

Chapter 4 Practice Test 1: Answers and Explanations

PRACTICE TEST 1 ANSWER KEY

Section 1: Reading		Section 2: Writing & Language		Section 3: Math (No Calculator)		Section 4: Math (Calculator)	
1. D	27. B	1. D	23. B	1. A	11. D	1. C	20. A
2. B	28. C	2. D	24. B	2. B	12. A	2. C	21. D
3. C	29. A	3. A	25. A	3. B	13. C	3. B	22. C
4. C	30. C	4. B	26. D	4. D	14. A	4. B	23. C
5. B	31. A	5. C	27. C	5. D	15. C	5. D	24. A
6. A	32. B	6. B	28. C	6. C	16. 5	6. A	25. C
7. D	33. A	7. A	29. A	7. A	17. 6	7. C	26. D
8. B	34. A	8. B	30. C	8. A	18. $\frac{5}{13}$	8. D	27. C
9. B	35. C	9. C	31. B	9. C	19. 225	9. B	28. B
10. A	36. B	10. D	32. D	10. C	20. 13	10. A	29. A
11. D	37. D	11. C	33. D			11. D	30. B
12. B	38. D	12. D	34. C			12. D	31. $\frac{3}{7}, \frac{6}{14}$,
13. D	39. B	13. A	35. C			13. B	.428,
14. A	40. B	14. C	36. D			14. B	or
15. C	41. C	15. D	37. C			15. A	.429
16. B	42. B	16. C	38. B			16. C	32. Any value
17. C	43. A	17. A	39. A			17. D	from 14
18. A	44. A	18. D	40. D			18. C	to 21,
19. C	45. A	19. D	41. D			19. C	inclusive
20. D	46. B	20. C	42. B				33. 30
21. D	47. C	21. B	43. C				34. 4
22. B	48. A	22. A	44. D				35. 4
23. C	49. D						36. 51
24. C	50. D						37. 3
25. D	51. B						38. 8.76
26. B	52. C						

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PRACTICE TEST 1 EXPLANATIONS

Section 1: Reading

- D** The question asks about the developmental pattern of the passage, so it should be answered after the specific questions. Look for clues in the text that indicate the mood and story of the passage. This particular passage moves from glum to foreboding. The narrator is nervous on his journey, but he states that when he sees the city, he foresees his bleak future. Since the narrator discusses the past, he goes further to confirm it: *I prophesied truly, and failed only in one single circumstance, that in all the misery I imagined and dreaded, I did not conceive the hundredth part of the anguish I was destined to endure.* Choice (A) refers to the joy he felt at seeing his native land, but that is only a half-right answer because it does not address the negative mood and events. The passage says nothing about the narrator responding to a request for help, so (B) is incorrect. The author describes the *daemon*, but the passage does not mention an ancient curse, so (C) is incorrect. Choice (D) accurately describes the narrator's mood and final despair. The correct answer is (D).
- B** The question asks about what happens in the passage, making it a straightforward question to answer after the specific questions have been answered. Choice (A) goes beyond the information in the passage because there is no mention of any plans the narrator has to avenge his brother's death. Choice (B) accurately addresses the feeling of anxiety the narrator has throughout the passage, as seen in lines 39–42 when he says, *The picture appeared a vast and dim scene of evil, and I foresaw obscurely that I was destined to become the most wretched of human beings.* Keep (B). Choice (C) describes the narrator's fear of returning home to the monster, but the passage discusses how the narrator seems to be more afraid of what has changed and how his future may be affected, so it can be eliminated. Choice (D) addresses how the narrator becomes anxious about returning home, but he says he *longed to console and sympathize with my loved and sorrowing friends*, so it seems that he isn't afraid he will not be welcome. The correct answer is (B).
- C** The question asks what the word *degrees* most nearly means in lines 11 and 19. Go back to the text, find the word *degrees* and cross it out. Carefully read the surrounding text to determine another word that would fit in the blank based on the context of the passage. Lines 9–11 say, *One sudden and desolating change had taken place; but a thousand little circumstances might have by degrees worked other alterations.* Lines 19–20 say, *By degrees the calm and heavenly scene restored me.* Therefore, the phrase *by degrees* could be replaced with a phrase such as “little by little.” Neither *levels*, *measures*, nor *careful developments* matches “little by little,” so eliminate (A), (B), and (D). Note that (A) and (B) are Could Be True trap answers based on other meanings of *degrees* that are not supported by the text. *By small increments* matches “little by little,” so keep (C). The correct answer is (C).
- C** The question asks which emotion the narrator *most* feels. Because the question uses the word *most*, this indicates there may be more than one emotion the narrator feels. The answer to this question is the one that the narrator feels most strongly. Notice that the following question is a best evidence question, so this question and Q5 can be answered in tandem. Look at the answers for Q5 first. The lines in (5A) mention *the delight [the narrator] took*, so look to see if those lines support any answers in Q4. Choice (4A) mentions the *joy...at returning home*. Connect those two answers. Next, consider the lines for (5B). The narrator says that he *prophesied truly... all the misery I imagined and dreaded...anguish I was destined to endure*. Consider the answers to Q4. Choice (4C) mentions *dread concerning his fate*, which matches the lines for (5B). Connect (4C) and (5B). The lines in (5C) mention the coming storm, which does not address what emotion

the narrator feels most. Eliminate (5C). The lines in (5D) mention the narrator's reaction to the daemon, but do not reference any emotion. Eliminate (5D). Without any support from Q5, (4B) and (4C) can be eliminated. Consider the remaining pairs of answer choices in the context of the passage. The emotion the narrator feels *most* is negative, so (4A) and (5A) can be eliminated. The correct answers are (4C) and (5B).

5. **B** (See explanation above.)
6. **A** The question asks about how the narrator addresses the tempest. Find evidence in the text to support how the narrator feels about the storm. He states, *While I watched the tempest, so beautiful yet terrific, I wandered on with a hasty step. This noble war in the sky elevated my spirits; I clasped my hands, and exclaimed aloud, "William, dear angel! This is thy funeral, this thy dirge!* Although the rain is pelting him and lightning is flashing, his spirits are high. Thus, the *awe, but no fear* in (A) looks good. Don't eliminate it. He describes the storm as *violent* and *terrific*, so a word that means "overjoyed" is too positive, making (B) incorrect. While he is sad about William's death, he is not sad about the storm, making (C) incorrect. It is possible that the narrator is a little dramatic, but there is no evidence to prove that he is crazy. Therefore, (D) is incorrect. The correct answer is (A).
7. **D** The question asks about the *main purpose* of the first paragraph, so the correct answer will accurately summarize the paragraph. The author starts the passage by saying *My journey was very melancholy* and later describes his *painful state of mind* to set a tone for what will come. The author's choices create a negative mood for the reader. Choice (A) is incorrect, since the paragraph isn't written to represent anything. Choice (B) says that the author exaggerates the narrator's emotion, but the narrator is feeling a profound sort of dread, so there's no exaggeration. Choice (C) says that the paragraph is there to give context, but the narrator doesn't mention his brother's death explicitly or the daemon until later in the passage. Choice (D) best explains that the paragraph is there to establish the mood as the narrator returns home. The correct answer is (D).
8. **B** The question asks why the narrator uses a particular phrase. Carefully read the window to look for clues to indicate the narrator's meaning. His focus is on how things may have changed in the six years he's been gone (*How altered every thing might be during that time*). Although *one sudden and desolating change had taken place*, the narrator goes on to say that *other alterations* had possibly been worked by those *thousand little circumstances*. Of these little circumstances, he says that *although they were done more tranquilly, [they] might not be the less decisive*. Therefore, although there was only one major change, significant changes could also have come from smaller events that were individually less traumatic but still added up to something big. Choice (A) can be eliminated because the change that happened (the loss of the narrator's brother) was not connected to a natural disaster. Choice (B) is a good paraphrase of the prediction, so don't eliminate it. The narrator never mentions his role in the murder or any way he could have affected the outcome, so eliminate (C). Choice (D) can be eliminated because there is never any mention of politics. The correct answer is (B).
9. **B** Lines 9–13 were used to answer the previous question. The correct answer is (B).
10. **A** The question asks what the word *stole* means in line 66. Go back to the text, find the word *stole*, and mark it out. Carefully read the surrounding text to determine another word that would fit in the blank based on the context of the passage. The passage says, *I perceived in the gloom a figure which stole from behind a clump of trees near me*. The figure is emerging from behind the tree, so *stole* must have something to do with how the figure is moving. The correct answer must mean something like "moved stealthily." Keep (A) because *crept* matches "moved stealthily." Eliminate (B), (C) and (D) because neither *pinched*, *thieved*, nor *displaced* matches "moved

stealthily.” Note that (B) and (C) are Could Be True trap answers based on another meaning of *stole* that is not supported by the text. The correct answer is (A).

11. **D** The question asks about the *main purpose* of the passage. Even though it’s the first question for the passage, it should be done at the end. The correct answer should address why the passage was written. In the fourth paragraph, the author does mention *a set of essays*, but this passage is an introduction for those essays, not a review of them. Eliminate (A). Choice (B) is incorrect because the author does not use persuasive language, nor is there an argument for or against any field in this passage. Eliminate it. Choice (C) can be eliminated because, while the author does mention the limitations of Piaget and others, he goes on to reconcile those limitations with his own scientific views, so that’s not the main purpose of the passage. Choice (D) sums up the information that the author provides in the passage. He introduces psychology and its fields of study to get to the point of how structuralism has influences on his own work. The correct answer is (D).
12. **B** The question asks about the *central claim* of the passage. This is a general question, so it should be answered after all the specific questions have been answered. The central claim of the passage is related to the main purpose: What is the most important part of the author’s argument? The author’s main point is that structuralism provided a wider range of avenues for psychologists to explore the mind. Choice (A) does not match this prediction because, while it might make sense that the author thinks pre-1960s psychology was *sedate and impractical*, that isn’t actually in the text. Eliminate (A). Choice (B) is supported by the final paragraph, so keep it. Choice (C) is partially true in that behaviorists believe that humans *act in the way we do because we are reinforced for doing so*, but that is not the central claim in this passage. Also, there is no evidence their views are *preordained*, so this choice can be eliminated. Choice (D) can be eliminated because there is no evidence that the author’s work is revolutionary. Although that word appears earlier in the passage, it does not refer to the author’s work. The correct answer is (B).
13. **D** The question asks about the reason the author *describes different branches of psychology* throughout the passage. In the first paragraph, he mentioned *academic psychology, behaviorism, and psychoanalysis*. He labels these three as *uninviting specializations*. Then he mentions the *cognitive revolution* in the 1960s in the second paragraph, and he goes on to further describe how the revolution *inspired* those in the field who became and remained interested in the *structuralist approach*. The correct answer should address this shift. Choice (A) does not match the prediction because the author’s goal is to present the shift, not to simply lay out the history. Choice (B) does not match because there is no evidence that the author is in any way prominent in the scientific community. It can be eliminated. Choice (C) can be eliminated because the author never makes any reference to structuralism being *inferior to behaviorism*. In fact, the author seems to feel more positively about structuralism than behaviorism. Choice (D) is consistent with the prediction. The correct answer is (D).
14. **A** The question asks what the author indicates about the *cognitive revolution* in the passage. Notice that the following question is a best evidence question, so this question and Q15 can be answered in tandem. Look at the answers for Q15 first. The lines in (15A) mention *lines of study unrelated to human beings engaged in thought*, so look to see if those lines support any answers in Q14. There is not a link to another answer, so eliminate (15A). Next, consider the lines for (15B). They describe one group’s *demonstration*, which is not mentioned in any of the answers to Q14. Eliminate (15B). The lines in (15C) say many *were swept up—and have remained inspired—by this revolution*. Consider the answers to Q14. Choice (14) mentions the author’s *motivation*, which suggests being *inspired*. Connect (14A) and (15C). Look at the lines for (15D), which talk about the *appeal of machines that display intelligence*. This isn’t mentioned in any of the answers to Q14, so eliminate (15D). Only one answer to Q15 matched an answer in Q14. The correct answers are (14A) and (15C).

