of being answer (E).

15. (A). If  $x < 2$ , then it could be 1.999 or any number less than 2. From the given equation, we can see that if  $x$  **was** 2, then  $y$  would equal 7. Since  $x$  is less than 2,  $y$  must be any number less than 7. Mark (A).

16. (B). There are a couple of ways to get this one, but simplicity is our motto. If you move the bottom line up by 1 on the  $y$ -axis, the two lines would be equal. Thus,  $f(x) + 1 = g(x)$  or, since the answers choices are in terms of what  $g(x)$  equals, our answer would be  $g(x) = f(x) + 1$ . Mark (B).

17. (B). Yikes, we are going to have to resort to a math concept to solve this one. In general, a polygon with  $n$  sides can be divided into  $n - 2$  triangles by drawing  $n - 3$  diagonals from a vertex. Summing the measures of all the angles of this polygon would be equivalent to summing the measures of all the angles of  $n - 2$  triangles. Thus, the sum of the measures of the angles of the polygon in the question would be  $(n - 2)$  times  $180^\circ$  (the number of degrees in a triangle). If, for example, the polygon had 6 sides, as in Answer (E), the sum of the measures of the angles of the polygon would be  $(n - 2)(180^\circ)$  or  $(4)(180^\circ)$  or  $720^\circ$ . If the partially hidden polygon in the figure had 6 sides, each of its angles would have to measure  $\frac{(6 - 2)(180^\circ)}{6} = \frac{720^\circ}{6} = 120^\circ$ . If the two angles at the top of the quadrilateral in the figure were  $120^\circ$  and  $x + y = 80^\circ$  then the sum of the angles in the quadrilateral would be  $120^\circ + 120^\circ + 80^\circ = 320^\circ$ . We know the quadrilateral contains  $360^\circ$ , so the polygon cannot be 6 sided.

Using this same process, we look for the answer choice that will yield  $360^\circ$ . Answers (D) and (C) do not result in  $360^\circ$ . Answer (B) gives us  $\frac{(9 - 2)(180^\circ)}{9} = \frac{1260^\circ}{9} = 140^\circ$ . Since  $140^\circ + 140^\circ + 80^\circ = 360^\circ$ , the partially hidden polygon has 9 sides.

This one was hard. We are surprised that answer (E) was not “It cannot be determined from the information given.”

18. (D). Start with (E) and plug in the values given on the number line to solve this one. Since the answers are in  $| \quad |$  form, we know they represent the absolute value. Answer (E) would be about  $-2.5 + .75$  or  $-1.75$  or  $1.75$ . Jot that down next to answer (E). Answer (D) would be about  $-2.5 + 2.5 = 5.0$ . Jot that down next to answer (D). Continuing in the fashion, Answer (C) = 2.8; Answer (B) = 0; Answer (A) = 2.8. From this, we can see that Answer (D) is the greatest. Mark (D).

19. (C). If each unit of the vertical axis of the graph represents 1 foot and the decrease from 3 PM to 4 PM is 2 feet...it is...look at the graph, then 2 feet is 10% of what? If 2 feet = 10%, then 20 ft. = 100%. But **ATQA!** The trap answer is (D). The depth of the water at 4 PM is the question.  $20 - 2 = 18$  feet. Mark (C).

20. (D). A nice compound “weird symbol” to end the section. This one is not hard if you keep your ducks in a row. Recall from class, with a “Statement” question, we always begin with Statement III and work backwards through the them. Also, don’t you love the fact that the weird symbol definition contains  $a$  and  $b$  but the Statements contain letters  $x$ ,  $y$ , and  $z$ . You have to be careful, the confusion factor on this one can be very high.

Let’s take apart Statement III with the **MNL**. Make  $x$ ,  $y$ , and  $z$  each be 2, 2 and 2. No reason they can’t all be the same number. Statement III thus becomes:  $2 \odot (2+2) = (2 \odot 2) + (2 \odot 2)$  or  $2 \odot 4 = (2 \odot 2) + (2 \odot 2)$  or (putting this in the form of the defined weird symbol)  $(2)(4) + 2 + 4 = (2)(2) + 2 + 2 + (2)(2) + 2 + 2$  or  $14 = 16$ . Since this is not true, we can eliminate answers (E) and (C).

Statement II becomes  $(2 - 1) \odot (2 + 1) = (2 \odot 2) - 1$  or  $1 \odot 3 = 7$  or  $7 = 7$ . Statement II is true and thus must be in the best answer.

Statement I becomes  $2 \odot 2 = 2 \odot 2$ . Without working this one out, we can see that this is true.

Statement I must be in the best answer. This is Answer (D). Mark (D).

**Section 3 is missing because it was the experimental section.**

## SECTION 4 –VERBAL

### Sentence Completions

1. (E) KEY WORDS: fans, sports events, when competitors are equal, making outcome

Since the fans want the competitors to be of equal ability, the second blank must be a word that means the outcome of the game would be unpredictable. Answers D, B, and A are out because the second words mean the opposite of what is needed. Answer C is out because neither word fits the key words. The word “exciting” in answer E best fits the idea of the outcome being unpredictable.

2. (C) KEY WORDS: compositions, clipped, broken into sections, and split

The key words show that the answer must be a word that fits the idea of a composition that is cut in short sections. Answer C is the only answer that means to be in sections or pieces.

3. (A) KEY WORDS. consumer advocate claimed, manufacturers advantages, their, brands, generic versions, are equally

The key words show that the first word of the best must mean something praising the drugs. Only answers E and A contain words that fit. The second word must be a word that means the generic drugs are as helpful as the name brands. The second word in E is a good trap. The word “prescriptive”, appeals to those students who associate the word “drugs” with a prescription. Since the word “prescriptive” does not mean to be effective, students are left with the best answer, A.

4. (E) KEY WORDS: shown by her ability to, she can see, own faults, clearly

The colon following the second blank, tells the students that what follows, is the definition of the blank. Thus the best answer must have a second word that means to see ones own faults. Students should see that only answer E has a second word that fits. Being able to see one’s own faults is to be self-critical. The first word in answer E fits the key words because to be insightful means to be able to analyze things objectively.

5. (D) KEY WORDS: lizard, voracious eater, consume as many as possible

The best answer must mean to have a big appetite. Answer E means foul-tasting which does not fit. Answer C means to be sloppy thus it can’t be correct. Answer B is out because the lizard is not eating other lizards. Students are now down to two answers. If the students do not know the meaning of the remaining answers, they will have to make a guess. If the students know that “insatiable” means to always want more, they have the best answer, D.

6. (E) KEY WORDS: Because drummer, paved the way, he is  
The key words tell the students that the best answer must be a positive word that means to start or create something. Answer D is a negative word and thus can be eliminated. Since the drummer created the style, he could not be a beneficiary, or a revivalist thus eliminating answers C and B. This leaves the students with answers E and A. Answer A will appeal to many students because they have heard the word. However a “connoisseur”, answer A, is an expert not necessarily a creator. Only answer E remains.

7. (B) KEY WORDS: politician’s speech composed of, bitter railing against  
The key words show the students that the best answer must be negative. Many students will have to skip the question because of the difficulty of the answers. Some students will know that answer E is a positive word and can eliminate it. However, if that is all the students can eliminate, they should still skip the question. The best answer B, diatribes, means to make harsh verbal attacks.

