

REVISING/EDITING PART A

1. (B) The question asks for the correction needed for an error in the sentence. The sentence needs a comma to set off the clause “which is considered one of the ‘new’ Seven Wonders of the World,” because the clause is not essential to the meaning of the sentence (nonrestrictive clause). Option B is correct because it places a comma where it is needed, after “Italy,” to set off the nonrestrictive clause that follows. Option A is incorrect because when a name has more than one element, a comma is used to separate the elements for clarity. Option C is incorrect because it would remove the comma at the end of the nonrestrictive clause, which should be set off by commas at the beginning and the end. Option D is incorrect because a comma after “built” would separate the phrase “could hold more than 50,000 spectators,” which is a dependent clause that uses the subject from the main clause and so needs to stay connected to the rest of the sentence.

2. (E) The question asks for the correction of an error in sentence structure in the paragraph. The first sentence is a run-on sentence because both clauses—“In September 2016 the National Museum of African American History and Culture opened as part of the Smithsonian Institution” and “the museum is already the Smithsonian’s third most popular site”—are independent clauses, and independent clauses should not be combined without the use of a conjunction and a comma. The revision in Option E adds the word “and” before the comma, which corrects the run-on. Option F, Option G, Option H are incorrect responses because the corresponding underlined portions in the paragraph are not structural errors. No edits are needed to correct those portions of the text.

3. (C) The question asks for the correct revision of the sentence in the box. The sentence is incorrect because, as written, the phrase “to promote their club” refers to the closest noun to the phrase, which is “a bake sale,” and that does not match logically. Option C is correct because the revision has the phrase “to promote their club” clearly modifying “members of the debate team” and adds the idea that the bake sale is on Wednesday to the end of the sentence. Option A and Option B are incorrect because the revisions do not fix the error that “to promote their club” modifies “a bake sale.” Option D is incorrect; while the revision clarifies that “to promote their club” relates to the “members of the debate team,” the rest of the sentence is poorly written because the insertion of “on Wednesday to promote their club” in the middle of the sentence interrupts the main clause, “Members of the debate team will sponsor a bake sale.”

4. (G) The question asks for the necessary revisions to the paragraph. Option G is correct because the errors appear in sentence 3 of the paragraph. The word “studies” is in the present tense, but it should be changed to “studied” to match the past tense established in the paragraph (“spent,” “recited”). Additionally, the comma after the word “emotions” needs to be removed because the words “emotions and motivations” are part of a group (series) of two elements, and when there are only two elements in a series, a comma is not used. Option E is incorrect because sentence 1 does not need to be revised. The word “spent” is correct in the past tense, and there is no need to insert a comma after the word “play.” Option F is incorrect because sentence 2 does not need to be revised. The word “did” is correct as written in the past tense, and there is no comma needed after the word “projection” because “so” is not functioning as a conjunction but rather as part of the conjunction phrase “so that,” which does not take a comma. Option H is incorrect because sentence 4 does not need to be revised. The word “recited” is correct as written in the past tense, and the comma after “times” is needed in order to separate the modifying phrase “making slight adjustments and improvements to his performance each time” from the main clause.

REVISING/EDITING PART B

The Local Library

5. (A) The question asks for a sentence that should replace sentence 4 to introduce the main claim of the passage. Option A is correct because it best presents the main claim that the public library is a valuable resource and should be used by community members. Option B is incorrect because it states that going to the library can be a learning experience. This idea is implied in sentences 17 and 18, but it is not the main claim of the passage. Option C is incorrect because it states the idea that the library is useful for students, which would be supporting evidence rather than an introductory statement expressing the main claim. Option D is incorrect because it states that local libraries provide services to help improve communities, which is explained in sentences 15–18, but it does not present the main claim.

6. (H) The question asks which option would provide the best support for sentence 8. Sentence 8 expresses the idea that the library helps community members meet their need for human connection and companionship. Option H is correct because it provides support for sentence 8 and strengthens the connection between the

information in sentence 8 and the main claim of the passage by listing examples of how people can connect at the library. Option E is incorrect because it references the history of the library, which does not support the idea in sentence 8 or the main claim of the passage. Option F is incorrect because, although it introduces the idea of community meetings, it does not support the idea in sentence 8. Option G is incorrect because it mentions expectations by the community members and brings up a new idea that is unrelated to the main claim of the passage and that does not provide support for sentence 8.