15. **C** (See explanation above.)
16. **B** The question asks which features of psychology *became popular after the cognitive revolution*. Notice that the following question is a best evidence question, so this question and Q17 can be answered in tandem. Look at the answers for Q17 first. The lines in (17A) bring up *behaviorism*, which features a *focus on overt activity* rather than *inner life*. This doesn't match any answers in Q16, so eliminate (17A). The lines in (17B) mention *thinking, problem-solving, and creating*, which are in (16A). Connect these two answers. Next, consider the lines for (17C). Here, the author describes *the thrill of careful laboratory experiments* on individuals doing math problems. *Meticulousness* is similar to being *careful*, so draw a line connecting it to (16B). The lines for (17D) do not mention any features of psychology, so that answer can be eliminated. This leaves two pairs of answers. Choice (17B) might initially look good because the words *problem-solving* and *creating* also show up in (16A), but those words describe mental processes, not the psychology. That pair can be eliminated. The correct answers are (16B) and (17C).
17. **C** (See explanation above.)
18. **A** The question asks about the author's reason for mentioning Piaget, Chomsky, and Levi-Strauss. In the fourth paragraph, the author says these scientists (*psychologist, linguist, and anthropologist*) *exemplify the principal assumption* of the structuralist approach. Choice (A) matches the prediction, so keep it. Choice (B) can be eliminated because their work is not *inherently problematic*; it is just not fully in line with the views of the author. Choice (C) can be eliminated because the author notes that these men are not all psychologists: Chomsky is a linguist and Levi-Strauss is an anthropologist. Choice (D) can be eliminated because there is no evidence that these men have published anything that would not agree with the author's conclusions about creativity and structuralism. The correct answer is (A).
19. **C** The question asks about the author's use of the phrase *original works of art*. In the fifth paragraph, the author discusses the *limitations* of the structural approach. He uses the *original works of art* as an example in which the structuralists' ideas about human thought were *problematic for a study of mind where the...focus falls on innovation and creation*. Choice (A) does not work because it does not address the *limitations*. Eliminate it. Choice (B) can be eliminated because the author makes the point that the structuralists' views are *limited*, but he never argues that the views are *distorted*. Choice (C) is a good paraphrase of the text, so keep it. Choice (D) is too broad in its mention of *psychology* and incorrect in its assessment of psychology as *closed-minded*. The correct answer is (C).
20. **D** The question asks about the meaning of the *symbol systems*. The author states that those systems are *codes of meaning* and *vehicles through which thought takes place*. Choice (A) is incorrect because while the symbol systems are used in thought processes, they are not the thought processes themselves. Choice (B) is incorrect because symbol systems reconcile the issue with creativity and structuralism. Choice (C) is incorrect because the author does not refer to the systems as *principles*, but as a *feature of human thought*. Choice (D) is correct because the symbols are the way the human mind makes meaning. The correct answer is (D).
21. **D** The question asks about the author's purpose in mentioning *delays, redesigns, and even near-death cancellations*. Use the given line reference to find the window in the passage. The earlier part of the sentence makes a contrast between the conception of New Horizon *in the late 1980s* and its launch in *2006*, so look for an answer choice that deals with a time delay. Choice (A) deals with speed, not a span of time. Choices (B) and (C) deal with possible problems with the mission and are thus irrelevant to time delay. Choice (D) deals with a time delay between a plan and its execution. "Plan" matches *conception*, and "execution" matches *launch*. The correct answer is (D).

22. **B** The question asks what outcome the author says could result from the flyby over Pluto. Notice that the following question is a best evidence question, so this question and Q23 can be answered in tandem. Look at the answers for Q23 first. The lines for (23A) say the spacecraft should reach Pluto at 7:49 *Eastern time*. Although this is the time in (22A), it does not say when scientists would *receive data*. Eliminate (23A). Next consider the lines for (23B). They mention a *radio signal* that will report *success* from the flyby. Choice (22C) mentions a *radio signal* reporting *the mission's failure*, but these are the right words with the wrong meaning—the text states that scientists will learn of *success* that way. Eliminate (23B). The lines for (23C) states *they could learn of its failure by hearing nothing*. Now consider the answers to Q22. Choice (22B) states that no data might come in, which matches *failure by hearing nothing*. Connect these two answers. The lines in (23D) describe receiving data after a delay of *4.5 hours*. While (22D) also mentions a delay, it specifies only *3 minutes*. Eliminate (23D). The correct answers are (22B) and (23C).
23. **C** (See explanation above.)
24. **C** The question asks what the word *suite* means in line 26. Go back to the text, find the word *suite*, and mark it out. Carefully read the surrounding text to determine another word that would fit in the blank based on the context of the passage. The text describes *seven instruments* being used together. The correct answer should mean something like “group.” Choice (A) may recall “suit,” which looks like *suite*, but has a different meaning. Choice (B) is one meaning of *suite*, but not in this context. Choice (C) means “arrangement.” Keep any unknown words, just in case they are correct, and only eliminate ones that are definitely incorrect. Choice (D) may recall “sweet,” which has the same pronunciation as *suite*, but not the same meaning. Since (A), (B), and (D) are wrong, the correct answer must be (C), even if this was a previously unknown word. The correct answer is (C).
25. **D** The question asks why the author discusses the measurement of the primary encounter. Use the given line reference to find the window. The sentence containing *primary encounter* begins with *Though*, so the author is establishing a contrast. Although that encounter *is best measured in minutes and hours*, the sentence goes on to emphasize how long it will take for the data to all be sent to Earth. Look for an answer choice that makes a contrast between a short amount of time and a long amount of time. Choice (A) references an earlier claim that could be supported by this discussion, but no earlier claims are supported by this discussion. Choice (B) refers to an undermined assumption, but there is no assumption, and nothing is undermined. Choice (C) is about time but does not match the prediction. Choice (D) is about time, and it matches the prediction because it indicates a contrast between something fast and something slow. The correct answer is (D).
26. **B** The question asks about the main idea of Passage 2. Because it is a general question, it should be done after all the specific questions. It begins with the first part of a contrast, that *New Horizons has started to transmit information about Pluto*, but then the question ends with a *but*. Find something in the text that contrasts with the idea of New Horizons reaching Pluto. The end of the passage mentions another target for New Horizons *a mere billion miles further along the interplanetary road*. The correct answer will have something to do with further goals for New Horizon. Choice (A) might initially look attractive because New Horizons is going to *continue on...into night*, but (A) has nothing about the next mission. Choice (B) is a solid paraphrase of the prediction, so don't eliminate it. Choice (C) might be true, but it isn't the contrast given in the passage. Eliminate it. Choice (D) is not mentioned in Passage 2. The correct answer is (B).
27. **B** The question asks what the word *deploy* means in line 53. Go back to the text, find the word *deploy*, and mark it out. Carefully read the surrounding text to determine another word that

- would fit in the blank based on the context of the passage. The text indicates a hope to use the *instruments to study further objects*. The correct answer must mean something like “use.” Look for an answer choice that matches this prediction. Choice (A) might recall the word *decoy*. Choice (B) matches the prediction. Choice (C) does not match the prediction. Choice (D) might recall the word *destroy*. The correct answer is (B).
28. **C** The question asks how the passages relate to each other. Because it is about both passages, it should be done after all the specific and general questions about the individual passages. Both passages inform readers about the objects New Horizons will encounter and study (Pluto, and then something beyond), and both have a positive tone. Choice (A) mentions *concern* and *dangers*, which do not match the prediction. Choice (B) mentions a revision, but there is no revision. Choice (C) is a possible match to the prediction: The *story* could be *the first golden age of interplanetary exploration*, and the *next chapter* could be the search for new objects beyond the solar system. Choice (D) mentions support, but there is no *qualified* support of Passage 1 by Passage 2. The correct answer is (C).
29. **A** The question asks how the author of Passage 2 would most likely respond to something specific in Passage 1. Use the given line reference to find the text in Passage 1. The continued journey is referred to there as an *endless journey into interstellar night*. Notice that the following question is a best evidence question, so this question and Q30 can be answered in tandem. Look at the answers for Q30 first. The lines in (30A) suggest *NASA* needs to make a *critical, and time-sensitive, decision*, which doesn't fit with any of the answers to Q29. Eliminate it. The lines in (30B) describe a *hope to study further objects*. Since this is a *hope*, it doesn't really give evidence for any answer choice in Q29, so eliminate this answer as well. Now consider the lines in (30C), which specify a new location as *the next goal for New Horizons*. This matches the answer (29A), which suggests *one further stop*. Connect these two answers. Finally, the lines in (30D) compare the new location to Pluto, which doesn't relate to any answers in Q29, so eliminate it. The correct answers are (29A) and (30C).
30. **C** (See explanation above.)
31. **A** The question asks which *point about data transmitted from the New Horizons spacecraft is explicit in Passage 1 and implicit in Passage 2*. Work through the answer choices, matching each back to both passages. The statement in (A) is explicitly stated in Passage 1: lines 39–42 state, *the slow data-transmission rate imposed by such vast distances ensures that New Horizons will be beaming its archived images home well into 2017*. The statement in (A) is not stated directly in Passage 2, but it is implied in lines 46–50: *NASA's New Horizons mission has only just begun to transmit the bulk of the detailed scientific data from its history-making encounter with the Pluto-Charon system (at an excruciatingly slow 2 kilobits per second)*. Keep (A). Eliminate (B) because neither author states or implies that the data would *be more useful* if people could *interpret it more quickly*. Eliminate (C) because neither author states or implies that the data *will be valuable only if it offsets the cost of the mission*. Eliminate (D) because Passage 1 never mentions that the data will likely include *primarily of images of objects smaller than Pluto*. The correct answer is (A).
32. **B** The question asks what the authors *use the example in lines 4–9 to highlight*. Use the given line reference to find the window. Lines 1–4 state, *People often have the feeling that they lack enough time and enough money, and this problem is compounded by the frequency with which other people make demands on both resources*. The following lines give an example of the types of demands made on time and money: *Imagine receiving an invitation to your friend's wedding, a destination event in Hawaii. You want to celebrate with your friend, but traveling to Hawaii requires a great deal of time and money*. Eliminate answer choices that don't match this answer from the passage.

Choice (A) is a Right Words, Wrong Meaning trap answer: the example is about a wedding, but the authors emphasize *the frequency with which other people make demands on our time and money*; they don't say that people are frequently *invited to weddings*. Eliminate (A). Keep (B) because it matches the passage. Choice (C) is a Right Answer, Wrong Question trap: the authors do discuss the potential *damage done to friendships by declined invitations*, but the purpose of the example in lines 4–9 is to emphasize the demands made on our time and money. Eliminate (C). Choice (D) is a Right Answer, Wrong Question trap: the authors do mention a *shortage of vacation time*, but their purpose is to emphasize the demands placed on time and money, not the lack of vacation time. Eliminate (D). The correct answer is (B).

33. **A** The question asks why *people feel compelled to explain declining an invitation*. This is the first question in a paired set, but it is easy to find, so it can be done on its own. Since there is no line reference, use lead words and the order of the questions to find the window. Q32 asks about lines 4–9, so scan the first paragraph looking for information about *declining an invitation*. Lines 11–14 state, *You know that declining the invitation will hurt your friend's feelings and may signal that you do not value the friendship, so your goal is to say "no" but to limit the negative impact on your friendship*. Eliminate answer choices that don't match this answer from the passage. Keep (A) because it matches the passage. Choice (B) is a Right Answer, Wrong Question trap: the text suggests that people decline invitations because the invitations put demands on their *time and money*, but this is not the reason people feel *compelled to explain* themselves when they decline invitations. Eliminate (B). Choice (C) is a Could Be True trap answer: it may be true that people *would expect the same from their friends*, but the passage doesn't mention this. Eliminate (C). Eliminate (D) because the passage doesn't mention following *societal customs*. The correct answer is (A).
34. **A** The question is the best evidence question in a paired set. Because the previous question was easy to find, simply look at the lines used to answer Q33. Lines 11–14 provided the evidence: *You know that declining the invitation will hurt your friend's feelings and may signal that you do not value the friendship, so your goal is to say "no" but to limit the negative impact on your friendship*. Keep (A) and eliminate (B), (C), and (D). The correct answer is (A).
35. **C** The question asks what the word *temporal* most nearly means as it is used in line 31. Go back to the text, find the word *temporal*, and cross it out. Then read the window carefully, using context clues to determine another word that would fit in its place. The text says, *We propose that people often turn down social invitations by citing insufficient time (e.g., "I don't have time to go out to dinner") or money (e.g., "I don't have money to go out to dinner"). Despite the commonness of such situations, little is known about the consequences of disclosing financial or temporal scarcity. Financial means "related to money," so temporal could be replaced by a phrase such as "related to time."* Eliminate answer choices that don't match the way the word is used in context. Choices (A) and (B) are Could Be True trap answers based on another meaning of *temporal* that isn't supported by the text. Neither *worldly* nor *material* matches "related to time," so eliminate (A) and (B). Keep (C) because *time-related* matches the way *temporal* is used in context. Eliminate (D) because *spiritual* doesn't match "related to time." The correct answer is (C).
36. **B** The question asks how the *author would likely describe the "downstream consequences" mentioned in paragraph 2*. Use the given line reference to find the window. Lines 29–33 state, *Despite the commonness of such situations, little is known about the consequences of disclosing financial or temporal scarcity, particularly with regard to the downstream consequences of doing so for the relationship between the inviter and invitee*. Eliminate answer choices that don't match this answer from the passage. Eliminate (A) because the passage doesn't indicate that the consequences are not realistic. Keep (B) because *undetermined* matches the statement in the text that