8. (A) KEY WORDS: Favoring economy of expression, professor urged students toward, rather than, style.  
This is a contrast sentence thus the best answer must contain two words that are opposites. The first word must mean to be brief. This eliminates answers E and C. The second word must be the opposite of being short and to the point. Answer B is out because the second word means to have strong opinions. At this point most students will have to make a guess. The second word of both answers fit. Most students do not know that the word “baroque” in answer D means the opposite of brief and thus can’t be right. Answer A best fits the key words.

## READING PASSAGES

### Short Paired Passage

9. (C) Both passages deal with the way Americans incorporate food from a variety of cultures in to their diets. Passage 1 focuses on the changes in the types of food eaten by one family. Passage 2 deals with the eating patterns of the country as a whole. Only answer C shows Passage 2 as a broader view of the specific example of one family given in Passage 1.

10. (C) The author of Passage 2 states that Americans “mingle culinary traditions” from many cultures. The fact that the Filipino mother made dishes from France and Italy would be viewed by the author as typical in America. This idea is found only in answer C.

11. (A) The author of Passage 1 focuses on one family whereas the author of Passage 2 deals with the country as a whole. Only answer A contains the idea that Passage 1 deals with the specific dishes eaten by one family while Passage 2 focuses on a more general description of American’s attitude toward food.

12. (E) Although both passages are making similar points, the author of Passage 1 does so by using specific experiences. The author of Passage 2 does not relate any personal experiences. This idea is found only in answer E.

### **Long Paired Passage**

13. (A) Both passages deal with the issue of whether or not life exists in the universe. Fermi's paradox presents an important question that is dealt with in both passages. Answer E is out because both passages do not hold that extraterrestrials are uninterested in us. Answer D is out because space travel is only briefly mentioned in Passage 1 and thus can't be the main point supported by the two passages. Answer C is out because the Paradox has little to do with the pace of technological change. Answer B is out because neither passage focuses on what is needed to sustain life on other planets. This leaves the students with answer A.

14. (B) Answer E is out because the author of Passage 2 does not question the viewpoint presented in Passage 1 as to the existence of other civilization on other planets. Answer D is out because the author of Passage 1 does more than just describe a phenomenon. Also, Passage 2 raises questions but does not reject outright the possibility of other civilizations in space. Answer C is out because the author of Passage 1 does not reject the Paradox. Answer A is wrong because literature is not the focus of either passage.

15. (B) The author of Passage 1 makes the reference to sci-fi movies to show the difference between the public perception and the likely reality of simple life forms in space. Only answer B shows the contrast between science fiction and the view held by most scientists..

16. (D). This should be the first question answered by the students. The word "ran" has several meanings. Reading lines 15-18 shows that the word "ran" means to be in charge of. This should give the students the best answer, D.

17. (C). Answer E is out because Passage 1 does not make a comparison between the power of science and that of art and literature. Answer D is wrong because the Paradox does not make any reference to the aggressiveness of other civilizations. Answer B is out because Fermi stated that it would be unlikely that other civilizations would have developed technology at the same time as humans. Answer A is out because nothing is said about the desire of other civilizations to be discovered. This leaves the students with answer C.

18. (E) The author of Passage 2 says that there are disagreements between scientists as to the likelihood of finding life in other parts of the universe. Therefore the author of Passage 2 would not agree with the statement in Passage 1 that a “consensus” exist on the issue of finding advanced civilizations in space. Thus the author of Passage 2 would not see the “consensus” statement as a revelation. This would eliminate answer D. The author of Passage 2 sees the Paradox as creating uncertainty not a consensus. This would eliminate answer C. Answer B is out because idea of a consensus would support the SETI researchers, not attack them. Answer A is out because the author of Passage 2 does not see any compromise in the scientific community.

19. (A) The author of Passage 1 makes reference to Newton to show the fast pace of technological advancement made by humans. Only answer A makes reference to the speed at which advancements have been made.

20. (B) The statements made by the author of Passage 2 shows the strong influence Fermi’s Paradox has had in the scientific community. Only answer B makes the point that the author believes that the Paradox has been influential.

21. (A) Drake states that interstellar travel is so demanding and hazardous that “intelligent” civilizations would not attempt it. Only answer A focuses on the difficulty of achieving interstellar travel, thus making it the best answer. The other answers raise issues not covered in the passages.

22. (B) This should be the second question attempted by the students. The word “claims” is used to show a statement of belief. Answer E is out because “compensation” means payment and makes no sense in the sentence. Answer D is out because territories refer to areas, not a statement of belief. Answer C, “rights”, makes no sense. Answer A would mean that the UFO’S were making demands, which makes no sense in the context of the passage. This leaves the students with answer B.

23. (D) The reference to “radio communication” is done to offer a more practical alternative to space travel as a means of finding other civilizations. Using radio communication would not be a “dramatic advance” or a “complex interaction”, thus eliminating answers E and A. Answer C is out because we do not communicate with other civilizations in space so it could not be a common occurrence. Answer B is out because the use of radio communications is seen as a practical method of contacting others civilizations and would therefore, not be considered a relic. This leaves only answer D.

24. (B) Both the author of Passage 1 and Zuckerman stress the value of looking for more forms of life in space. Finding even simple life forms would be a great achievement. Answer B is best because it is the only answer that mentions the search for basic life forms.

## SECTION 5 – Writing Skills

1. (D) - This answer circumvents the awkwardness of the original by providing a concise phrase to make clear the intended comparison between the library and the courthouse.
2. (C) - Answer (C) avoids the awkward phrasing of the original by providing a gerund (“painting”) to describe what Homer spent his last 27 years doing (“painting on the scenic Maine coast”).
3. (A) - Answer (A) avoids the errors of the other options by providing a dependent clause (“which can kill plants and animals”) to logically modify “high levels of nitrogen.”
4. (E) - Answer (E) avoids the faulty sentence structure of the original by providing a preposition (“about”) to indicate the kind of news that was spread (“news about new goldfields . . .”).
5. (C) - Answer (C) avoids the awkward phrasing of the original by deleting the unnecessary pronoun “that.”
6. (B) - The faulty parallelism of the original is avoided by providing a noun phrase (“one original composition”) that is properly parallel with the two noun phrases that precede it (“one vocal performance” and “one instrumental performance”).
7. (E) - The unclear phrasing of the original is avoided by providing a plural pronoun (“their”) that logically refers to “Zookeepers.”
8. (C) - Choice (C) avoids the errors of the original sentence by providing the plural verb “are” to agree with the plural subject of the sentence, “The time and the place,” and by providing the idiomatic “the approval of” to replace the awkward, unidiomatic “to approving from.”
9. (A) - The sentence-fragment errors of the other options are avoided in this answer. It provides a main verb (“borders”) to carry out the action of the sentence.
10. (E) - The awkward phrasing of the original is corrected in this answer choice. It provides the idiomatic conjunction “Like” so that the comparison between “some other great works” and “Frankenstein” is presented clearly.
11. (C) - The faulty parallelism and awkwardness of the original is corrected in this choice by following both parts of the correlative “not just . . . but also” with similar grammatical elements. It provides a noun phrase (“advice for everyday living”) that is properly parallel with the noun phrase that precedes it, “philosophy and theory.”