7. (A) The question asks for the revision of sentence 12 that best maintains the formal style established in the passage. Option A correctly maintains the formal style by using “people” instead of “you” and the more formal language “resources available” and “accomplish many tasks.” Option B is incorrect because it uses second person, directly addressing the reader, which is informal. Option C is incorrect because, even though it does not use second person, it uses informal language like “work on” and “things.” Option D is incorrect because it uses the informal phrase “whatever you need to do” in addition to informally addressing the reader through the use of second person.

8. (G) The question asks where sentence 17 should be moved in order to improve the organization of the fourth paragraph. Sentence 17 describes a typical librarian and the assistance he or she provides in the library. Option G correctly places sentence 17, an example of what else the librarian does, after the librarian is introduced in sentence 14. Option E is incorrect because it places the sentence before the main idea of the paragraph, which states that public libraries offer a variety of resources. Sentence 17 is an example of one of the resources, so it would not be placed at the beginning of the paragraph before the main idea. Option F is incorrect because it moves the sentence to before the librarian is introduced in the paragraph. Option H is incorrect because sentences 15 and 16 have shifted away from the topic of the librarian, so the details in sentence 17 would not logically fit between them.

9. (B) The question asks for a concluding sentence that would follow sentence 19 and support the argument presented in the passage. Option B is correct because it logically follows sentence 19 and supports the argument that the public library facilitates connections within a community and provides valuable services—some at no cost—by urging community members to use, maintain, and support their local public library. Option A is

incorrect because it does not provide a logical conclusion that fully supports the argument in the passage; the sentence addresses only one benefit of having a public library, ignoring the valuable services and resources it provides. Option C is incorrect because it presents the idea that the library has been in existence since 1833, which does not logically provide a conclusion for the passage or support the argument developed in the passage. Option D is incorrect because it presents a new claim—community leaders must work together to support library events—instead of a conclusion that supports the argument presented in the passage.

READING COMPREHENSION

The Tunguska Fireball

10. (H) The question asks for evidence that best supports a detail in the passage. When scientists were able to travel to the site almost two decades after the blast, they found a circle of “scorched and downed trees” that marked the blast site (paragraph 2), making Option H the correct answer. Option E is incorrect because, although the scientists searched for a crater, they never found one (paragraph 2). Option F is also incorrect because the tremors recorded at a seismic station thousands of miles away detailed the magnitude of the event, not the location (paragraph 1). Option G is incorrect because, although huts were flattened when the blast occurred, the destruction of the huts was not evident when the site was found almost two decades later (paragraph 1).

11. (A) The question asks why the June 30 date bears significance to some scientists. Scientists noted that Earth was passing through cometary debris on June 30, 1908 (paragraph 4), which supports the idea stated in Option A, making it the correct response. Option B is incorrect because, while it states a detail from the passage, the detail is not connected to the June 30 date. Option C is incorrect because it states a theory regarding the cause of the impact that is not tied to the date of June 30. Option D is incorrect because this detail is used in the passage to suggest that such a blast could not have been caused by a comet.

12. (E) The question asks for the evidence found after Galli’s analysis. Galli discovered unusually high levels of some elements, such as copper, gold, and nickel, which are common elements in particles from outer space that were abundant in the tree resin (paragraph 6), as stated in Option E. Option F is incorrect because it refers to a

EXPLANATIONS OF CORRECT ANSWERS *continued...*

prior finding of Galli's, not what his analysis of the tree resin revealed. Option G is incorrect because, although the spruce trees did survive the blast, they were the trees Galli studied rather than a revelation from his studies. Option H is incorrect because it was previously known that meteorites contained these elements, and that information was not revealed by Galli's analysis.