- little is known about the consequences.* Eliminate (C) because the passage doesn't indicate that the consequences are *overstated* (which means "exaggerated"). Eliminate (D) because the passage doesn't indicate that the consequences are *temporary*. The correct answer is (B).
37. **D** The question asks what the *passage indicates* about *the assertion made by Kim, Zhang, and Norton*. Use the given line reference to find the window. Lines 50–56 cite Kim, Zhang, and Norton's theory that *citing insufficient money could make relationships feel transactional*, and therefore that *when provided with a rejection to a social invitation, consumers might respond more favorably to excuses citing a scarcity of time (vs. money)*. However, in lines 57–59 the authors counter this suggestion: *In contrast, we suggest that communicating temporal scarcity could lead to more negative reactions*. Therefore, the authors would disagree with *the assertion made by Kim, Zhang, and Norton*. Eliminate answer choices that don't match this answer from the passage. Eliminate (A) because, although the authors disagree with the assertion, they don't state that it is *falsified*, which would indicate that the researchers were being deceptive. Eliminate (B) because the authors don't indicate that the assertion is not logical; their own research has simply indicated something different. Eliminate (C) because there is no indication that the assertion is not necessary. Keep (D) because *inaccurate* matches the evidence that the authors disagree with the assertion. The correct answer is (D).
38. **D** The question is the best evidence question in a paired set. Because the previous question was easy to find, simply look at the lines used to answer Q37. Lines 57–59 provided the evidence for Q37: *In contrast, we suggest that communicating temporal scarcity could lead to more negative reactions*. Eliminate (A), (B), and (C). The correct answer is (D).
39. **B** The question asks what the word *reactions* most nearly means in line 59. Go back to the text, find the word *reactions*, and cross it out. Then read the window carefully, using context clues to determine another word that would fit in its place. The text says, *As a result, when provided with a rejection to a social invitation, consumers might respond more favorably to excuses citing a scarcity of time (vs. money). In contrast, we suggest that communicating temporal scarcity could lead to more negative reactions*. Since the word *respond* is used in the previous sentence, the word *reactions* could be replaced with "responses." Eliminate answer choices that don't match the way the word is used in context. Eliminate (A) because *motivations* doesn't match "responses." Keep (B) because it matches the use of the word in context. Eliminate (C) because *transactions* doesn't match "responses." Choice (D) is a Could Be True trap answer based on another meaning of *reaction* that isn't supported by the text. Eliminate (D). The correct answer is (B).
40. **B** The question asks why the *authors refer to work by Zauberman and Lynch*. Use the given line reference to find the window. In lines 59–62 the authors explain their theory: *We propose that time is perceived as more discretionary and under consumers' personal control than money, which often must be dedicated to non-discretionary expenses*. In lines 63–66 they state, *Moreover, consumers tend to see time, but not money, as more likely to be readily available in the future, regardless of current demands on either resource (Zauberman & Lynch, 2005)*. The reference to *Zauberman and Lynch* is a citation of a study that supports the author's theory. Eliminate answer choices that don't match this answer from the passage. Eliminate (A) because the authors are proposing a theory, not *a solution*. Keep (B) because it matches the use of the citation in the passage. Eliminate (C) because in this paragraph, the authors are supporting their own theory, not discrediting someone else's *opinion*. Eliminate (D) because these lines are about an observation from a study, not an *assumption*, and they don't *qualify* anything (to "qualify" means to "put limits on"). The correct answer is (B).

41. **C** The question references the *graph following the passage* and asks what *the perceived closeness in a personal relationship following an excuse is affected by*. Carefully read the title, variables, and key in the graph. According to its title, the graph shows the *Effects of Time and Money Excuses on Perceived Closeness in Personal Relationships*. The graph gives measurements for *Perceived Closeness* both *Before* and *After* an excuse is given, providing data for both *Time* and *Money* excuses. In the *Before* section of the graph, the perceived closeness measurements for time and money are similar—between 5 and 6 for both. In the *After* section of the graph, the perceived closeness associated with time excuses has dropped below 4, while the perceived closeness associated with money excuses is just below 5. Therefore, the perceived closeness following an excuse is affected by the type of excuse given (time excuse versus money excuse). Keep (C) and eliminate (A), (B), and (D). The correct answer is (C).
42. **B** The question references *the graph* and asks what *the authors would likely attribute the differing effects of time and money excuses on perceived closeness to*. First locate information about *time and money excuses* and *perceived closeness* in the graph. The graph shows a larger decrease in *perceived closeness* associated with *time excuses*, and a smaller decrease associated with *money excuses*. Next, look for evidence in the passage about how the authors would explain the different effects of time excuses and money excuses. Lines 59–62 state, *We propose that time is perceived as more discretionary and under consumers' personal control than money, which often must be dedicated to non-discretionary expenses*. They go on to suggest that *consumers apply these assumptions when receiving social excuses such that declining an invitation using a time (vs. money) scarcity excuse will be viewed more negatively*. In other words, the authors suggest that people view time excuses more negatively because they believe that people have more control over their time than they do over their money. Eliminate answer choices that don't match this answer from the passage. Eliminate (A) because *empathy* is never discussed. Keep (B) because *control over resources* matches the authors' statements about control over time and money. Eliminate (C) because *resistance to receiving any excuse* does not explain the *differing effects* of time and money excuses. Choice (D) is a Right Answer, Wrong Question trap: the authors do discuss the *burden of social obligations*, but that burden doesn't explain the effects that excuses have on relationships. Eliminate (D). The correct answer is (B).
43. **A** The question asks what the *authors claim to be an important concern when selecting bears for the study*. Use the given line reference to find the window. Lines 14–16 state that *the researchers are careful not to capture sows with spring cubs...however, sows with older cubs are used in this study*. Eliminate answer choices that don't match this answer from the passage. Keep (A) because the *age of a bear's cubs* matches the passage. Eliminate (B) because the *year of the study* is used only to number the bears, not to select the bears that are studied. Eliminate (C) because the *number of bear cubs* a sow has is not mentioned in the passage. Choice (D) is a Right Answer, Wrong Question trap: the *accessibility of the area* is mentioned as a factor in whether researchers could reach a bear at the end of the study, not in their selection of bears for the study. Eliminate (D). The correct answer is (A).
44. **A** The question asks for the main reason the author uses *the words "double" and "exclusively"*. Use the given line reference to find the window. Lines 22–28 state *the quality of the early foraging season may have an effect on development of cubs. During the first year, cubs double their weight every two months. They depend exclusively on mom for nourishment for up to six months, so a sow must re-nourish herself and her cubs after hibernation*. Eliminate answer choices that don't match this answer from the passage. Keep (A) because it matches the answer from the passage. Eliminate (B) because it is contradicted by the passage, which states that *during the first year, cubs double their weight every two months*. Choice (C) is a Right Words, Wrong Meaning trap answer: the passage mentions *hibernation* but doesn't explain the *timing of hibernation*. Eliminate (C). Choice (D) is a

Right Answer, Wrong Question trap: while the passage does state that *females are often watched in wildlife populations to determine health*, reinforcing that point is not the primary reason the author uses the words *double* and *exclusively*. Eliminate (D). The correct answer is (A).

45. **A** The question asks why the author includes *the information about the Katmai coastal areas*. Since there is no line reference, use lead words and the order of the questions to find the window. Q44 asks about lines 25–26, so scan the passage beginning with line 25. The passage states *the coastal areas in Katmai provide an important high quality early-season habitat for bears... Looking at the data from early summer, both this year and last, we can see how important these resources can be for bears along the coast*. The paragraph goes on to describe the researchers' findings about the bears' weight and fat gain during the early summer. Eliminate answer choices that don't match this answer from the passage. Keep (A) because it matches the passage: the study was about weight gain, which is closely tied to foraging for food. Therefore, the fact that *the coastal areas in Katmai provide an important high quality early-season habitat for bears* explains why the researchers chose the Katmai coastal areas for their study. Choice (B) is a Right Answer, Wrong Question trap: in the last paragraph, the author discusses why the researchers chose to study *female rather than male bears*, but that's not the focus of the window for Q45. Choice (C) is a Right Answer, Wrong Question trap: the passage states that bears *gain more muscle than fat* during the early summer months, but this detail is not the reason the author includes the information about *the Katmai coastal areas* providing a good early-season habitat. Eliminate (C). Eliminate (D) because no *alternative location* is suggested. The correct answer is (A).
46. **B** The question asks which statement from the passage would contradict a claim that *sows gain weight only during the late summer and fall*. Look at the line references given in the answer choices, and eliminate statements that don't contradict this claim. The lines for (A) say that *the quality of the early foraging season may have an effect on development of cubs*, but this information doesn't address *weight gain*, so eliminate (A). The lines for (B) say, *the sows that were studied gained between 12-140 pounds over two months*, and according to the previous sentence, these two months were during *early summer*, not *late summer*. This information contradicts the claim in the question. Keep (B). The lines for (C) say that in the *early summer period the bears are working to gain more muscle than fat*. This information doesn't directly address whether *weight* is gained, so eliminate (C). The lines for (D) say that the *salmon season...provides a fat-rich food source for the bears*. This information doesn't address weight gain, so eliminate (D). The correct answer is (B).
47. **C** The question asks what the statement *the bigger you get, the more weight and energy you spend to carry that weight around* implies. Use the given line reference to find the window. Lines 40–45 state *The salmon season, which runs from July through October, provides a fat-rich food source for the bears. And the salmon season is well-timed for the bears, because the bigger you get, the more weight and energy you spend to carry that weight around*. The statement implies that eating fat-rich food and getting bigger in late summer is advantageous because hibernation follows soon after, and bears don't need to carry the weight around for long. Eliminate answer choices that don't match this answer from the passage. Eliminate (A) because the text doesn't contrast the amount of energy required to procure food from different sources. Eliminate (B) because the statement in the question is about total *weight*, not about the difference between *muscle* and *fat*. Keep (C) because it matches the answer in the text. Eliminate (D) because the passage indicates that a bear must nourish its cubs for at least six months, but the bears prioritize eating fat only during the late summer. Furthermore, this portion of the passage discusses the timing of weight gain in relation to *hibernation*, not in relation to *nourishing cubs*. The correct answer is (C).
48. **A** The question asks what the word *temperament* in line 54 indicates. Use the given line reference to find the window. The passage states that *when a bear wakes up and doesn't like the collar, they*

slide it off within the first two hours. Usually the bears that do that are the males. Temperament may be a key reason researchers pick females over males. Therefore, the fact that male bears tend to remove their GPS collars may lead researchers to study female bears. Eliminate answer choices that don't match this answer from the passage. Choice (A) matches the passage, so keep it. Eliminate (B) because the passage doesn't mention *locks* on tracking collars. Choice (C) is a Could Be True trap answer: *aggressive behavior* would be related to *temperament* and would be a logical reason to avoid a bear, but there's no evidence of *aggressive behavior toward researchers* in the text. Eliminate (C). Choice (D) is a Could Be True trap answer: it's possible that the male bears remove their collars because *the collars restrict their movements*, but the text doesn't indicate this. Eliminate (D). The correct answer is (A).