12. (B) - The mistake in this sentence occurs at (B), where there is a redundant comparative (“more stronger”). The adjective “stronger” alone expresses the comparative and should not be paired with the adverb “more.”
13. (E) - There are no errors in this sentence.
14. (C) - The error in this sentence occurs at (C), where the plural verb “have argued” does not agree with the singular subject “Prime Minister.” It should be replaced with the singular verb “has argued.”
15. (C) - The mistake in this sentence occurs at (C), where the verb form “reducing” is not parallel with the infinitive form “to lower.” You should replace “reducing” with “to reduce.”
16. (E) - There are no errors in this sentence.
17. (C) - The error in this sentence occurs at (C), where the adjective “overrun” must be replaced with a verb phrase (“was overrun”) so it will be parallel with the previous phrases (“was untended” and “had no shutters”).
18. (B) - The error in this sentence occurs at (B), where the present-tense verb “feel” is not appropriate to describe a state of mind in the past (“Until recently”). You should replace “feel” with the past-tense verb “felt.”
19. (E) - There are no errors in this sentence.
20. (A) - The mistake in this sentence occurs at (A), where the pronoun “it” creates an improper modification of the subject (“Doris Lessing”) and fails to anticipate the subsequent use of the reflexive pronoun “herself.” The pronoun “she” should be used instead.
21. (C) - The error in this sentence is at (C), where an adjective (“effective”) is incorrectly used to modify a verb (“have described”). The adverb (“effectively”) is needed instead. Also, the verb “did” is needed (“as effectively as did Rachel Carson”) so that the action of the authors can be logically compared with Rachel Carson’s action, rather than with Rachel Carson.
22. (B) - The error in this sentence occurs at (B), where the prepositional phrase “with adapting” is not idiomatic when modifying the verb “succeeded.” The phrase “in adapting” should replace “with adapting.”
23. (B) - The error occurs at (B), where the singular pronoun phrase “his or her” is used incorrectly to refer to the plural noun “workers.” “his or her” should be replaced with “their.”

24. (A) - The error occurs at (A), where an adjective (“clever”) is used incorrectly to modify an adjective (“designed”). The adverb “cleverly” should be used instead.
25. (C) - The error occurs at (C) in this sentence, where the case of the pronoun (“I”) is incorrect. The pronoun is part of the object of the verb “invited” and should be in the objective case (“me”).
26. (B) - The error in this sentence is at (B), where there is subject-verb disagreement. The plural verb “suggest” does not agree with the singular subject “research” and should be replaced with the singular verb “suggests.”
27. (B) - The error occurs at (B), where the plural pronoun “they” incorrectly refers to the singular noun “rodeo.” The singular subject “it” is needed, which then requires the singular verb “predates” instead of the plural “predate.”
28. (C) - The error occurs at (C), where the preposition “with” is not appropriate idiomatically when following the noun “mistrust.” The noun “mistrust” should be followed by the preposition “of” or “toward.”
29. (B) - The error occurs at (B), where the present perfect tense of the verb (“has lost”) should be used instead of the past tense (“lost”) to indicate an action that is completed in the present (“since 1920”).
30. (B) - Answer choice (B) is correct. Beginning sentence 3 with “Antarctica is” provides both a subject and a verb to make it a complete sentence. The revised sentence would be, “Antarctica is governed by the Antarctic Treaty, written in 1959 and adopted in 1961, which has been signed by 27 countries.”
31. (E) - Answer choice (E) is correct. Combining sentence 7 with sentence 6 by using the conjunction “and” creates a logical, coherent sentence that gives two reasons why relations among researchers and their countries are simpler in Antarctica: small numbers of scientists from each country, and all researchers restricted to nonmilitary research. The combined sentence would be, “Relations are simpler because each country has only a few scientists on this isolated continent and also because treaty clauses assure that the research there is nonmilitary.”
32. (D) - Answer choice (D) is correct. In the context of sentence 9, “Decisions that can make or break the preservation of Antarctica’s unique environment” describes decisions that are extremely important or critical. The term “critical” is more precise and less casual than “make or break.”

33. (A) - Answer choice (A) is correct. The first sentence of the second paragraph states “relations among the researchers and their countries are both simpler and more complicated than in the rest of the world.” The rest of the second paragraph describes how the relations can be both “simpler” and “more complicated,” which are opposite or contradictory elements.

34. (C) - Answer choice (C) is correct. The third paragraph discusses tourism in Antarctica and the regulations needed to deal with this tourism. How scientists maintained the environment while conducting their research is out of the context of this paragraph.

35. (E) - Answer choice (E) is correct. The third paragraph explains that tourism in Antarctica needs to be regulated and that those regulations are difficult to create. A sentence giving the number of tourists and describing their environmental impact provides evidence that strengthens the paragraph.

## SECTION 6 - Regular Math/SPAs

1. (A). If  $x + k = 12$ , then substitute 12 into the second equation to get:  $p12 = 36$ . Hmmm, some number times 12 equals 36...how about 3? Mark (A).

2. (C). Use the **P-I Tactic** to solve this one quickly. For answer (E), take one-half of it (40) and add 13...does  $53 = 37$ ? Eliminate (E). Taking one-half of 61 leaves a fractional value, so this cannot be the answer. Eliminate (D). Take one-half of 48, which is 24. Add 13 to 24 to get 37. Mark (C).

3. (B). The number of miles in the trip from Town A to Town D along the usual route is 12 miles (look at the figure to confirm this). Next, follow the route but detour at the dotted line to find the total miles from A to D taking the detour. This is 20 miles. Thus, the difference is  $20 - 12 = 8$  miles. Mark (B)

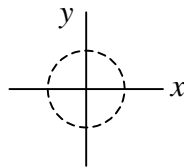
4. (B). The key to this question is to notice the **key words** “*for each of the four pairs.*” In other words, the answer that is correct must work for all values of  $x$ . Using our *contrarian* approach, we begin with answer (E) and plug in  $x = 4$ . We can immediately see that  $7.5(4) = 30$  (not 24), so we eliminate answer (E). Answer (D) yields the same thing when we plug in  $x = 4$ , so we eliminate it. Answer (C) becomes 30 when we plug in  $x = 4$ , so we eliminate it. In answer (B), we get  $y = 5.5(4) + 2$  or  $y = 22 + 2 = 24$ . Since this works, we try the rest of the  $x$  values into the equation given in answer (B). They all yield the  $y$  values, thus answer (B) is correct. Mark (B).

5. (A). There are several ways to get this one, but we used the **P-I Tactic**. Since the question states, “which of the following is a possible value of  $x$ ,” we just plug in each answer until we get one that fits. With answer (E), if  $x = 55$ , then the 3  $y$ 's must sum 125. Since 125 is not divisible by 3, it can be eliminated. Using this process, only answer (A) would yield a value for the 3  $y$ 's (150) that is divisible by 3. Mark (A).

6. (E). Key Words: could be. If there are 7 numbers listed from least to greatest with the lowest number as 2, the highest number as 20, and the median 6, then they would look something like this: 2, \_, \_, 6, \_, \_, 20. If the number 3 occurs most often in the list, the numbers would look like this: 2, 3, 3, 6, \_, \_, 20. Looking at the two missing numbers to get the lowest average, there two numbers would have to be 7 and 8. To get the highest average, the two missing numbers would have to be 18 and 19. If the two missing numbers are 7 and 8, the total of the 7 numbers would be 49. Thus, the average of the numbers would be 7. This validates Statement I, so answer (D) can be ruled out.