13. (B) The question asks for the most likely reason it was difficult for scientists to discover the site of the Tunguska explosion. Paragraph 2 notes that the site of the blast was very "remote," as stated in Option B. Option A is incorrect because none of the possible blast explanations mentioned in the passage suggest a nuclear explosion or radioactivity. Option C is incorrect because, even before visiting the site, scientists debated possible causes of the explosion (paragraphs 2–3). Option D is incorrect because the passage states in paragraph 2 that no evidence of a crater, or craters, was ever found.

14. (F) The question asks for an explanation of how paragraph 1 supports the passage. Paragraph 1 provides several examples of the severe damage caused by the explosion, as stated in Option F. Option E is incorrect because the scientific aspects of the explosion are not discussed until later in the passage. Option G is incorrect because paragraph 1 discusses some of the effects of the blast rather than the potential cause. Although human suffering is one detail described in paragraph 1, this is not the primary evidence of the explosion's destruction, making Option H incorrect.

15. (D) The question asks how the questions at the end of the last paragraph affect the passage. Although the passage introduces a number of theories about the Tunguska explosion, no definitive explanation has been reached. This idea is stated in Option D. Option A is incorrect because, although the passage does not discourage further study, it does not specifically promote it. Option B is incorrect because, although the author presents multiple possible causes, the passage suggests that the damage was most likely caused by one of these possibilities rather than several of them simultaneously. The author is certainly curious about the actual cause of the Tunguska explosion but objectively presents the questions about it that remain unanswered, making Option C incorrect.

Excerpt from *A Voice in the Wilderness*

16. (G) The question asks how the phrase affects the tone in the first part of the excerpt. The phrase includes the

words "all three" and "taken the trouble," emphasizing Margaret's early frustration as she recalls with some confused irritation that the men thought she needed an abundance of help earlier, but none of them is around to help when the train stops, as indicated in Option G. Option E is incorrect because when Margaret recalls the interaction, there is no indication that she blames the men for her current problem. Option F is incorrect because, while the description of how Margaret "hastily [gathers] up her belongings" and "[hurries] down the aisle" (paragraph 1) gives the appearance of being defiant, there is no evidence that she intentionally put herself in this vulnerable position just to make a point. Option H is incorrect because when Margaret recalls the interaction, there is no evidence that she appreciates the care shown to her, but rather she seems a bit offended that the men do not think she could take care of herself, as shown by the author's description of the forceful way she exits the train without assistance when it stops.

17. (C) The question asks for evidence from the passage that best supports the claim that Margaret is unfamiliar with traveling to new places. If Margaret has never traveled to this region by train before, she must guess or attempt to interpret what she sees. This idea is best represented in the sentence in paragraph 3 (Option C) where she questions whether the stations in the West have platforms. The sentence in paragraph 1 (Option A) is an incorrect response because Margaret's actions in the sentence are decisive as she gathers her belongings to disembark; she is familiar with rail travel. The sentence in paragraph 2 (Option B) is an incorrect response because, in the sentence, Margaret is using her knowledge about trains to attempt to interpret the actions of others; she is familiar with trains, even if a particular destination has not been mentioned. The sentence in paragraph 4 (Option D) is an incorrect response because, while the sentence shows that Margaret is trying to better understand her situation in the darkness, her ability to identify the train's engine and the figures carrying lanterns indicates some familiarity with her mode of travel.

18. (H) The question asks which sentence correctly explains the connection between the sentence from paragraph 4 and the overall plot of the excerpt. The train's need to stop for water is not evident to Margaret, which causes the external conflict. The sentence from paragraph 4 reveals how Margaret's confusion over her best course of action prevents her from recognizing the nature of the external conflict; therefore, Option H is correct. Option E is incorrect because Margaret's reliance

EXPLANATIONS OF CORRECT ANSWERS *continued...*

on others is not demonstrated in the sentence, and her reliance on others does not contribute to the external conflict. Option F is incorrect because her concern for the opinion of others is not the main cause for her external conflict. Option G is incorrect because Margaret's indecision has no effect on the cause of the conflict.