49. **D** The question asks whether the *percentage of body fat gained between July and October* is *greater or less than the percentage gained between May and July*, and which statement from the passage is *most consistent with the data*. First, locate the body fat percentages in figure 2. Bear 35 gained 7% body fat from May to July and 19% body fat from July to October. Bear 105 gained 5% body fat from May to July and 31% body fat from July to October. Therefore, the percentage of body fat gained from July to October is greater; eliminate (A) and (B). Next, evaluate the statements in (C) and (D). The lines for (C) say that the bears studied *averaged about 1.2 pounds a day and only .08 pounds of fat a day*. Although this information is consistent with the fat percentage gained from May to July, it doesn't address the difference in fat gain during the two time periods mentioned in the question. Eliminate (C). The lines for (D) say that *the late summer season is when researchers begin to see more fat gain per day*, which is consistent with the data showing an increase in fat gain between July and October. Keep (D). The correct answer is (D).
50. **D** The question asks for *the lowest body mass of a bear measured in July of 2015* based on the Figure 1 and the passage. First, locate information about the years of the study in the passage. Lines 3–8 state, *Researchers studied the bears during 2015 and 2016, and each bear was assigned a number. The bear's number ended in a "5" if the bear was studied in 2015 (for example, 15, 35, or 115) and ended in a "6" if the bear was studied in 2016 (for example, 16, 66, or 106)*. Next, locate the numbers ending in 5 in Figure 1 and compare the lighter grey bars, which show the bears' masses in July. The lowest mass for a bear measured in July of 2015 was 225 pounds for bear 105. Eliminate (A) because the 187-pound measurement was taken in May, not July. Eliminate (B) and (C) because *193 pounds* and *222 pounds* were measurements of bears studied in 2016. Choice (D) matches the information in the figure. The correct answer is (D).
51. **B** The question asks whether *the data in figure 1 support the author's claim* about bears' *weight gain in the early summer months*. Work through each answer choice using the figure. Eliminate (A) and (C) because the *smallest weight gain* was equal to, not *less than*, 12 pounds (bear 55) and the *greatest weight gain* was equal to, not *greater than*, 140 pounds (bear 95.15). Lines 34–36 state that *the sows that were studied gained between 12-140 pounds over two months*. The data in the figure support this claim, so eliminate (D). The correct answer is (B).
52. **C** The question asks which data supports the answer to question 51. *Bears 55 and 95.15* had the smallest and largest weight gains, respectively. Eliminate (A), (B), and (D) and keep (C). The correct answer is (C).

Section 2: Writing and Language

1. **D** Punctuation changes in the answer choices, so this question tests how to connect ideas with the appropriate punctuation. The first part of the sentence, *When we hear about the opinions of “ten scientists” or “ten dentists,” or we hear that things are “clinically proven” or “lab-tested,” for example,* is not an independent clause. The second part of the sentence, *we might expect to be reading scientific journals,* is an independent clause. A comma followed by the word *and* can only be used between two independent clauses, so eliminate (A). A colon must come after an independent clause, so eliminate (C). The word *consequently* does not make the sentence more precise, so there is no reason to include it; eliminate (B). Choice (D) appropriately uses a comma without a transition word to connect the two parts of the sentence. The correct answer is (D).
2. **D** Note the question! The question asks for *the most relevant detail*, so it tests consistency. Eliminate answers that are inconsistent with the purpose stated in the question. The focus of the previous sentence is the *statistics*, so the most relevant choice will contain statistical data. *Lowering the price* is not statistical data, so eliminate (A). *Merge into larger corporations* is not statistical data, so eliminate (B). *Comparing products* is not statistical data, so eliminate (C). *40% more volume and 60% fewer split ends* is statistical data. The correct answer is (D).
3. **A** Punctuation changes in the answer choices, so this question tests how to connect ideas with the appropriate punctuation. The sentence contains a list of three things: 1) *Elle*, 2) *Vogue*, and 3) *Vanity Fair*. There should be a comma after each item in the list. Keep (A) because it contains a comma after each item. Eliminate (B) because the comma should be before *and*, not after. Eliminate (C) and (D) because a list uses commas, not semicolons or colons. The correct answer is (A).
4. **B** Note the question! The question asks where sentence 5 should be placed, so it tests consistency of ideas. The sentence must be consistent with the ideas that come both before and after it. Sentence 5 says, *The obvious answer*, so it must come after a question. Sentence 1 contains the question, so sentence 5 must follow sentence 1. The correct answer is (B).
5. **C** Vocabulary changes in the answer choices, so this question tests precision of word choice. Look for a word with a definition that is consistent with the other ideas in the sentence. The underlined word describes what people think about *truth-value of these advertisements*. The sentence says that *the findings are probably not surprising*, and the next sentence says that they *found that only 18% of the claims...were true*, so the correct word should mean “doubted.” *Believed* means “to accept as true,” so eliminate (A). *Pondered* means “to think about,” so eliminate (B). *Questioned* means “to doubt,” so keep (C). *Skepticized* is not an actual word, so eliminate (D). The correct answer is (C).
6. **B** Note the question! The question asks whether the underlined portion should be deleted, so it tests consistency. If the content of the underlined portion is consistent with the ideas surrounding it, it should be kept; otherwise, it should be deleted. The paragraph contains the statistics about how *true* the advertisements were. The underlined portion contains one of the statistics, so it is consistent and should not be deleted. Eliminate (C) and (D). It is not the *most surprising... finding*, so eliminate (A). It does *complete the discussion of the data*, and the claims that were *too vague to classify*, as the underlined portion says, are discussed later in the passage. The correct answer is (B).
7. **A** Verbs change in the answer choices, so this question tests consistency of verbs. A verb must be consistent with the other verbs in the sentence. The other verb is *are*, which is in the present tense. To be consistent, the underlined verb must also be in the present tense. *May have* is present tense, so keep (A) and (C). *Will have* is future tense, so eliminate (B). *Might be having* is a

progressive tense, so eliminate (D). The difference between (A) and (C) is the presence of the pronoun *they*. The first part of the sentence, *These findings are good for a laugh*, is an independent clause. This clause is followed by a comma and *but*. A comma followed by *but* can only be used between two independent clauses, so the second part of the sentence must also be an independent clause. As written, the second part of the sentence, *they may have more serious implications as well*, is an independent clause, so keep (A). Eliminate (C) because without the word *they*, the second part of the sentence is not an independent clause. The correct answer is (A).

8. **B** Vocabulary changes in the answer choices, so this question tests precision of word choice. Look for a word with a definition that is consistent with the other ideas in the sentence. The meaning of the sentence is that the FDA can “control” *what goes into food and drugs*, so the correct answer must be consistent with that idea. *Reign* means “rule over,” so eliminate (A). *Regulate* means “control by law,” so keep (B). *Name* means “list” or “state,” so eliminate (C). *Administrate* means “manage,” so eliminate (D). The correct answer is (B).
9. **C** Verbs change in the answer choices, so this question tests consistency of verbs. A verb must be consistent with the other verbs in the sentence. The other verb at the beginning of the sentence is *may have*, so the correct answer must be consistent with this verb. Eliminate (A) and (B). Apostrophes also change in the answer choices, so this question also tests apostrophe usage. When used with a noun, an apostrophe indicates possession. Nothing belongs to the *fines*, so there is no need to use the apostrophe. Eliminate (D). The correct answer is (C).
10. **D** Prepositions change in the answer choices, so this question tests idioms. Look at the phrase before the preposition to determine the correct idiom. Use POE, and guess if there is more than one answer left. In general, both *do to* and *do with* are both correct idioms, so eliminate (A) and (C). In this context, the correct idiom is *do with*. Eliminate (B). The correct answer is (D).
11. **C** Transitions change in the answer choices, so this question tests consistency of ideas. A transition must be consistent with the relationship between the ideas it connects. The previous sentence discusses *the perils of trusting the word of advertisers*. The sentence that starts with the transition says that *the claims are often harmless*. The second idea is not a conclusion based on the first one, so eliminate (A). The sentence with the underlined transition uses the transition *but* to introduce a counterclaim, so there is not a reason to use a contrasting transition; eliminate (B) and (D). *True* indicates an accepted fact that is then countered. The correct answer is (C).
12. **D** Transitions change in the answer choices, so this question tests consistency of ideas. A transition must be consistent with the relationship between the ideas it connects. The previous sentence describes the merits of democracy *when the process is allowed to work*. This sentence states that *there are abnormalities*, indicating a contrast to the previous sentence. Eliminate (A) because it indicates similar ideas. Eliminate (B) because *elections that fall short* is negative while *happily* is positive. *Politically* does not connect the ideas, so eliminate (C). *Unfortunately* appropriately indicates contrasting ideas, the second of which is negative. The correct answer is (D).
13. **A** Commas change in the answer choices, so this question tests comma usage. The phrase *then governor of the state* is not necessary to the main meaning of the sentence, so it should be set off by commas. Keep (A), which sets off the phrase with commas. Eliminate (B) and (C) because they each only have one comma. Eliminate (D) because the commas set off the wrong phrase. The correct answer is (A).
14. **C** Verbs change in the answer choices, so this question tests consistency of verbs. A verb must be consistent with other verbs in the sentence. The other verbs in the previous sentence are *called* and *was*, which are in simple past tense. To be consistent, the correct answer must be in the sim-

- ple past tense. Eliminate (A), which is future tense. Eliminate (B), which is conditional. Keep (C), which is past tense. Eliminate (D), which is present tense. The correct answer is (C).
15. **D** Note the question! The question asks where sentence 2 should be placed, so it tests consistency of ideas. The sentence must be consistent with the ideas that come both before and after it. Sentence 2 says *Unfortunately, it was not the last*, so it must come after an indication of a previous event. Sentence 5 says *It was one of the first*, so sentence 2 must be placed after sentence 5. The correct answer is (D).
16. **C** Note the question! The question asks how to effectively combine the underlined sentences, so it tests precision and concision. The phrase after *plan* changes in the answer choices, so determine which phrase is necessary. The first part of the sentence mentions the *Boston Gazette*, so there's no need to repeat that idea. Eliminate (A) and (B), which each repeat the idea by including *the paper*. Although it's a pronoun, *they* also repeats the idea of the *Gazette* and is less concise than (C), so eliminate (D). Choice (C) is concise and gives a precise meaning to the sentence. The correct answer is (C).
17. **A** Punctuation changes in the answer choices, so this question tests how to connect ideas with the appropriate punctuation. The first part of the sentence, *This image, combined with the governor's name, came to be known by a very specific name*, is an independent clause. The second part of the sentence in (A) and (C), *gerrymandering*, is not an independent clause. A colon can be used after an independent clause, so keep (A). A semicolon can only be used between two independent clauses, so eliminate (C). The colon is used appropriately in (B), but adding the words *which was* does not make the sentence more precise. Eliminate (B) because it is not concise. The extra words in (D) also do not make the sentence more precise, so eliminate (D) as well. The correct answer is (A).
18. **D** Note the question! The question asks which choice *best completes the description of the purpose of gerrymandering*, so it tests consistency. Eliminate answers that are inconsistent with the purpose stated in the question. The previous sentence states that *gerrymandering can have a tremendous influence on the outcome of an election*, and the graphic shows how gerrymandering can turn the losers into the winners. The correct answer will be consistent with these ideas. The graphic does not show the voters changing their votes, so eliminate (A) and (B). There is no indication that the results are *delayed*, so eliminate (C). The graphic does show that disadvantaged dark gray voters can gain an advantage through gerrymandering, so (D) is consistent with the graphic. The correct answer is (D).
19. **D** Note the question! The question asks which choice *most accurately and effectively represents information in the figure*, so it tests consistency. Read the labels on the graph carefully, and look for an answer that is consistent with the information given in the graph. Light gray did not start at 40%, so eliminate (A) and (C). Dark gray did not start at 60%, so eliminate (C). The light gray did start at 60% and the district did become 60% dark gray in division #3. The correct answer is (D).
20. **C** The phrase after *power* changes in the answer choices, so this question tests concision and precision. Select the shortest choice that has the most precise meaning. The phrase *not those out of power* means the same thing as *the parties in power*, so it is not necessary to use both phrases. Eliminate (A). The phrase *usually* means the same thing as *almost always*, so eliminate (B). Keep (C) because it's the most concise and the meaning is clear and precise. The phrase *for the good* means the same thing as *benefits*, so eliminate (D). The correct answer is (C).