If the two missing numbers are 18 and 19, the total of the 7 numbers would be 71. This would average 10.1 and seem to rule out Statement III. **However**, the key words “**could be**” mean that the two missing numbers **do not have to be** 18 and 19. What if they were 17.5 and 18.5? Would this average be 10 or less? Let's find out:  $2 + 3 + 3 + 6 + 17.5 + 18.5 + 20 = 70$ .  $70 \div 7 = 10$ . From this, we see that the highest average “could be” 10 and the lowest average “could be” 7. This means all three Statements are *could be* true.

7. (E). **Draw it.**

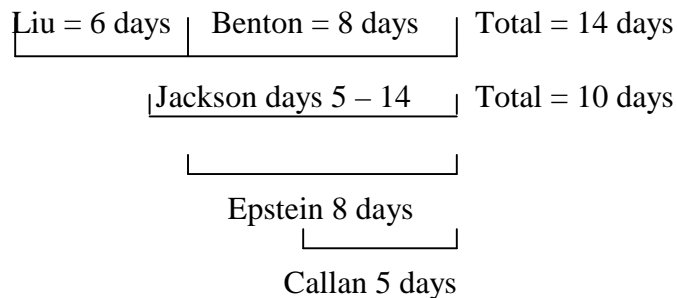


In our figure, it seems to us that the number of points that are 4 units from the origin would be an infinite number. This is definitely “more than four.” Mark (E).

8. (A). **Logic and Reasoning Required!** This question proves there are some with *nothing* to do in their lives! To get this one, you have to concentrate on the 10 days the Jackson family *could* have been at the hotel. Since the Liu family stayed 6 nights and the Benton family stayed 8 nights and these two families did not overlap in their respective stays, it follows that on each of the nights in the 14-day period, exactly one of these two families stayed at the hotel. Thus, if only one of the five families stayed at the hotel on a certain night, the Jackson, Callan, and Epstein families could not have been at the hotel on that night.

If the Jackson family stayed at the hotel for 10 nights (see the table given), then the first night of their stay could have been no later than the 5<sup>th</sup> day of the 14 days and the last night of their stay could have been no earlier than the 10<sup>th</sup> day of the 14 days. This means that on the 5<sup>th</sup>, 6<sup>th</sup>, 8<sup>th</sup> and 10<sup>th</sup> days of the 14, there were at least 2 families at the hotel. It is therefore, *possible*, that on the 3<sup>rd</sup> night *none* of the Jackson, Callan, and Epstein families was at the hotel.

Check our drawing below. Since the Jackson's take 10 days, the Callan and Epstein families *could* have been there during these 10 days. This means that days 5, 6, 8, and 10 (see answer choices given) would have seen two or more families at the hotel. The only answer choice given representing a single day is (A).



## The SPAs

9. 12 - If the cake is cut into thirds, there will be 3 pieces of cake. If each of these 3 pieces is cut into fourths, there will be 4 pieces of cake for each third. There are 3 thirds, so  $3 \times 4 = 12$ .

10. 2 - Use what is given. Some number divided by 4 equals 3...hmmm, then that number would be 12. If  $h = 12$ , then dividing 12 by 6 would equal 2.

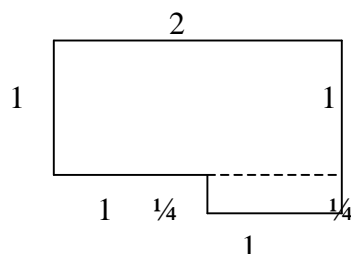
11. 120 - 125 - Any value between, but not including, 120 and 125 is correct. For simplicity, we see that  $x$  could be 56 through 59 degrees. If it is 56, then  $y$  would be 124. If it is 59, then  $y$  would equal 121. So, without getting into the sticky details of decimal numbers or fractions for the value of  $x$ , the whole numbers that would be correct are 121, 122, 123, and 124.

12. 2035 - If the price is currently \$10, it will take a \$90 increase to become \$100. At the rate of \$2 per year, it would take 45 years for this \$90 increase to occur. From 1990 to 2000, there are 10 years. From 2000 to 2035, there are 35 years.  $10 + 35 = 45$  years (total).

13. 5 - **Put The Facts On The Figure.** Looks pretty scary at first, but the question asks, “Where is  $y$  the greatest?” Look at the figure and write an  $x$  over the first number in each coordinate set given. You should have an  $x$  over the 3 on the left and the 7 on the right. Note from the figure that the highest value for  $y$  is half way between the 3 and the 7. Add the  $3 + 7$  to get 10 and divide that by 2 to get the point half way between them. This value should be 5.

14. 89 - If  $n$  is a two-digit number divisible by 10 with a remainder of 9, the number must end in 9. For example, 19 divided by 10 would leave a remainder of 9. While we have 19 in mind, we divide it by 9 and get a remainder of 1. We could take all the two digit numbers that end in 9 and “walk our way up them,” but we smell a “Time Bandit,” so we go to the other end of these numbers and try 99. 99 divided by 10 leaves a remainder of 9, but leaves a remainder of 0 when divided by 9. Next, we try 89 divided by 10 and get a remainder of 9. Then we try 89 divided by 9 and get a remainder of 8. Ding! Ding! Ding! Mark 89.

15. 6.5 or  $13/2$  - **Draw it!** In the figure given, draw a line (dotted) as we have in our figure below. From this, we can see that the area of the large rectangle is 2 ( $1 \times 2$ ). Since the area of the entire figure is  $9/4$  or  $2\frac{1}{4}$ , this means the area of the smaller rectangle we have created is  $\frac{1}{4}$  ( $2\frac{1}{4} - 2 = \frac{1}{4}$ ).



If the area of the smaller rectangle is  $\frac{1}{4}$ , this means the ends (left and right) of the smaller rectangle must be  $\frac{1}{4}$  in length. Just add up all the length you have placed on your picture (**You did put the facts on the figure, didn't you?**) to get 6.5 or  $6\frac{1}{2}$ .

16.  $5/9$  or .555 or .556 - This one just takes a little bit of flexibility. If one number is chosen from set  $\{4,5,6\}$  and multiplied times one number from the other set  $\{10,11,12\}$  and this result is divisible by 5, all we have to do is look at the first set to see which products divisible by 5 are possible. These are  $\{4,10\}$ ,  $\{5,10\}$ ,  $\{5,11\}$ ,  $\{5,12\}$ , and  $\{6,10\}$ . With two sets of 3 numbers taken 2 at a time (one from each set), the total number of products possible is 9 (For example,  $\{4,10\}$ ,  $\{4,11\}$  and  $\{4,12\}$  and so on. This results in 5 of 9 products divisible by 5.

17. 700 - **Eat The Sandwich, One Bite At A Time.** Since there are a lot of words, we take this one apart step-by-step. Make the sales equal  $s$ . If Tom's compensation is \$300 plus 20% of his sales, we could write that as:  $\$300 + 0.20s$ . If Alison's compensation is \$200 plus 25% of her sales, we could write that as:  $\$200 + 0.25s$ . Since they both had the same amount of sales and compensation, we can set these two expressions equal to one another:

$$\$300 + 0.20s = \$200 + 0.25s$$

Solving this equation, we get  $0.05s = \$100$  or  $s = \$2000$ . This means the total sales were \$2000. Substituting \$2000 into the equation above, we get:  $\$300 + 0.20(\$2000) = \$200 + 0.25(\$2000)$  or  $\$300 + \$400 = \$200 + \$500$  or  $\$700 = \$700$ . The compensation for each person for that week was \$700.