19. (B) The question asks how the simile in the sentence from paragraph 4 reflects the tone of the paragraph. The image of two or three fireflies creating small specks of light in the darkness creates a sense of isolation or loneliness in Margaret, as shown in the sentence, "A sudden feeling of isolation took possession of her" (paragraph 4). Therefore, Option B is correct. Option A is incorrect because Margaret is confused and indecisive, showing her discomfort with her situation. Option C is incorrect because Margaret expresses distress in her situation, questions her decision, and worries about being labeled a "fool" (paragraph 4). Option D is incorrect because the simile is meant to show how far away things are from Margaret, not create a feeling of dread, which develops later in paragraph 9.

20. (H) The question asks for an explanation of what the imagery in the excerpt from paragraph 9 conveys. The words "useless" and "failure" in the sentence indicate that Margaret's best efforts do not help her. The phrase "the last car slatted itself past" shows that Margaret is helpless to stop the train from departing, which leaves her completely vulnerable, as described in Option H. Option E is incorrect because describing Margaret's "sickening sense of terror" indicates that she is extremely afraid of being left behind rather than increasingly irritated with the other passengers. Option F is incorrect because Margaret spends her time "screaming, running, trying to attract some one's attention" in an effort to be noticed so that the train will stop, not attempting to run as fast as the train. Option G is incorrect because while Margaret's screaming and running could easily suggest feelings of anger, descriptions of her "sickening sense of terror and failure" indicate otherwise.

21. (A) The question asks about the relationship between the theme and paragraph 9, where Margaret desperately tries to get someone on the train to notice her. One important theme of this excerpt concerns Margaret's willingness to take action to ensure that she reaches her destination. This determination, described in Option A, is why she gathers her belongings together without help, gets off the train without being assisted by employees, and then attempts to climb back on while the train employees are busy examining the engine. Option B

is incorrect because, while the narrator describes her screaming as useless, she does not feel that her efforts overall are useless, and she does not give up until paragraph 10. Option C is incorrect because, while Margaret is feeling a sense of "failure" in paragraph 9, she does not condemn herself as the train moves away. Option D is incorrect because Margaret has expressed "terror" in paragraph 9 over being unable to catch someone's attention, not frustration over her lack of control over her surroundings.

22. (H) The question asks for what the figurative language illustrates in the sentence. As Margaret stands and reaches out "helpless hands," the language used to describe the train as "swinging tauntingly" and having "a leer in its eye" confirms Margaret's fears of being left alone and feeling foolish; there is nothing she can do to change the situation, as expressed in Option H. Option E is incorrect because, while the image of Margaret's helpless hands dropping at her sides could suggest a sense of doubt, the figurative language in the sentence emphasizes a different feeling about her situation and does not indicate her intentions. Option F is incorrect because, while the figurative language seems to give a malevolent quality to the train, it is not referring to the people onboard, who are described in paragraph 8 as "comfortable and safe inside, unconscious of her need." Option G is incorrect because, while Margaret is worried in paragraph 4 about embarrassing herself, she now feels "dazed" because she is overwhelmed with the seriousness of what has just happened.

23. (A) The question asks how paragraph 11 helps shape the overall plot of the excerpt. In paragraph 5, Margaret assumes there is a station, "It was probably on the other [side], but she was standing too near the cars to see," but in paragraph 11, the station that had been "so real" in Margaret's mind actually does not exist, supporting Option A as the correct response. Option B is incorrect because Margaret's main problem is not that she has imagined the station on the other side of the train but that it actually isn't there. Option C is incorrect because, while Margaret seems somewhat in awe of her surroundings in paragraph 12 and she "gasped" in paragraph 11, her exclamation is one of shock at the discovery, not surprise over an unexpected adventure. Option D is incorrect because the paragraph mainly describes what Margaret does in the particular situation she is currently in but does not explain or provide details that give insight to Margaret's personality in general.