21. **B** Pronouns change in the answer choices, so this question tests consistency of pronouns. The underlined pronoun must be consistent with its role in the sentence. *They're* is a contraction of *they are*, which does not work in this context, so eliminate (A) and (D). The *votes* belong to the *voters*, so the possessive pronoun *their* works here; keep (B). *There* indicates location, which does not work in this context; eliminate (C). The correct answer is (B).
22. **A** Pronouns and nouns change in the answer choices, so this question could test precision. There is also the option to DELETE; consider this choice carefully as it is often the correct answer. Removing the underlined portion makes the second part of the sentence, *many voting interests may go against those in power*, an independent clause. The first part of the sentence, *In "majority-minority" districts in particular, districts with large non-white populations, gerrymandering can discount the importance of particular races or classes of voters*, is also an independent clause. The two parts of the sentence are separated by a comma. A comma alone cannot be used between two independent clauses, so eliminate (D). Choices (B) and (C) also make the second part of the sentence an independent clause, so eliminate (B) and (C) as well. Adding the phrase *of whose* means the second part of the sentence is no longer an independent clause, so the comma can be appropriately used. The correct answer is (A).
23. **B** The length of the phrase around the word *marked* changes in the answer choices, so this question tests concision and precision. Select the shortest choice that has the most precise meaning. Choice (B) is most concise and gives a precise meaning to the sentence. The phrase *by certain means* is imprecise, so eliminate (A) and (D). The additional words in (C) do not make the sentence more precise, so eliminate (C). The correct answer is (B).
24. **B** The order of words changes in the answer choices, so this question tests precision. Look for an answer that gives the sentence a clear and precise meaning. The sentence starts with the phrase *Particularly when looking at old paintings*. To communicate the precise meaning, the subject of this phrase must immediately follow the comma. *Paintings* are not *looking*, so eliminate (A) and (D). *You* could be *looking*, so keep (B). *Noticing* cannot be *looking*, so eliminate (C). The correct answer is (B).
25. **A** Note the question! The question asks whether the sentence should be deleted, so it tests consistency. If the content of the sentence is consistent with the ideas surrounding it, then it should be kept. Otherwise, it should be deleted. The focus of the paragraph is the visual appearance of how *new* the paintings look. The underlined sentence discusses the *history of painting*. This is not consistent with the information in the paragraph, so it should be deleted. Eliminate (C) and (D). The sentence does *stray from the major focus*, so keep (A). It does not *restate a historical detail*, so eliminate (B). The correct answer is (A).
26. **D** Note the question! The question asks for *relevant and accurate information from the graph*, so it tests consistency. The correct answer must be consistent with the information in the passage and with the information in the graph. Read the labels on the graph carefully, and look for an answer that is consistent with the information given in the graph. Eliminate (A) because it is not consistent with the graph; art restoration did not start growing in 1930. Eliminate (B) because it is not consistent with either the passage or the graph; there is no indication that *book restorers* became *art restorers*. Eliminate (C) because it is not consistent with the graph; 2030 is not shown. Keep (D) because it is consistent with the passage and true based on the figure. The correct answer is (D).
27. **C** Vocabulary changes in the answer choices, so this question tests precision of word choice. Look for a phrase with a definition that is consistent with the other ideas in the sentence. The sentence contains a contrast: *may seem fairly straightforward* with *in fact quite complicated*. The phrase must help indicate the contrast. *When looking* would need some indication that the other part

- of the contrast happened “without looking,” which is not the case, so eliminate (A). *Beholden* means “indebted,” which does not make sense in this context, so eliminate (B). *At first glance* contrasts with *actually* in the second part of the sentence, so keep (C). The use of *your* in (D) is not consistent with this paragraph, which does not directly address the reader; eliminate (D). The correct answer is (C).
28. **C** Punctuation changes in the answer choices, so this question tests how to connect ideas with the appropriate punctuation. The first part of the sentence, *Sometimes, as in the case of Michelangelo’s famous sculpture David, the cleaning and restoration of artworks is a simple matter*, is an independent clause. The second part of the sentence, *applying chemicals, washing away grime, and scrubbing away dirt*, is not an independent clause. A comma can sometimes be used this way, so keep (A). Removing the punctuation creates a run-on sentence, so eliminate (B). The colon correctly separates the independent clause from a list that describes *the cleaning and restoration of artworks* mentioned in the first part of the sentence, so keep (C). A semicolon can only be used between two independent clauses, so eliminate (D). The colon more clearly separates the two parts of the sentence than the comma does, so eliminate (A). The correct answer is (C).
29. **A** Transitions change in the answer choices, so this question tests consistency of ideas. A transition must be consistent with the relationship between the ideas it connects. The previous sentence states that the restoration *is a simple matter*. This sentence states that *the process is a good deal more involved*. The ideas are contrasting, so the transitional phrase must be consistent with a contrast. *However* is consistent with a contrast, so keep (A). *Anyway* indicates a completely different idea, so eliminate (B). Both *In this sense* and *Alongside* indicate similar ideas, so eliminate (C) and (D). The correct answer is (A).
30. **C** Punctuation changes in the answer choices, so this question tests how to connect ideas with the appropriate punctuation. The first part of the sentence, *They would project some image of what the painting must have looked like originally and apply a variety of techniques, up to and including*, is not an independent clause. A colon can only be used after an independent clause, so eliminate (A) and (D). There is no need to break up the phrase *up to and including* with a comma, so eliminate (B). No punctuation is necessary. The correct answer is (C).
31. **B** Verbs change in the answer choices, so this question tests consistency of verbs. A verb must be consistent in number with its subject. The subject of the verb is *historians*, which is plural. To be consistent, the underlined verb must also be plural. Eliminate (A) and (C) because *is* is singular. Pronouns also change in the answer choices, so this question also tests consistency of pronouns. The pronoun must be consistent with its role in the sentence. *Who* is a subject pronoun and *whom* is an object pronoun. The pronoun is replacing *historians*, which is the subject of the sentence. To be consistent, the subject pronoun must be used. Eliminate (D). The correct answer is (B).
32. **D** Note the question! The question asks where the new sentence should be added, so it tests consistency. The sentence should be placed where it is consistent with the ideas before and after it. The new sentence gives an *example* of a *recent restoration*. Therefore, the new sentence should be placed after a sentence that discusses a way to restore a painting. Sentence 4 says that they will *restore the original look...by some non-paint means*, so the new sentence must be placed after sentence 4. The correct answer is (D).
33. **D** Prepositions change in the answer choices, so this question tests idioms. Look at the phrase before the preposition to determine the correct idiom. Use POE, and guess if there is more than one answer left. The correct idiom is *more...than*. Eliminate (A), (B), and (C). The correct answer is (D).

34. **C** Note the question! The question asks how to effectively combine the underlined sentences, so it tests precision and concision. The phrase after *modes* changes in the answer choices, so determine which phrase is necessary. The sentence starts with *Often overlooked*, so there's no need to repeat that idea. Eliminate (B), which repeats *overlooked*. *Suffering neglect* also repeats the idea, so eliminate (D). While both (A) and (C) could work, eliminate (A) because it's not as concise as (C). The correct answer is (C).
35. **C** Transitions change in the answer choices, so this question tests consistency of ideas. A transition must be consistent with the relationship between the ideas it connects. The sentence that starts with the underlined portion states that *Simmons's novel was published in 1989, and it won the Hugo Award*. This sentence states that it is *listed among the greatest of all time*. The two sentences both discuss positive views of the novel, so they agree. Eliminate (B) because *for all that* indicates a contrast. *All things considered* would indicate a summing up, which is not consistent with these sentences, so eliminate (A). *To this day* indicates that the two sentences agree, so keep (C). *Check this out* would indicate the introduction of a new idea and is also too informal in tone, so eliminate (D). The correct answer is (C).
36. **D** The length of the phrase changes in the answer choices, so this question tests concision. There is also the option to DELETE; consider this choice carefully as it is often the correct answer. Removing the underlined portion makes the sentence complete and precise: *The novel spawned a series of novels dealing with the same fantastic universe* (the rest of the sentence, after the comma, is a phrase that is not necessary to the main meaning of the sentence). Adding either *which* or *that* makes the sentence incomplete, so eliminate (A) and (B). Choice (C) makes the sentence complete, but the word *that* does not clearly refer to anything, so it should not be included. Eliminate (C). The correct answer is (D).
37. **C** The length of the phrase changes in the answer choices, so this question tests concision and precision. Select the shortest phrase that makes the meaning precise. Since all of the choices mean the same thing, select the shortest choice. Eliminate (A), (B), and (D). The correct answer is (C).
38. **B** Pronouns change in the answer choices, so this question tests consistency of pronouns. A pronoun must be consistent in number with the noun it refers to. The underlined pronoun refers to the noun *pilgrims*, which is plural. To be consistent, the underlined word must be third-person plural. Eliminate (A) because *your* is second person. Keep (B) because *their* is third-person plural. Eliminate (C) because *our* is first person. Eliminate (D) because *everyone's* is singular. The correct answer is (B).
39. **A** Transitions change in the answer choices, so this question tests consistency of ideas. A transition must be consistent with the relationship between the ideas it connects. The sentence states that two things happen together: the story *illuminates the journey* and *explains this new fantasy world*. There is no contrast in the sentence, so eliminate (C). Keep (A) because it uses *while* to show the two things happening together. Although *when* links the two things in time, it indicates a cause-and-effect relationship. This is not the precise meaning of the sentence, so eliminate (B). Eliminate (D) because *as if* would mean that *explaining this new fantasy world* is not actually happening. The correct answer is (A).
40. **D** Verbs change in the answer choices, so this question tests consistency of verbs. A verb must be consistent with other verbs in the sentence. Eliminate (A) because the underlined portion must be a verb, and adding *of* makes *sound* function as a noun. Eliminate (B) because there is nothing in the sentence that *and* would connect to. The other verb in the sentence is *draws*, which is in simple present tense. To be consistent, the correct answer must also be present tense. Eliminate

- (C) because *sounding* is not consistent with *draws*. Keep (D) because *sounds* is simple present tense. The correct answer is (D).
41. **D** Apostrophes change in the answer choices, so the question tests apostrophe usage. When used with a noun, an apostrophe indicates possession. In this sentence, the verb form of *travel* must be used with *together*, so nothing belongs to the pilgrims. There's no reason to use the apostrophe, so eliminate (B) and (C). To create a complete sentence, the phrase must modify what the pilgrims are doing, rather than directly state their action. Using *travel* creates an incomplete sentence, so eliminate (A). Using *traveling* creates a modifying phrase, which makes the sentence complete. The correct answer is (D).
42. **B** Note the question! The question asks which choice *most effectively sets up the information that follows*, so this question is testing consistency. Eliminate answers that are inconsistent with the purpose stated in the question. The following sentence says *all of these literary tributes* and mentions *Hyperion*. To be consistent, the correct answer should discuss some *tributes* and mention *Hyperion*. Eliminate (A) because neither of those ideas is mentioned. Keep (B) because it mentions *homage*, which is a type of *tribute*, and *Hyperion*. Eliminate (C) because neither of those ideas is mentioned. Eliminate (D) because, although it mentions *Hyperion*, there is no mention of tributes. The correct answer is (B).
43. **C** Note the question! The question asks whether the new sentence should be added, so it tests consistency. If the content of the new sentence is consistent with the ideas surrounding it, then it should be added. The new sentence introduces *some of T.S. Eliot's most famous poems*. The paragraph is about Simmons's *Hyperion*. Therefore, the information is not consistent, and the sentence should not be added. Eliminate (A) and (B). The new sentence *does not have a clear link to the rest of the passage*, so keep (C). The new sentence *does not disagree with the passage's central claim*, so eliminate (D). The correct answer is (C).
44. **D** Verbs change in the answer choices, so this question tests consistency of verbs. A verb must be consistent with its subject and with the other verbs in the sentence. The subject of the verb is *continuities*, which is plural. To be consistent, the verb must also be plural. Eliminate (A) and (B) because they are singular. The verb *being* creates an incomplete sentence, so eliminate (C). The verb *are* is plural. The correct answer is (D).

Section 3: Math (No Calculator)

1. **A** The question asks for an expression to represent a situation. Write an expression for the number of hours each of the two people has worked. Jan worked j hours a day for 3 days, so she worked a total of $3j$ hours. Noah worked n hours a day for 5 days, so he worked a total of $5n$ hours. Therefore, the total hours worked by Jan and Noah combined is the sum of these two, which is $3j + 5n$. These are not like terms, so they cannot be combined or simplified further. The correct answer is (A).
2. **B** The question asks for the value of y with a given value of c . Plug $c = 4$ into the right side of the equation to get $\frac{y + 2}{5} = 4$. Multiply both sides of the equation by 5 to get $y + 2 = 20$. Subtract 2 from both sides to get $y = 18$. The correct answer is (B).
3. **B** The question asks for the sum of two complex numbers (numbers with both a real and imagi-

nary part). Even though this looks complicated, start by combining like terms. Add the real terms, 10 and 3, to get 13. Then, add the imaginary terms, $-4i$ and $6i$, to get $2i$. Add these two to get $13 + 2i$. The correct answer is (B).