18. 120 - A classic rearranged  $y = mx + b$  question for the last one of this section. To solve this one, simply rearrange the equation given into the well-known form  $y = mx + b$ . This means that  $tx + 12y = -3$  becomes  $12y = -tx + (-3)$  or  $12y = -tx - 3$  or  $y = -\frac{t}{12}x - \frac{3}{12}$  or  $y = -\frac{t}{12}x - \frac{1}{4}$ . In this question, note the use of  $t$  for the letter  $m$  (which is the slope of the line). This is one of the favorite “bait and switch” ploys used by the test maker to see if you are paying attention.

Since the slope of the line is  $-10$  (given in the question), this means  $-\frac{t}{12} = -10$ . Solving for  $t$ , we get  $t = 120$ .

**Note: This last question is often seen on the PSAT and SAT. The classic  $y = mx + b$  is presented in some hybrid form. The key to getting this kind of question is rearranging what is given back into the form of  $y = mx + b$ . Since this question was last, much care should be taken by the students in NOT skipping any steps in the rearranging process and being sure NOT to do any of the rearranging in their heads!**

## SECTION 7 –VERBAL

### Sentence Completions

1. (D) KEY WORDS: mural honoring aviation pioneers, also, spaceflight, astronaut  
The key words indicate that the best answer must mean something that honors or memorializes a special event. Only answer D, commemorates, fits this requirement.
2. (D) KEY WORDS: new antifungal agent, uses, considered one of more, antibiotics  
The key words show that the new agent has a variety of uses. The first word in answers E, C, and A do not fit this requirement and are thus eliminated. Answer B is out because “precipitous” makes no sense in the second blank. The second word in answer D, versatile, fits the idea of having many uses and is thus the best answer.

3. (A) **KEY WORDS:** child, tendency toward aggressive behavior, fighting rather than solving differences

The key words tell the students that the best answer must mean that the child has an inclination to fight rather than to solve problems in a more peaceful way. Answers D, C, and B are out because these words mean to opposite of what is needed to fit the key words. Answer A is best because it means to have a tendency to do something. Answer E, “compunction” means to regret or hesitate to do something.

4. (C) **KEY WORDS:** Physical exercise often has, effect, releasing tension, refreshing

The key words indicate that the best answer must be something that has a positive effect. Many students can thus eliminate answers D and B because they would have a negative connotation in the sentence. At this point many students will not know the meaning of the remaining answers. If they have it down to one out of three possibilities, they should make a guess. The word “cathartic” is the best answer because it means to have a beneficial or positive effect.

5. (C) **KEY WORDS:** Because rap and hip-hop offers, commentary, on issues, often said to be sharp-edged

This question should be skipped by most students because of the difficulty of the words in the answers. The best answer is B, trenchant, means something that is “scathing,” “biting” or “forceful”. Answer E, benign, means harmless. Answer D, prosaic, means something ordinary. Answer C, circumspect, means to be cautious. Answer A, nebulous, means unclear. These answers would not fit the idea of something that is a “sharp-edged” commentary.

## **READING PASSAGES**

### Passage 1

6 (E) Students need to read lines 4-7. These lines show that the author’s grandniece knew a great deal about mechanical pencils. Answers D, C, and B are out because nothing in the passage mentioned the information they gave. Answer A is out because Genevieve had more than a superficial appreciation of the pencils.

7. (B) In lines 9-10 the author felt a “rush of nostalgia”. Since this is a positive feeling, answers E and C can be eliminated. Nothing mentioned in the lines indicate that the author felt optimism or joy, thus eliminating answer D and A. Answer B, sentimental remembrance, is the definition of nostalgia.

### Passage 2

8. (C) Lines 10-13 contains a finding that contradicts a long held assumption. This eliminates answer E and B. Answer D is a good trap. However, the answer is wrong because the belief contradicted has been accepted for a long time and thus can’t be a “recent” finding. Answer A is out because the lines do not summarize anything. This leaves the students with answer C.

9. (A) The key point made in lines 11-12 is that black holes have an effect on star formation far away from the galaxy. The best answer must show that one event has an unexpected consequence far from where the event occurred. Only answer A gives an example of one event having an effect on something far away.

### Passage 3

10. (B) Although this question mentions line 8, the key to the question is the fact that the answer is based on information given in the passage. This means that the students must read basically the entire passage to be sure of finding the best answer. In the first paragraph, Georgia makes it clear that she is getting married because she is tired of people waving paper bags at her. The bag waving is a way of teasing her about her future husband's occupation. The passage shows that Georgia seemed to like her job and was sad that she had to quit. This eliminates answers E and A. Nothing indicates that Georgia was referring to being betrayed thus eliminating answer D. Nothing indicates that Georgia's colleagues considered her a bad writer, thus eliminating answer C. The best answer, B, is the only one that makes reference to actions that could be considered to be an act of teasing.

11. (B) In the second paragraph, Georgia refers to being sentimental and melancholy. Students may not know the meaning of the best answer, B (wistful), but they should be able to eliminate the other answers because they in no way reflect the emotions expressed by Georgia.

12. (A) This should be the first question attempted by the students. The trap answer is B. Although the word "poor" could mean to have no money, that definition does not fit the context in which it is used. Reading lines 24-31 shows the students that Georgia is using the word "poor" to point out the girl would work hard and then have to give up everything to marry a man. The lines indicate that Georgia felt sorry for the girl and this should lead the students to the best answer. Students may not know the exact meaning of the best answer, A (pitiable), but the other answers have nothing to do with feeling sorry for someone and thus can be eliminated.

13. (C) Some students may have trouble with this question because the answers all involve losing something. However lines 32-35 show that the irony Georgia refers to deals with the fact that after all the hard work she put in to achieve some success, she ends up giving it up by getting married. The best answer must contain the idea of achieving a goal through hard work and then giving it up. Only answer C has an example of someone working hard to achieve a goal and then giving it up.

14. (E) The lines given in the question recounted the difficulties Georgia had to endure to become a successful reporter. This should lead the students to answer E. Answer D is out because these lines do not show an exaggerated reluctance to quit her job. Answer C is out because the weather is mentioned to show the challenges Georgia faced as a reporter. Georgia liked her job therefore answer B is out. Answer A is out because nothing in the lines suggests that Georgia envied women who did not work.

15. (C) Lines 45-50 show that Georgia's decision to give up her job and marry Tank is something she did not think she would do. Georgia saw herself as having a career in journalism or as a writer. The best answer must show that her decision to marry was not what she thought she would do. This eliminates answer E because her attitude is not unsurprising. Answer D is out because there is no indication that Georgia was extremely upset. Answer B is incorrect because there is nothing that could be characterized as being "highly personal". Answer A is wrong because in these lines, Georgia shows that her decision is not one she had expected to make.

#### Passage 4

16.(C) The opening paragraph shows that the criticism of television is nothing new. The author shows that such criticism of the dominate media has occurred throughout history. Only answer C places the criticism of television in a historical context.

17. (D) Lines 8-11 list several complaints against television including corrupting youth, distorting reality, and being a waste of time. The best answer must contain an example of a show that would be informative and not be a waste of time. Answer D is best because it is the only example of a show that is factual and educational.

18. (D) This is the first question students should answer. The word "drawn" has many definitions. Reading lines 25-26 show that in context, the word "drawn" means to interest or to lure. This should lead the students to answer D.