24. (G) The question asks how the details about the setting support the theme of the excerpt. In paragraph 12, phrases such as “vast dome of curving blue” and “the beauty of the lonely night” describe the beauty of the place. However, in paragraph 13, the author writes, “no building broke the inky outlines of the plain, nor friendly light streamed out to cheer her heart” to express how alone Margaret really is. These phrases demonstrate that Option G is correct. Option E is incorrect because positive phrases such as “largest, most wonderful stars” show that Margaret is not overwhelmed by the darkness. Option F is incorrect because, while Margaret is feeling helpless and alone at the recent realization that there is no station (paragraph 11), the descriptions of the landscape, which focus on the beauty and mysteriousness of the place, do not signify hope but rather how quiet and isolated the location is. Option H is incorrect because, while Margaret has expressed fear in paragraphs 9–11, the details in paragraphs 12–13 do not show that she is discouraged but rather that she is aware of her situation because she sees no buildings or light.

Excerpt from “Niagara Falls”

25. (D) The question asks for a specific detail from paragraph 2 that conveys the central idea that the Falls communicates a feeling of “unintelligible disaster” (paragraph 1). The sound of falling is described in paragraph 2 as “a noise of unspecified ruin,” so Option D is correct because it best connects with the idea of “unintelligible disaster” mentioned in paragraph 1. Option A is incorrect because, although the water is described as “diaphanous as a precious stone” in paragraph 2 because of the “glow” coming from the interaction of the light, there are no stones within the water. Option B is incorrect because the details in paragraph 2 about the flow of colors in the water are described as an “ever-altering wonder,” which conveys a sense of beauty and not a sense of disaster. Option C is incorrect because the rainbows in paragraph 2 are described as “vivid” and accompanying someone “courteously” while he or she walks, which contributes to the idea that the appearance and disappearance of the rainbows are a pleasant experience and not disastrous.

26. (G) The question asks for the effect of the comparison being made in the sentence in paragraph 2. The word “lacework” in the sentence suggests an elegant piece of craftsmanship, and the “one long curtain” and “extraordinarily level” aspects of the Falls mean that the Falls are uniform or consistent; therefore, Option G is correct. Option E is incorrect because neither “lacework and woven foam,” nor the quality of being

extremely level, are related to timelessness. Option F is incorrect because, while a curtain may suggest the idea of something being hidden or secret, the description of a delicate “lacework” curtain does not suggest this purpose. Option H is incorrect because “lacework” is generally fragile and does not suggest great strength.

27. (C) The question asks for the statement that best describes how the sentence from paragraph 3 fits into the overall structure of the excerpt. The first sentence of paragraph 3 moves the description “beyond the foot of the Falls” to “the river” and then begins to describe this location before confirming it again with the words “these are the lower rapids.” This emphasis on the shift in location is best stated in Option C, making it the correct response. Option A is incorrect because, as the first sentence in paragraph 3 states, the paragraph describes the river and not aspects of the Falls. Option B is incorrect because the entire paragraph describes only the literal movements of the river. Option D is incorrect because the features of the rapids, as described in paragraph 3, are all obvious and not hidden.

28. (E) The question asks for the sentence from the excerpt that best supports the idea that the essence of the Falls lies in their emotional impact. The first sentence in the excerpt establishes the “real secret of the beauty and terror of the Falls . . . lies in the feeling of colossal power and unintelligible disaster.” Option E is correct because the sentence in Option A best supports this notion by identifying these qualities as “the heart,” or essence, of the Falls. While “delicate” and “fragile” are words that can be connected with certain kinds of emotions, in the sentence in Option F, they are connected with physical beauty, so Option F is incorrect. Option G is incorrect because, while the sentence in Option G describes the power of the Falls’ to engage one in thought, it does not best support the idea that the essence of the Falls lies in their emotional impact. Option H is incorrect because the sentence in Option H describes thoughts one may have while watching the Falls and is not focused on the Falls’ emotional impact.

29. (D) The question asks how the sentence from paragraph 4 contributes to the development of ideas in the excerpt. The description of “cloudy thoughts of destiny and the passage of empires” in the sentence refers to the types of thoughts a person might have while observing the Falls, as stated in Option D. Option A is incorrect because the sentence focuses on the idea that the Falls are a place of great contemplation but does not clarify that these thoughts are life-changing. Option

EXPLANATIONS OF CORRECT ANSWERS *continued...*

B is incorrect because the sentence does not describe focused thoughts of a personal nature; the grand, sweeping nature of the falls inspire thoughts of the same caliber as “the passage of empires.” Option C is incorrect because the sentence is about how the Falls inspire great thoughts but is not about how difficult it is to grasp the grandeur of the Falls.