4. **D** The question asks for an expression that is equivalent to the given one. Simplify this expression by combining like terms one piece at a time. Start with the ab^2 terms. The $-ab^2$ term from the second polynomial is subtracted from the ab^2 in the first. $ab^2 - (-ab^2) = ab^2 + ab^2 = 2ab^2$. Eliminate any choice that does not include $2ab^2$: (A) and (B). Now look at the a^2 terms. The $4a^2$ term from the second polynomial is subtracted from the $4a^2$ term in the first. $4a^2 - 4a^2 = 0$. Therefore, the correct answer cannot have an a^2 term. Eliminate the remaining choice that does, which is (C). The correct answer is (D).
5. **D** The question asks for the estimated increase in shark weight for each additional foot of fork length. The weight of a mature great white shark is estimated by $w = 3,150 + 450l$, where l is the fork length in feet. To determine this, try out two values for l that show a one-foot increase. First, plug in $l = 2$. If $l = 2$, then $w = 3,150 + 450(2) = 4,050$. Then plug in $l = 3$. If $l = 3$, then $w = 3,150 + 450(3) = 4,500$. The increase is $4,500 - 4,050 = 450$. Therefore, the correct answer is (D).
6. **C** The question asks for the meaning of the number 326 in the equation. The number of pages Juan has left to edit is represented by the equation $P = 326 - 12h$, where h represents the number of hours worked. Since P is a number of pages, 326 must also be a number of pages, so eliminate (D). Choices (A) and (B) each deal with a rate. In order to turn a rate into an amount, the rate must be multiplied by time. Since h represents time, the coefficient on time, 12, must represent the rate rather than 326. Therefore, eliminate (A) and (B). Only (C) remains, so it must be correct. To understand why it is correct, plug in $h = 0$. If $h = 0$, then $P = 326 - 12(0) = 326$. In other words, when he has worked 0 hours, he has 326 pages left to edit. Therefore, the correct answer is (C).
7. **A** The question asks for the value of a fraction with x and y and says that $\frac{x}{y} = 3$. Try some values of x and y that satisfy this equation. Let $x = 6$ and $y = 2$. Plug these values into the expression $\frac{12y}{x}$ to get $\frac{12(2)}{6} = \frac{24}{6} = 4$. Therefore, the correct answer is (A).
8. **A** The question asks for the solution to a system of equations. Test the points in the answer choices by plugging them into the two equations. In order to be the solution of the system of equations, a point must satisfy both equations. Start with (A): $(-7, -5)$. Plug these values into the first equation to get $2(-5) + (-7) = -17$. This is true, so plug the values into the second equation to get $5(-7) - 4(-5) = -15$. Since this is also true, the correct answer is (A).
9. **C** The question asks for the value of M in a very complicated equation. The variable M is not part of the fraction but rather the value that is being multiplied by the fraction. In order to isolate a variable that is multiplied by a fraction, multiply both sides by the reciprocal of the fraction. On the right side of the equation, the fractions cancel, isolating M . On the left side, the reciprocal is multiplied by c to get $\frac{1 - \left(1 + \frac{r}{1,200}\right)^{-N}}{\frac{r}{1,200}}c$. Therefore, the correct answer is (C).

10. **C** The question asks about a point on a line in the xy -plane. Any such line can be defined by the equation $y = mx + b$, in which m is the slope and b is the y -intercept. The question says that the slope is $\frac{2}{3}$, so $m = \frac{2}{3}$. The question also says that the line passes through the origin, which is the point $(0, 0)$. Since the y -intercept is the point at which the x -coordinate is 0, the origin must be the y -intercept, so $b = 0$. Thus the equation of the line is $y = \frac{2}{3}x + 0$, or $y = \frac{2}{3}x$. Try the points in the answer choices in this equation. Start with (A). Plug in the values from (A) to get $\frac{2}{3} = \frac{2}{3}(0)$. Since this is false, eliminate (A). Try (B). Plug in the values from (B) to get $3 = \frac{2}{3}(2)$. Since this is false, eliminate (B). Try (C). Plug in the values from (C) to get $4 = \frac{2}{3}(6)$. This becomes $4 = 4$, which is true. The correct answer is (C).
11. **D** The question asks for the value of $f(-3)$ for the given function f . Begin by finding the value of constant c . Since $f(3) = 12$, plug this into the function to get $f(3) = c(3)^2 + 30 = 12$. Therefore, $9c + 30 = 12$. Subtract 30 from both sides to get $9c = -18$. Divide both sides by 9 to get $c = -2$. Plug this into the original equation to get $f(x) = -2x^2 + 30$. The question asks for $f(-3)$, so plug in $x = -3$ to get $f(-3) = -2(-3)^2 + 30 = -2(9) + 30 = -18 + 30 = 12$. The correct answer is (D).
12. **A** The question asks for the price per night when it was the same for both hotels. Since the two equations given are for the price per night in the two hotels, set the two expressions for the prices equal: $240 - 20w = 320 - 30w$. Add $30w$ to both sides to get $240 + 10w = 320$. Subtract 240 from both sides to get $10w = 80$. Divide both sides by 10 to get $w = 8$. This represents the number of weeks, but the question asks for the price per night. Plug this value of w into the equation for A , which becomes $A = 240 - 20(8) = 240 - 160 = 80$. The correct answer is (A).
13. **C** The question asks for the value of $\frac{3^a}{81^b}$. To divide numbers with exponents, the bases must be the same. Convert the denominator to a base of 3: since $81 = 3^4$, $81^b = (3^4)^b$. When raising a number with an exponent to an exponent, multiply the exponents, so $81^b = (3^4)^b = 3^{4b}$. Therefore, $\frac{3^a}{81^b} = \frac{3^a}{3^{4b}}$. When dividing numbers with exponents and the same base, subtract the exponents, so $\frac{3^a}{3^{4b}} = 3^{a-4b}$. The question also says that $a - 4b = 18$, so $3^{a-4b} = 3^{18}$. Therefore, the correct answer is (C).
14. **A** The question asks for the value of k in an equation that contains a quadratic in both factored and expanded form. Get them in the same form by expanding the factored quadratic on the left side. Use FOIL (First, Outer, Inner, Last) on $(ax + 3)(bx + 5)$. Multiply first terms to get $(ax)(bx) = abx^2$. Compare this to the x^2 term on the right side, $35x^2$. Therefore, $ab = 35$. Since $ab = 35$, consider the factors of 35. There are two pairs of factors: 1, 35 and 5, 7. Since the question says that $a + b = 12$, a and b must be 5 and 7, but there is no way to determine the order. Therefore, consider both $a = 5$, $b = 7$ and $a = 7$, $b = 5$. If $a = 5$ and $b = 7$, the equation becomes $(5x + 3)(7x + 5) = 35x^2 + kx + 15$. To get the value of k , determine the coefficient on the x -term of the quadratic expression on the left. To do this, find the product of the outer terms and the product of the inner terms, which

are $25x$ and $21x$, respectively. Add these products to get $25x + 21x = 46x$, so, in this case, $k = 46$. Eliminate any choice that does not include 46: (B), (C), and (D). Therefore, the correct answer is (A). (To determine the other possible value, plug in $a = 7$ and $b = 5$ to get $(7x + 3)(5x + 5)$. Multiply outer terms to get $35x$. Multiply inner terms to get $15x$. Add the products to get $50x$, so $k = 50$.)

15. C The question asks for an expression equivalent to the given fraction. Rather than dealing with complicated fractions, simplify things by putting in a number for y . The question says

that $y > 5$, so plug in $y = 6$ to get $\frac{1}{\frac{1}{6-4} + \frac{1}{6-3}}$. The fraction simplifies to $\frac{1}{\frac{1}{2} + \frac{1}{3}}$. Now,

add the fractions in the denominator, using the common denominator of 6. Therefore, the

original fraction is equivalent to $\frac{1}{\frac{3}{6} + \frac{2}{6}} = \frac{1}{\frac{5}{6}}$. When dividing by a fraction, flip the bot-

tom fraction and multiply. Therefore, $\frac{1}{\frac{5}{6}} = \frac{1}{\frac{5}{6}} = \frac{1}{1} \times \frac{6}{5} = \frac{6}{5}$, so $\frac{6}{5}$ is the target number.

Plug $y = 6$ into the answer choices and eliminate any choice that is not equal to $\frac{6}{5}$. Since

(A) and (B) are not fractions, eliminate them immediately. Try (C). The expression becomes

$\frac{y^2 - 7y + 12}{2y - 7} = \frac{6^2 - 7(6) + 12}{2(6) - 7} = \frac{36 - 42 + 12}{12 - 7} = \frac{6}{5}$, so keep (C). Try (D). The expression

becomes $\frac{2y - 7}{y^2 - 7y + 12} = \frac{2(6) - 7}{6^2 - 7(6) + 12} = \frac{5}{6} \neq \frac{6}{5}$, so eliminate (D). The correct answer is (C).

16. 5 The question asks for the value of m on the figure, so label the given information on the figure. Label \overline{PQ} with length 3, \overline{QT} with length 4, \overline{QS} with length 8, and \overline{SR} with length 10. When a question involves two triangles, determine whether they are similar. Similar triangles, by definition, have three pairs of congruent corresponding angles. However, since the measures of the angles in all triangles have a sum of 180° , it is only necessary to show that two pairs of corresponding angles are congruent. The question says that $\angle TPQ$ is congruent to $\angle QRS$. Also, $\angle PQT$ and $\angle SQR$ are vertical angles, so they are also congruent. Thus, the two triangles are similar. Similar triangles have a consistent proportion between corresponding sides (sides that are opposite congruent angles). The question asks for the value of m , or the length

- of \overline{PT} , which corresponds with \overline{SR} . Use the lengths of another pair of corresponding sides, \overline{QT} and \overline{QS} , to set up a proportion: $\frac{m}{10} = \frac{4}{8}$. Cross-multiply to get $8m = 40$. Divide by 8 to get $m = 5$. Therefore, the correct answer is 5.
17. **6** The question asks for the value of y in the equation $y^2 - 36 = 0$. Add 36 to both sides to get $y^2 = 36$. Take the square root of both sides to get $y = \pm 6$. However, the question specifies that $y > 0$, so $y = 6$. The correct answer is 6.
18. **$\frac{5}{13}$** The question asks for the value of a sine function in a right triangle. There is no figure, so draw the right triangle. Label one of the non-right angles with measure d° . Since $\cos = \frac{\text{adjacent}}{\text{hypotenuse}}$ and $\cos d^\circ = \frac{5}{13}$, label the side adjacent to d as 5 and the hypotenuse 13. Using the Pythagorean Theorem (or the 5:12:13 Pythagorean triple), the missing side has length 12. Since the angles in a triangle have a sum of 180, label the missing angle x and set up the equation $d + x + 90 = 180$. Subtract 90 from both sides to get $d + x = 90$, and subtract d from both sides to get $x = 90 - d$. The question asks for the sine of this angle. Since $\sin \theta = \frac{\text{opp}}{\text{hyp}}$, find the side opposite this angle, which is 5, and the hypotenuse, which is 13, to get $\sin(90^\circ - d^\circ) = \frac{5}{13}$. Alternatively, note that the angle of measure $(90^\circ - d^\circ)$ is the complement of the angle of measure d° . The sine of an angle is equal to the cosine of its complement. Therefore, $\sin(90^\circ - d^\circ) = \cos d^\circ = \frac{5}{13}$. Either way, the correct answer is $\frac{5}{13}$.
19. **225** The question asks for the value of z . The second equation, $5c = \sqrt{5z}$, is in terms of c and z , so plug in the value of c to get $5(3\sqrt{5}) = \sqrt{5z}$. Simplify the left side to get $15\sqrt{5} = \sqrt{5z}$. Since the equation involves square roots, square both sides to get $(15\sqrt{5})^2 = (\sqrt{5z})^2$. Square each factor to get $(15)^2 (\sqrt{5})^2 = (\sqrt{5z})^2$ and $(225)(5) = 5z$. Divide both sides by 5 to get $225 = z$. The correct answer is 225.
20. **13** The question asks for the value of b in a system of equations, so find a way to cancel the a terms. To do this, make sure that the a term coefficients are opposites so that they will disappear when the equations are added together. Multiply the first equation by -2 to get $-2a - 2b = 20$. Stack this below the second equation, $2a + b = -33$, and add the two equations.

$$\begin{array}{r} 2a + b = -33 \\ -2a - 2b = 20 \\ \hline 0a - b = -13 \end{array}$$

Therefore, the new equation is $0 - b = -13$ or $b = 13$. Thus, the correct answer is 13.