19. (E) Students should read lines 25-32. These lines tell the students that Plato saw the behavior of the heroes as questionable and did not condone their behavior. Therefore the best answer must be something negative. This eliminates answers B and A. Answer D is out because Plato did not express disappointment but rather disapproval of the heroes' behavior. Answer B is out because the lines did not show that Plato was distrustful of the heroes. This leaves the students with answer E.

20. (E) Lines 29-31 states that Plato was an elitist. Therefore the best answer must be a word that would go with being an elitist. Only answer E, snobbish, fits this requirement.

21. (A) The second paragraph lists Plato's objections to the poetry and arts popular with the masses. Lines 39-45 give one scholar's view that Plato was not anti-arts but rather an elitist, opposed to whatever form of entertainment appealed to the common people. Answer E is out because there is no digression from the topic. Answer D is wrong because there are no reasons given for the appeal of Plato's writings. Answer C is a good trap. It is wrong however, because only one interpretation is given in the lines cited. Answer B is out because there is no mention of Plato's politics. The process of elimination gives the students the best answer, A.

22. (D) The fourth paragraph states that Plato saw "poetry" as a "corrupting influence" that harmed people's minds. There is no mention of historical figures, thus eliminating answer E. Answer C is out because Plato was concerned with the corrupting effect of poetry not with a specific topic. Answer B and A are out because Plato's criticism was not based on poetry's popularity or use of confusing language. Answer D is the best answer because it focuses on Plato's concern that poetry was a bad influence on the people.

23. (B) In the last paragraph the author states that if Plato's utopia had come to pass libraries, theaters, and museums would have been empty. Answer E is out because there is no mention of other philosophers. Answer D is out because there is no suggestion that the author believes that television will result in the type of utopia envisioned by Plato. Since the author is critical of Plato, answer C is out because it states a position not held by the author. There is no suggestion that the author believes the utopia would lead to new artistic venues. This fact eliminates answer A. Answer B best fits the author's view that the utopia would be a restrictive environment.

24. (E) The author states that throughout history any new medium of artistic expression has been criticized. Answer D is out because the author does not address this issue. Answer C is counter to the point made by the author that people openly criticize new mediums. Answer B is out because the author focuses on the issue of how new forms of expression are criticized not the speed at which they are accepted. Answer A is out because the author is not fatalistic about the future of artistic expression. This leaves answer E as the best choice.

## **SECTION 8 –VERBAL**

1. (B) **KEY WORDS:** child, stringent upbringing, however, older, appreciate, strict  
The key words show that first word must be something negative. This eliminates answers C and A. Answer E is out because the word "liberality" is the opposite of strict. Answer D is out because the word "abstinence" does not necessarily fit the idea of a strict upbringing. Answer B best fits the key words.

2. (D) KEY WORDS: mouth, stinging and burning, wash away, dish's, taste.

This question seems a little out of place. It is pretty difficult to be the second question. The key words show that the best answer must be a word that means bad tasting. Answer E is a word that means something is pleasant or good tasting and is thus eliminated. Answer B is something that is unusual. This does not necessarily mean the food bad tasting. Answer A means something that is plain or basic. This would not cause the reaction given in the sentence. At this point some students will not know the meaning of either of the remaining answers. They should make a guess and go on. Cloying, answer B, is out because it means a taste that is excessively sweet. While this is not good, it would not cause the reaction given in the sentence. The best answer, D, means something is bitter, sharp, or caustic. This would cause the reaction given in the sentence.

3. (E) KEY WORDS: other birds, nest cliffs, islands, nesting in forest, considered

Since the birds do not nest where other birds do, the second word must mean something different from what is usual. Nothing indicates that nesting in trees is dangerous, thus answer D can be eliminated. Answer C is out because "evident" would not be in contrast to what is expected. The word "hypothetical" makes no sense thus eliminating answer A. Answer B is out because the first word "indifference" means to have no interest in. This makes no sense because the birds have chosen to nest in the forest. This leaves the students with answer E.

4. (D) KEY WORDS: cause, long standing medical, physicians, suggested 100 possibilities, poisoning, malnutrition

The key words tell the students that the first word must be something negative. This eliminates answer C. Answer B is out because the first word means to grieve or feel sorrow for the loss of someone. This does not fit the key words. Answer A makes no sense because mortality is a condition of all humans. Answer E is out because the second word "trial" makes no sense in the sentence. Answer D is the best because Mozart's demise is a medical mystery.

5. (E) KEY WORDS: At first, children were, but they began to laugh and talk eagerly

Many students will have to skip this question because of the difficulty of the words in the answer choices. The best answer to this contrast sentence, is E "reticent", meaning to be quiet and restrained. This is the opposite of talking eagerly.

6. (D) KEY WORDS: missed, play's, significance, focusing instead on details so minor, described as

The best answer is D because the word "picayune" describes something that is small and of little importance. Many students however will not know the meaning this word. They should however be able to eliminate answers E, B, and A. Answer E "impervious" means impermeable, which does not fit the sentence. Answer B "indelible" means something that can not be removed. Answer A, "pragmatic", means practical. At this point most students will have to make a guess between the two remaining answers.

## Reading Passage

**Note: this passage has several difficult questions. Remind the students not to let a few questions bog them down. Skipping some questions is not a bad tactic.**

7. (A) In the first paragraph, the author says that understanding a nation's literature requires an awareness of the "larger cultural context". Answer A is the only answer that mentions the role of culture in understanding the meaning of a work of art.

8. (C) The author believes that understanding art requires an understanding of the culture in which it was produced. Only answer C gives an example of a work produced by a society about which nothing is known. This would, according to the author, make the work difficult to interpret.

9. (D) The author asks how can we understand the core meaning of a work of art without knowledge of the culture in which it was produced. The author supports this assertion by using the example of a folktale. The author explains the make-up of the audience, the manner in which it would be told and meaning of the story for various members of the audience. This supports the author's point that understanding a work of literature requires knowledge of the culture, by using the folktale as an illustration. Only answer D contains using an illustration to prove a point.

10. (D) The author discusses the Tanaina culture in an objective way. Answer E is out because the word "indignant" means to show anger, something the author did not do. Answer C is incorrect because it is obvious that the author is not a performer. Answer B is wrong because it indicates the author is confused, which is clearly not the case. Answer A is out because there is no indication that the author is a parent. This leaves answer D, "informed outsider" as the best answer.

11. (C) Lines 54-56 show that the Tanaina live in a very harsh environment. The word "difficult" would therefore be considered something of an understatement. This makes answer C the best choice. Students could also find the best answer by the process of elimination. Answer E is out because the term "preconception" implies a presumption not based on fact. The author is clearly familiar with the Tanaina people. Answer D is out because there is no contradiction between the word "difficult" and the conditions under which the tribe live. Answer B is wrong because the author is familiar with the tribe and is not estimating the conditions in which they live. Answer A is out because "difficult" is the opposite of an exaggeration of the living conditions.

12. (B) The information provided in lines 59-65 provides information that makes the symbols used in the story more understandable. An illustration does not explain the value of the symbols explained by the author, thus eliminating answer E. Answer D is wrong because an outline would not contain the type of details given by the author. Answer C is out because a directory does not provide any explanations. Answer A is wrong because it too provides a list not a real explanation. Answer B is best because a key or legend explains the meaning of symbols.

13. (B) Students need to read lines 66-69. In these lines the author shows that the tale is teaching a lesson in contract law. Only answer B makes mention of a contract and is therefore the best answer.