Section 4: Math (Calculator)

- C** The question asks for the measurement of an angle on the figure. When two parallel lines are intersected by a third line, or by two or more parallel lines, the following is true: all the small angles are the same, all the big angles are the same, and any small angle + any big angle = 180° . “Small” angles are less than 90° , and “big” angles are greater than 90° . In this question, x is a small angle, and y is a big angle, so $x + y = 180^\circ$. Substitute the given value: $75^\circ + y = 180^\circ$. Subtract 75° from both sides to get $y = 105^\circ$. The correct answer is (C).
- C** The question asks for the interval that shows the number of customers decreasing then increasing. Work through the answer choices one at a time. For (A), the number of customers stays the same from 9:00 A.M.–11:00 A.M., then increases from 11:00 A.M.–12:00 P.M., so eliminate (A). For (B), the number of customers stays the same from 12:00 P.M.–1:00 P.M., drops suddenly, then stays the same from 1:00 P.M.–2:00 P.M., so eliminate (B). Choice (C) looks good; the number of customers decreases from 2:00 P.M.–3:30 P.M., then increases from 3:30 P.M.–5:00 P.M. Finally, in (D), the number of customers increases from 3:30 P.M.–5:00 P.M., then decreases from 5:00 P.M.–6:30 P.M. This is a trap answer that does the opposite of what the question asks for, so eliminate (D). The correct answer is (C).
- B** The question asks for the value of y given a certain value of x . Start by plugging in the values given for x and y , then solve for k . If $5 = \frac{30}{k}$, then $5k = 30$ and $k = 6$. It is given that k is a constant, which means that its value doesn’t change (whereas x and y are variables, so their values do change). Now plug in the values for the second scenario: $y = \frac{42}{6}$, so $y = 7$. The correct answer is (B).
- B** The question asks for the number of 1-decigram doses in three kilograms of medicine. When given conflicting units, set up a proportion. First, convert the 3 kilograms into grams: $\frac{1 \text{ kg}}{1,000 \text{ g}} = \frac{3 \text{ kg}}{x \text{ g}}$, so $x = 3(1,000) = 3,000$ grams. Next, convert the 3,000 grams into decigrams: $\frac{1 \text{ g}}{10 \text{ dg}} = \frac{3,000 \text{ g}}{x \text{ dg}}$, so $x = 10(3,000) = 30,000$ decigrams. The correct answer is (B).
- D** The question asks for the value of $9x$ in a certain situation. The simplest way to solve this question is to translate it into an equation and solve for x . The statement *6x – 4 is 11 less than 25* can be translated as $6x - 4 = 25 - 11$. Simplify the right side: $6x - 4 = 14$. Add 4 to both sides: $6x = 18$. Divide by 6: $x = 3$. Be careful not to fall for (A); read the full question! The question asks for the value of $9x$, and $(9)(3) = 27$. The correct answer is (D).
- A** The question asks for a graph that shows a positive correlation between the variables. When a question contains a scatterplot, draw a line of best fit through the dots, so that roughly half the dots are above the line, and half are below. If the line of best fit has a positive slope, it means that h and p have a *positive correlation* (the question might say “association” rather than “correlation”). If the line has a negative slope, it means that the two quantities have a *negative correlation*, as in (B). If there is no clear relationship between the variables, there is *no correlation*. If the dots in the scatterplot are packed relatively closely, the correlation is *strong*; if they are far apart, the correlation is *weak*. Fortunately, there’s no need to choose between strong and weak here. The correct answer is (A).

7. **C** The question asks for the depth that will result in a pressure of 200 kilopascals. In the given equation, plug in 200 for p and solve for d : $200 = 101 + 10.094d$. Subtract 101 from both sides: $99 = 10.094d$. Divide both sides by 10.094 to get $d = 9.808$. The question asks for the closest answer, so round to the closest integer, which is 10. The correct answer is (C).
8. **D** The question asks for the formula for pressure p to be rearranged to express depth d . The fastest way to solve this question is to use algebra. Start by isolating the term that contains d by subtracting 101 from both sides: $p - 101 = 10.094d$. Divide by 10.094: $\frac{p - 101}{10.094} = d$. Now simply write the expression in reverse so that d is on the left side: $d = \frac{p - 101}{10.094}$. This matches (D), so that's the correct answer. Another way to do this would be to try real numbers in the equation. Plug in 2 for d and solve for p : $101 + (10.094)(2) = 121.188 = p$. Now plug these values into the answers and pick the one that works. The correct answer is (D).
9. **B** The question asks for the best label for a graph of the number of wind turbines. The answers differ only in the units, so compare the graph to the information given. Add up the number of wind turbines shown on the graph: $9 + 11 + 3.5 + 8 + 6 = 37.5$. Now try the answer choices. Start with (B) or (C), then move higher or lower if the first choice doesn't work. Try (C): $37.5 \times 1,000 = 37,500$, which is too big. Try (B): $37.5 \times 100 = 3,750$, which matches the information on the graph. The correct answer is (B).
10. **A** The question asks for the number of values of k that will make an expression equal to one. When the SAT mixes math symbols and words, try translating the words into a math equation. In this question, the phrase $|k - 3| + 2$ is equal to one translates to $|k - 3| + 2 = 1$. To isolate the absolute-value expression, subtract 2 from both sides to get $|k - 3| = -1$. Here's the tricky part of the question: an absolute-value expression can never be negative, so no values of k would make this expression true. Therefore, the correct answer is (A).
11. **D** The question asks for the average number of residents per apartment based on the graph. There are 14 apartments: 1 apartment with 6 residents, 2 with 4 residents, 4 with 5 residents, and 7 with 3 residents. Add up all the residents: $6 + 4 + 4 + 5 + 5 + 5 + 5 + 3 + 3 + 3 + 3 + 3 + 3 + 3 = 55$. Divide by the number of apartments: $\frac{55}{14} = 3.929$. This is closest to 4. The correct answer is (D).
12. **D** The question asks for the number that CANNOT be a solution to an inequality. There are two ways to tackle this question: solve algebraically or use the answers. To solve algebraically, subtract $6x$ from both sides to get $-4 \leq x - 3$. Then add 3 to both sides to get $-1 \leq x$ or $x \geq -1$. Since x must be -1 or greater, -2 cannot be a solution, so the answer is (D). To try out the answers, start with (B) or (C). Here, it makes more sense to start with (B), because 0 is a very easy number to plug in. Plugging in 0 gives $-4 \leq -3$, which is true, so eliminate (B). Now try (C): $-10 \leq -10$, which is true, so eliminate (C). Finally, try (D): $-16 \leq -17$, which is false. The correct answer is (D).
13. **B** The question asks for the statistical measure that will change the least when a data point is removed. To calculate (or estimate) mean, median, or range, it's best to save mean for last, since it's usually the most time-consuming to calculate. Start with the easiest part: the total. If 2 is removed, the total will change by 2. The range is the difference between the largest and smallest term. The range now is $9 - 2 = 7$, but if 2 is removed, the smallest term will be 3, so the range

will be $9 - 3 = 6$, and the range changes by 1. To find the median in a set with an even number of terms, take the average of the two middle terms. Here, the two middle terms are both 6, so 6 is the median. If 2 is removed, there will be 17 terms, so the 9th term will be the median. Since the new 9th term will be 6, the median will not change at all. This makes it unnecessary to calculate the average. The average is the total divided by the number of things, so if 2 is removed from the total and 1 from the number of things, the average will change. Therefore, the correct answer is (B).

14. **B** The question asks for the relationship between p and r in a system of inequalities. Since a point is given as a solution, use that in the inequalities. Put $(2, 2)$ in for x and y , and solve for p and r . In the first inequality, $p + 2 > 2$, so $p > 0$. In the second inequality, $r - 2 < -2$, so $r < 0$. Since r is negative and p is positive, r must be less than p . The correct answer is (B).
15. **A** The question asks for the category that accounts for approximately 15% of the people who responded to a poll. When a question says *approximately*, go ahead and approximate. The total, 395, is close to 400, so 15% of $400 = \frac{15}{100} \times 400 = 60$. Often, this would be enough to find the correct answer, but in this case there are two answers, 59 and 62, that are very close, so try them both. $\frac{59}{395} \times 100 = 14.94\%$. That looks good, but try (B), just to be safe: $\frac{62}{395} \times 100 = 15.7\%$, which rounds to 16%, which is not correct. The correct answer is (A).
16. **C** The question asks what the slope of a line represents in a given situation. Slope is rise divided by run, or vertical change divided by horizontal change. For each additional day, the price increases by \$20, so the slope, $\frac{20}{1}$, is equivalent to the average daily price increase. The correct answer is (C).
17. **D** The question asks for the relationship between two variables, so it is asking for an equation. In this case, it's the equation of a line, and all the answer choices are in slope-intercept form. The slope is 20 (as calculated for the previous question). Notice on the graph that when $d = 0$, $P = 30$, so the y -intercept is 30. The equation of a line in slope-intercept form is $y = mx + b$, where m is the slope and b is the y -intercept. In this question, $m = 20$ and $b = 30$, so the equation is $y = 20d + 30$. Plugging in values from the graph can also determine the correct equation. Either way, the correct answer is (D).
18. **C** The question asks for the value of x at which $f(x)$ has its maximum. In the xy -plane, $f(x) = y$. The maximum y -value on this line graph is 3, and when $y = 3$, $x = -2$. In this type of question, if they ask for an x -value, the corresponding y -value is likely to be a trap answer. In this case, (D) is the trap. The correct answer is (C).
19. **C** The question asks for an expression to represent the price of a ticket bought in the train station during peak hours. There is a lot of abstract information in this question, so make up some numbers. Start from the simplest price, which is a peak ticket bought in the station. Let's say that price is \$100. In that case, an off-peak ticket purchased in the station will be 15% off, or \$85. For an off-peak ticket purchased from the conductor, there is an 11% surcharge, so $\frac{11}{100} \times 85 = 9.35$, and $\$85 + \$9.35 = \$94.35$. This is the value of t , and the question is asking for the value of a peak ticket bought in the station, which is \$100. Now plug $t = \$94.35$ into the answer choices, and choose the one that equals \$100. The correct answer is (C).

20. **A** The question asks for the probability that a chosen person who exercises fewer than 6 times per week belonged to Group 1. In most SAT questions, all the information matters. But, once in a while, there will be unnecessary information designed to create confusion. In this question, it is not necessary to know the total number of people, nor whether they eat snacks or not. A person is being randomly chosen from *among those who exercise fewer than six times per week*, so only the first two columns in the table matter. There are a total of $24 + 40$ people who exercise fewer than 6 times per week and, of those people, $13 + 22 = 35$ of them are in Group 1. Use the probability formula:
- $$\text{probability} = \frac{\text{want}}{\text{total}} = \frac{35}{64}. \text{ The correct answer is (A).}$$

21. **D** The question asks for the number of gallons of diesel fuel sold by the gas station on Monday. This question can be solved two ways: as a system of equations or by trying out the answers.

To solve with equations, start by assigning variables. Make g the number of gallons of gasoline and d the number of gallons of diesel. Now write two equations: $3.25g + 3d = 404.25$ and $g + d = 131$. To get the value for d , try to make the g -values disappear. Multiply the second equation by -3.25 to get $-3.25g - 3.25d = -425.75$. Stack and add the two equations to get

$$\begin{array}{r} 3.25g + 3d = 404.25 \\ -3.25g - 3.25d = -425.75 \\ \hline -0.25d = -21.5 \end{array}$$

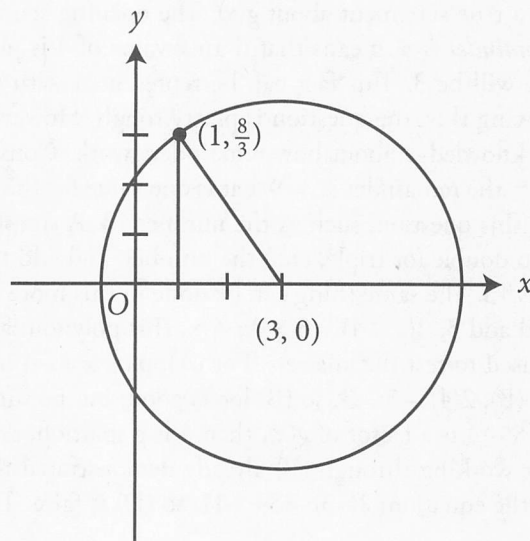
Divide by -0.25 to find that $d = 86$. The correct answer is (D).

A safer method is to use the answers. Start with (C). If the station sold 76 gallons of diesel, then the station sold $131 - 76 = 55$ gallons of gasoline. The revenue from diesel would be $76 \times \$3 = \228 , and the revenue from gasoline would be $55 \times \$3.25 = \178.75 , for a total of $\$228 + \$178.75 = \$406.75$, which doesn't match the total sales of $\$404.25$ given by the question. Since the total was too high, move to (D), where more of the cheaper diesel fuel was sold: if the station sold 86 gallons of diesel, then the station sold $131 - 86 = 45$ gallons of gasoline. The revenue from diesel would be $86 \times \$3 = \258 , and the revenue from gasoline would be $45 \times \$3.25 = \146.25 , for a total of $\$258 + \$146.25 = \$404.25$, which matches the total sales given by the question. The correct answer is (D).