14. (A) In the tale the porcupine woman sets out to hunt but is not fully prepared. She has clearly not done the proper planning. Answer A is best because it contains the idea on inadequate planning. Answer E is wrong because there is nothing that indicates the woman was trying to get away from a difficult task. Answer D is out because there is no mention of a favorite place. Answer C is incorrect because no mention is made of close friends. Answer B is wrong because nothing about leisure is mentioned in the story.

15. (E) The last two sentences of the passage give the answer to this question. The author says that the bear path means that the hunter is going to become the hunted. This indicates that the woman is in danger. The best answer is E. This answer is the only one that directly points to the fact that the woman is facing new dangers.

16. (D) The last paragraph shows the contrast between the original goal of the woman and the situation she finally ends up in. The best answer, D, is the only one that shows a contrast between her original purpose and the situation in which she ended up. Answer E is out because the tale does not portray hunting as a “grandiose” ambition. Answer C is wrong because the woman does not show any gratitude. Answers B and A are out because there is no mention of wealth or social position.

17. (C) This is a difficult question that many students would be better off skipping. The tale warns of the trouble that can result from acting without careful planning. Answer E is wrong because a parody makes fun of someone or uses satire. Nothing in the tale fits that description. Answer D is out because the tale does not involve any obsolete customs. Answer B is good trap. Although the author says that the story must be seen in its cultural context, it is wrong because this not an outline of behavior that the people should follow. Answer A is out because although the tale is an example of a traditional story, it is not an actual tribal tradition or practice. The best answer is C because the tale is trying to serve as a warning.

18. (C) The author sees value in the tale both as an example of how some cultures convey difficult ideas and teaches valuable lessons. The story has little comic elements thus eliminating answer E. The author says the story conveys information about the tribes' view about contracts. There is no statement that shows the author supports the legal ideas presented. This eliminates answer D. Answer B is wrong because the author does not express admiration for the quality of the storyteller's performance. Answer A is out because there is no indication that the author has made an unexpected discovery. Answer C is the best choice because throughout the passage, the author points to the value of the story as a means of teaching tribal values.

19. (E) This is basically a main idea question. The author's main purpose is to show that a true understanding of literature requires an appreciation of the cultural context in which it is produced. Therefore just reading something does not mean a person will truly understand it. This point is best made in answer E. Answer D is wrong because the author does not indicate that scholarly analysis makes it impossible to enjoy the tale. Answer C is out because there is no suggestion that a good story teller can't be instructive and entertaining. Answer B is out because there is nothing to indicate that an oral story can't be written down by later generations. Answer A is wrong because there is no requirement that translating requires formal training.

## SECTION 9 - Regular Math

1. (A) - **Plug-It-In Tactic.** From the equation given, we eliminate answers (E) and (D) because we can see that the value of  $y$  must be a negative number.  $\frac{1}{3}$  of  $-3$  (answer C) would be  $-1$  and  $-1$  added to  $9$  would not equal  $0$ . Eliminate answer (C).  $\frac{1}{3}$  of  $-9$  (answer B) would be  $-3$  and  $-3$  added to  $9$  would not equal  $0$ . Eliminate answer (B). This leaves answer (A) as best.  $\frac{1}{3}$  of  $-27$  would be  $-9$  and  $-9$  plus  $9$  would equal  $0$ . Mark (A).

2. (B) - **Use the drawing.** If  $PR$  is the radius of the large circle (it is) and it is  $4$ , then visually we can see that  $PQ$  and  $QR$  (either being the radius of the smaller circle) are both  $2$ . Mark (B).

3. (D) - If  $\frac{1}{5}$  of the land is  $45$  acres, then  $5$  times  $45$  would be the total amount of land.  $5 \times 45 = 225$ . Mark (D).

4. (C) - **Plug-It-In Tactic.** The only way to get this one is try each answer choice. Answer (E) does not work because tripling  $10$  and subtracting  $8$  does not result in  $18$ . Answer (D) does not work because subtracting  $2$  from  $6$  and then doubling that amount does not result in  $10$ . Answer (C) works because doubling each preceding number and then subtracting  $2$  results in the next number. For example, doubling  $6$  equals  $12$  and  $12 - 2 = 10$ . Doubling  $10$  equals  $20$  and  $20 - 2 = 18$ ...and so on. Mark (C).

5. (C) - You will need to think on this one! And...recall that the circumference of a circle is  $2\pi r$ . Since both semicircles represent one-half of a circle, the circumference of each would be  $\frac{2\pi r}{2} = \pi r$ . Let's call the point between  $R$  and  $S$  that intersects the line  $T$ . This means that  $RT$  is the radius of semicircle  $R$  and  $TS$  is the radius of semicircle  $S$ . Thus, the **length of the darkened curve** would equal  $\pi RT + \pi TS$  or  $\pi(RT + TS)$ . Note that the length of  $RT + TS$  is 12, so the length of the darkened curve would be  $\pi 12$  or  $12\pi$ .

6. (A) - If  $h + k = 7$ , then  $h = 7 - k$ . Substituting this value for  $h$  into the second equation, we get  $\frac{7 - k}{7 - k} = 1$ . Mark (A). The **MNL** could be used on this one as follows: Make  $h = 1$  and  $k = 6$ . These values would make the first equation work. In the second equation, substitute these values to get  $\frac{7 - 6}{1} = \frac{1}{1} = 1$ . Again, answer (A) is correct. Mark (A).

7. (D) - To find the number of square miles for each Country, simply divide the total population by the number of people (population density) per square mile. In Country A, 6,500,000 divided by 600 would yield an area of 10,833 square miles. In Country B, 7,600,000 divided by 400 would yield an area of 19,000 square miles. The difference between the two would be  $19,000 - 10,833 = 8,167$ . The answer closest to this is (D).

8. (E) - We used the **MNL** to quickly find a number that would make the equation work. As long as the number we select for  $x$  makes the equation work, we are good to go. In the equation  $x^2 = x + 6$  we quickly plug in +1 for  $x$  and see that it does not work:  $(1)^2 = (1) + 6$  or  $1 = 7$  is not true. We abandon +1 and try +2 to get  $(2)^2 = 2 + 6$  or  $4 = 8$ . We abandon +2. Trying +3 results in  $(3)^2 = 3 + 6$  or  $9 = 9$ . This means that  $x$  could equal 3. We use  $x = 3$  to eliminate answer choices. Answer (E) becomes  $(3)^2 > 3$  or  $9 > 3$ . We keep this answer. Answer (D) is eliminated because it becomes  $9 < 3$  and this is not true. Answer (C) seems correct, so we will hold on to it for now. We eliminate Answers (B) and (A) because we can see that they are false when  $x = +3$ .

Since  $x$  is a number, we think about whether or not it can be negative for our two answers that seem to work. If  $x = -1$  it would not make the original equation,  $x^2 = x + 6$ , work. If  $x = -2$ , it would make the original equation work. Thus,  $x$  could be -2 or +3. This eliminates answer (C).

Of course, the mathematical way to do this one may be faster for some students. The original equation,  $x^2 = x + 6$ , can be rearranged to become  $x^2 - x - 6 = 0$ . Factoring this, we get  $(x + 2)(x - 3) = 0$  or  $x = -2$  and  $x = +3$ . Using these values, we can eliminate or include answer choices by plugging these values into the answer choices.

9. (C) - **Circle the definition of the function!** It is given that  $f(10) + f(5) = 55$ . Using the definition of the function,  $f(x) = 5x - 2a$ , we plug in the first value of  $x$  (this is 10) into  $5x - 2a$  to get  $5(10) - 2a$  or  $50 - 2a$ . We do the same thing for  $f(5)$  and get  $5(5) - 2a$  or  $25 - 2a$ . This means that  $f(10) = 50 - 2a$  and  $f(5) = 25 - 2a$ . Since  $f(10) + f(5) = 55$ , we substitute what we know and get  $50 - 2a + 25 - 2a = 55$  or  $75 - 4a = 55$  or  $4a = 20$  or  $a = 5$ . The math is not hard, but keeping things straight is...be careful on this one!

10. (A) - Use the **MNL** to get this one quickly. By the **KEY WORDS** in the question, we see that an "even-odd" number is between an even and an odd integer. We use 1 and 2 and conclude that 1.5 is an "even-odd" number. But, so would be 2.5 (between 2 and 3) and so would -1.5 (between -1 and -2). Loaded with this info, we go to the Statements (recall that we go to Statement III first) to verify which are true. Statement III can be eliminated because the question clearly states that an "even-odd" number is halfway between an odd and an even number. We use this info to eliminate Answers (E) and (D). Statement II is false because 2 times 1.5 would be 3 and 3 is not halfway between an even and an odd number. This eliminates Answers (C) and (B). Mark (A).

11. (D) - Use the **MNL** conquer this one. Since  $m$  is an exponent, we cannot use 1 (it has strange properties), so we make  $m = 2$ . In the question,  $(2^4)^m$  becomes  $2^{4m}$  or, using  $m = 2$ , we get  $2^{4(2)} = 2^8 = 256$ . Since the question asks "which is **NOT**," all we have to find is the answer choice that does not equal 256 when  $m = 2$ . Answer (E) is  $16^2 = 256$  so it can be eliminated. Answer (D) is  $4^2(2^2) = 16(4) = 64$ . Since this is not 256, we mark (D). Of course, since this is #11 of 16, we try the rest of the answer choices just to make sure. All of the other answers equal 256, so Mark (D).

12. (E) - Before we begin this one, we T.O.G. and eliminate answers (D) and (B). This is because the question asks the ratio when  $B$  was greater than  $A$ ? In Answer (D) the two years are equal and thus one is not greater than the other. In Answer (B),  $A$  is greater than  $B$  which is the opposite of what is being asked. Working backwards, as we do, Answer (E) is 1600 to 800 or a ratio of 2 to 1. Answer (C) is 2000 to 1200 or a ratio of 20 to 12 or 5 to 3. Since this is less than 2 to 1, we eliminate Answer (C). Answer (A) is 1200 to 800 or 12 to 8 or 3 to 2. Since this is less than 2 to 1, we eliminate Answer (A). Mark (E).

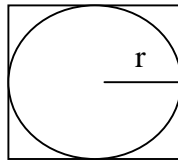
13. (B) - It's **Railroad Tracks!** ... so... **angles that look equal...are equal in size.** Write down what you can see and know to be true:  $k + p + n = 180^\circ$ ;  $t = s$ ,  $n = t$ , and  $n = s$ . Since  $n = s$ , it stands to reason that  $k + p + s = 180^\circ$ . Mark (B).

14. (C) - Since  $x$  is an even integer equal to or between 4 and 10,  $x$  must be 4, 6, 8, or 10. Since  $y$  is between 4 and 10, it must be 5, 6, 7, 8, or 9. The number of different ordered pairs would be 4 numbers in the first set times 5 numbers in the second set. This is 20. The **Time Bandit** would be if a student decided to write down all the possible ordered pairs.

15. (C) - This is number 15, so beware of obvious answers. In the year 1900, no time had passed (since that is the beginning year) so  $t = 0$ . The number of species living in 1900 would be equal to  $n(0) = 500(0.81)^t$  or  $n(0) = 500(0.81)^0$  or  $n(0) = 500(1) = 500$ . You should recall that any number raised to the 0 power is considered equal to 1. In 1920, two decades later ( $t = 2$ ), the number of species would be equal to  $n(2) = 500(0.81)^2$  or  $n(2) = 500(.65)$  or  $n(2) =$  about 320. Note how Answer (D) is beckoning JAS at this point!

**ATQA! If the population was 500 in 1900 and is now 320 in 1920, it decreased by 180 from 1900 to 1920.** Mark (C).

16. (E) - **Draw it!**



Since the radius of the sphere is  $r$  and it touches the 6 sides of the cube, the width, length and height of the cube would each be  $2r$  (the diameter of the sphere). We know the formula for finding the volume of a cube is  $V = s^3$ , so if the sides of this cube are  $2r$ , the volume of the cube would be  $V = (2r)^3$  or  $V = 8r^3$ . Mark (E).

### SECTION 10 –Writing Skills

1. (C) - Answer (C) is correct. This sentence contains an illogical comparison. It is corrected by appropriately comparing “The Amazon River” to “any other river in the world.”
2. (C) - Answer (C) is correct. The faulty sentence structure of the original is corrected by providing a participle (“deciding”) to indicate what the owners are doing: they are having a problem “deciding what to do about those names.”
3. (A) - Answer (A) is correct. This answer provides a concise phrase (“During the Fourth of July weekend in 1947”) that logically modifies “about six million people.”
4. (C) - Answer (C) is correct. This answer avoids the improper coordination of the original by joining a dependent clause (“Because fiscal problems . . . firefighters”) with an independent one (“the state legislature . . . aid.”).
5. (B) - Answer (B) is correct. This answer corrects the subject-verb disagreement of the original by providing a singular verb (“reveals”) to agree with the singular subject of the sentence, “A recently published history.”

6. (B) - Answer (B) is correct. This answer corrects the improper coordination in the original by providing the relative pronoun “when” in order to establish the relationship between ideas: when “a green rock containing copper” was discovered, the discovery contributed to “the early economic development of America.”

7. (E) - Answer (E) is correct. This answer avoids the modification error of the original by having the introductory phrase “Selected as an astronaut . . .” apply correctly to “Dr. Ellen Ochoa.”

8. (D) - Answer (D) is correct. It corrects the noun-pronoun-verb disagreement of the original by both providing a plural noun (“buyers”) and not including a pronoun.

9. (A) - Answer (A) is correct. This answer corrects the errors of the other sentences by providing the relative pronoun “who” to refer to people—in this case, “analysts.”

10. (D) - Answer (D) is correct. It corrects the comma splice of the original by properly joining two independent clauses (“Santa Fe is . . . States” and “its adobe architecture . . . artists”) with a semicolon.

11. (A) - Answer (A) is correct. It circumvents the errors of the other options by using the coordinating conjunction “and” to properly join parallel parts of the compound subject (“increased mechanization of printing **and** increased literacy rates”) and by supplying a main verb (“made”) to carry out the action of the compound subject.

12. (C) - Answer (C) is correct. It corrects the sentence-fragment error of the original by providing a main verb (“is”) to carry out the action of the sentence.

13. (E) - Answer (E) is correct. It corrects the pronoun shift of the original by using the plural pronoun “their” in two places to refer to the plural noun “people.”

14. (E) - Answer (E) is correct. It corrects the modification error of the original sentence by replacing the comma and the relative pronoun “which” with a semicolon and the phrase “the contamination.”