22. **C** The question asks for the category in which the ratio of 2010 to 2014 spending was closest to that of the same ratio for higher education. With the ugly numbers in the chart, approximation is helpful here. The ratio of 2010 higher-education spending to 2014 higher-education spending can be estimated as 2.1 million to 3.1 million, or even more approximately as 2:3. The only other column that is close is corrections, which can be estimated as 630,000 to 930,000, also fairly close to 2:3. The correct answer is (C).
23. **C** The question asks for the approximate rate of change in public assistance spending from 2012 to 2014. When questions ask for an approximate value, round the numbers to avoid unnecessary math. Round public assistance spending in 2012 to $\$56,000$ and round 2014 spending to $\$30,000$. Subtract to get an approximate difference of $\$26,000$. Divide by two to get an average of $\$13,000$. Read carefully: the chart values are in *thousands of dollars*, so multiply by 1,000 to get the actual rate of change of $\$13,000,000$. The correct answer is (C).
24. **A** The question asks for the number of seconds it will take for the jumping fish to hit the surface of the lake. At that time, the height will be 0, so plug 0 into the equation: $0 = 9s - 4.9s^2$. From here, the

easiest thing to do is plug in the answer choices. Start with (C): $(9)(3) - (4.9)(3^2) = 27 - 44.1 = -17.1$. This negative value means that the fish has gone 17 meters below the surface. Choice (C) is too big, so try (B). It's also too big, so the answer must be (A). Double check to be sure: $9(2) - (4.9)(2^2) = 18 - 19.6 = -1.6$. The question is asking for an approximate answer, and (A) is closest. The question can also be solved by factoring $h = 9s - 4.9s^2$ into $h = s(9 - 4.9s)$. The solutions for s in this equation are $s = 0$ (the time when the fish began the leap) and $9 - 4.9s = 0$ (the time when the fish hit the water). Solve the latter for s : $9 = 4.9s$, so $s = \frac{9}{4.9} = 1.84$ seconds. Either way, the correct answer is (A).

25. **C** The question asks for the equation of a circle with a given center and radius endpoint. The equation of a circle centered at (h, k) is $(x - h)^2 + (y - k)^2 = r^2$. Therefore, the left side of the equation must be $(x - 3)^2 + y^2$. Eliminate (B) and (D). To narrow it down further, find the radius by drawing a triangle and finding the legs to plug into the Pythagorean Theorem (this is safer than trying to remember the distance formula).

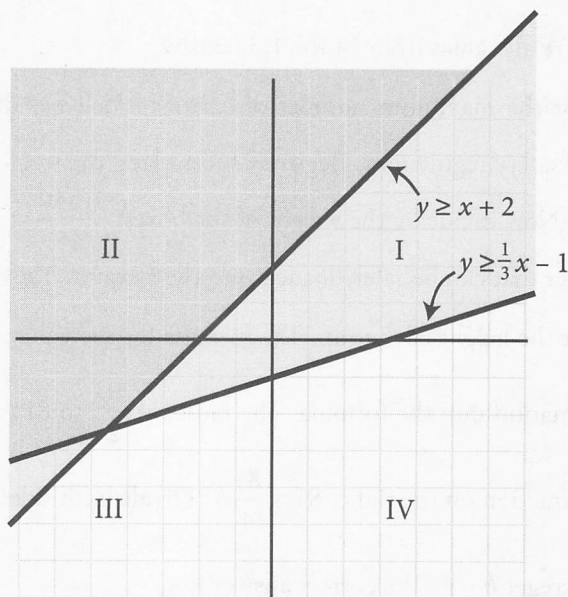


The base is 2 and the height is $\frac{8}{3}$, so use the Pythagorean Theorem to find the radius. $2^2 + \left(\frac{8}{3}\right)^2 = r^2$, so $4 + \frac{64}{9} = r^2$, or $\frac{36}{9} + \frac{64}{9} = \frac{100}{9} = r^2$. It's not necessary to take the square root, because the only piece missing from the circle formula is r^2 . The correct equation is $(x - 3)^2 + y^2 = \frac{100}{9}$. The correct answer is (C).

26. **D** The question asks for the number of seedlings on a square lawn that are at least 2 inches high. When dealing with area questions, always calculate the areas—don't make assumptions. The area of the lawn is $8 \times 8 = 64$ square feet. There are 8 samples, and each sample is $1 \times 1 = 1$ square foot, so the total area sampled is $\frac{8}{64} = \frac{1}{8}$ of the total area. Next, since the question asks for approximation, approximate the total number of seedlings. The middle values are very close to 100, and the highest and lowest values are almost equidistant from 100, so the average number of seedlings in a sample is about

100. Therefore, the total number of seedlings in all the samples is approximately $100 \times 8 = 800$, and the total number of seedlings on the lawn is approximately $800 \times 8 = 6,400$. The correct answer is (D).
27. **C** The question asks for the number of offspring of the Western chinchillas. The easiest approach will be to use the answer choices. Start with (B). If there were 103 Western chinchilla offspring, then the Eastern chinchilla produced $103 \times \frac{30}{100} = 30.9$ more offspring than the Western chinchilla, totaling 133.9. Since 133.9 does not match the 143 offspring specified by the question, eliminate (B) and move to a larger number. Try (C). If there were 110 Western chinchilla offspring, then the Eastern chinchilla produced $110 \times \frac{30}{100} = 33$ more offspring than the Western chinchilla, totaling 143, which matches the number specified in the question. Therefore, the correct answer is (C).
28. **B** The question asks for a true statement about $g(x)$. The opening sentence, *when polynomial $g(x)$ is divided by $x - 4$, the remainder is 3*, means that if an x -value of 4 is plugged into the polynomial, the corresponding y -value will be 3. This fact can be represented with the equation $g(4) = 3$, so (B) is correct. Without knowing this, the question is pretty tough. However, it is possible to try out some numbers with a little knowledge about how remainders work. Consider an easier question: when a number is divided by 5, the remainder is 3. What is one value for the number? It's fairly easy to come up with an answer to this question, such as the number 13. A simple way to find a quotient with a certain remainder is to double (or triple, etc.) the number, and add the remainder. So, double 5 and add 3, and the result is 13. The same thing can be done in this more difficult question. The divisor is $x - 4$, so double it and add 3: $2(x - 4) + 3 = 2x - 5$. This polynomial meets the requirements of the question and can be used to test the answers. For (A), plug $x = -4$ into the polynomial: $2(-4) + 5 = -3$, so (A) is false. For (B), $2(4) - 5 = 3$, so (B) looks good, but be sure to check all four answers. For (C), remember that if $x - 4$ is a factor of $g(x)$, then 4 is a solution, and plugging 4 into the equation should yield zero. But working through (B) already demonstrated that $2(4) - 5 = 3$, so (C) is false. For (D), plug -3 into the equation: $2(-3) - 5 = -11$, so (D) is false. The correct answer is (B).
29. **A** The question asks for the equation in vertex form based on the equation in standard form, which is $y = ax^2 + bx + c$. The vertex form of a parabola is $y = a(x - h)^2 + k$. It's called "vertex form" because the vertex of the parabola is at (h, k) . The x -coordinate of the vertex will always be the average of the x -coordinates of any two points that have the same y -value. The graph gives two points on the y -axis (these are the *solutions* or *zeros* of the equation), so find the average of the x -coordinates: $\frac{-4 + 2}{2} = -1$, so $h = -1$. From the graph, it also looks like the y -coordinate of the vertex is -9 , so $k = -9$, making the vertex $(-1, -9)$. Now look at the answers. Choice (A) is in "vertex form," and the vertex it shows is $(-1, -9)$. The correct answer is (A).
30. **B** The question asks for the number of quadrants that will contain part of the solution to a system of inequalities. To answer this question, use the provided quadrant drawing to make a quick sketch

with both equations drawn. It is not necessary to make a perfectly accurate graph; just get the general idea. For this system of inequalities, any solutions must be above *both* lines (because the solutions must be greater than both $y \geq x + 2$ and $y \geq \frac{1}{3}x - 1$), so shade in this area as shown below:



As the sketch shows, some areas are shaded in light gray to represent the graph of just one of the inequalities. The light gray area in the lower left only applies to $y \geq x + 2$, and the other light gray area only applies to $y \geq \frac{1}{3}x - 1$. The dark gray area of overlap shows the solution to the system of inequalities, as only points in that region will satisfy both inequalities. This dark gray area shows solutions in Quadrants I, II, and III, but not in IV. The correct answer is (B).

31. $\frac{3}{7}$, $\frac{6}{14}$, $\frac{9}{21}$, .428, or .429

The question asks for a fraction based on the amounts of Greg's April and February bills. Locate the values for April and February, and write them as a fraction: $\frac{30}{70}$. This fraction won't fit into the grid-in box, so either reduce it or convert it into a decimal. The correct answers include all equivalent fractional or decimal forms of $\frac{3}{7}$.

32. **Any value from 14 to 21, inclusive**

The question asks for a possible amount of time needed for the worker to box 168 shoes. If the worker boxes 8 pairs of shoes per minute, it will take $\frac{168}{8} = 21$ minutes to box all the shoes. If the worker boxes 12 pairs per minute, the same task will take $\frac{168}{12} = 14$ minutes. Therefore, any answer from 14 to 21 is valid. An easy way to solve a question like this is to just plug in a value within the given

range. Suppose the worker boxes 10 pairs per minute. In that case, it will take $\frac{168}{10} = 16.8$ minutes to complete the task. This is a valid answer, and it is faster than finding the boundaries of the range. The correct answers are all values from 14 to 21, inclusive.

33. **30** The question asks for the maximum number of cartons a delivery driver can take in an elevator within the building's safety regulations. Begin by subtracting the weight of the driver and the pallet: $1,600 - 250 = 1,350$. Now divide by the weight of the boxes: $\frac{1,350}{45} = 30$. Therefore, 30 is the maximum number of boxes that can be safely loaded into the elevator. The correct answer is 30.
34. **4** The question asks for the height of the can. The formula for the volume of a cylinder is $V = \pi r^2 h$, so plug the given information into the formula. The radius is $\frac{9}{2}$, so $81\pi = \pi \left(\frac{9}{2}\right)^2 h$. Divide both sides by π and square the fraction on the right: $81 = \frac{81}{4} h$. Divide both sides by $\frac{81}{4}$, which is the same as multiplying by $\frac{4}{81}$, to get $h = 4$. The correct answer is 4.
35. **4** The question asks for the value of x that will cause an expression to be undefined. A fraction is undefined if the denominator is zero, so set the denominator equal to zero: $(x - 6)^2 + 4(x - 7) + 8 = 0$. Now solve for x by using FOIL (First, Outer, Inner, Last) and distributing where necessary. The equation becomes $x^2 - 12x + 36 + 4x - 28 + 8 = 0$. Combine like terms to get $x^2 - 8x + 16 = 0$. Factor the equation as $(x - 4)^2 = 0$, then take the square root of both sides to get $x - 4 = 0$. Add 4 to both sides to get $x = 4$. The correct answer is 4.
36. **51** The question asks for the number of trains that pass through Appleton each day. The trains arrive at 6:00, 6:20, 6:40, then 7, 7:20, 7:40, then 8, 8:20, 8:40, and so on. There are three trains per hour, so count the number of hours—using a pencil to keep track if necessary. There are 17 hours, and $17 \times 3 = 51$. The correct answer is 51.
37. **3** The question asks for the interest rate earned by a savings bond, expressed as a percent. For this question, it helps to know the compound interest formula, which is $A = P \left(1 + \frac{r}{n}\right)^{nt}$, where A is the total amount, P is the principal or initial amount, r is the interest rate (expressed as a decimal), n is how many times per year the rate is compounded, and t is the number of years. That may seem complicated, but usually the interest is compounded once a year, so $n = 1$, and the formula can be simplified to $A = P(1 + r)^t$. Therefore, the interest rate expressed as a decimal is 0.03. Multiply by 100 to express the interest rate as a percentage: $(0.03)(100) = 3$. The correct answer is 3.
38. **8.76** The question asks for the difference in value between Carolyn's bond and Helene's bond after 12 years. It helps to solve question 37, the easier question of the pair, before solving this one. Helene's interest rate, from the answer to question 37, is 3%, so to find her total after 12 years, use the formula given above: $A = 50(1.03)^{12} = 71.29$. Carolyn earns 1% more, so her total is $A = 50(1.04)^{12} = 80.05$. Subtract the first total from the second to get 8.76. The correct answer is 8.76.