30. (F) The question asks how the discussion of human life and history is illustrated in paragraph 4 of the excerpt. The author concludes in paragraph 4 that the Falls can be compared to people and history by writing, “both men and nations are hurried onwards to their ruin or ending as inevitably as this dark flood,” making Option F correct. Option E is incorrect because the discussion of rainbows in paragraph 4 focuses on the fate of art and beauty, not of humanity (“I could not get out of my mind the thought of a friend, who said that the rainbows over the Falls were like the arts and beauty and goodness, with regard to the stream of life—caused by it, thrown upon its spray, but unable to stay or direct or affect it, and ceasing when it ceased”). Option G is incorrect because, in paragraph 4, the author talks about people in general when discussing “men and nations” and provides no evidence of the differences in specific individuals’ experience of the Falls. Option H is incorrect because, while the setting at night does provide a place of contemplation, the author notes the “dark flood” as the overall illustration of the human experience.

31. (A) The question asks for the statement the author would agree with most. In paragraph 4, the author states that the Falls make a person feel “with an almost insupportable and yet comforting certitude, that both men and nations are hurried onwards to their ruin or ending.” Later, the final sentence says, “With some such thoughts does the platitudinous heart win from the confusion and thunder of a Niagara peace.” This sentence supports the author’s belief that a person can find peace in accepting the certainty of his or her own ending, as expressed in Option A. Option B is incorrect because the author does not discuss regrets in the excerpt. Option C is incorrect because, while the excerpt discusses fear when looking at the power of the Falls, the excerpt does not support the idea that one should defy fear. Option D is incorrect because the excerpt states in paragraph 4 that art is “unable to stay.”

Uncovering the Past

32. (E) The question asks for a summary of what the goal of modern archaeology is in general. The passage is

mostly about how archaeology has evolved from efforts to discover ancient artwork and museum pieces to using technology to piece together a sense of life in early civilizations, which is best described in Option E. Option F is incorrect because it states the goal of archaeology in the past, not in modern times. Option G is incorrect because finding settlements is not the goal but just the first step in the modern archaeological process. Option H is incorrect because it states the goal of traditional, rather than modern, archaeology.

33. (B) The question asks what artifacts a traditional archaeologist would be interested in finding based on the material in the passage. The passage explains that, unlike modern archaeologists, traditional archaeologists are interested in valuable items from the past rather than learning about the people from the past and their lifestyles. Jewelry and ceramics are examples of valuable items, which makes Option B correct. Option A is incorrect because human skeletons would be valuable to modern archaeologists, not traditional archaeologists. Option C is incorrect because it is a detail that relates to modern archaeologists’ efforts to study people, not just valuable items. Option D is incorrect because the remains of animals would also advance the goals of modern, rather than traditional, archaeologists.

34. (E) The question asks how paragraph 2 supports the structure of the passage. The first paragraph provides history on the field of archaeology, specifically what has come to be known as traditional archaeology. Paragraph 2 describes how modern archaeology differs from traditional archaeology, which is detailed in Option E. Option F is incorrect because paragraph 2 provides no support for paragraph 1. Option G is incorrect because paragraph 2 provides facts about modern archaeology and does not introduce a theory. The remainder of the passage describes how modern archaeology was used at one specific dig, which is not mentioned in paragraph 2, making Option H incorrect.

35. (B) The question asks for the concluding sentence that best summarizes the information from paragraph 4. Paragraph 4 explains that Camelia’s age was determined through an examination of her teeth, which makes the conclusion in Option B the correct answer. Option A is incorrect because the excavation discussed in the paragraph is at a house, not a theater or temple. Option C is incorrect because, although Camelia’s body was smaller than a thirteen-year-old’s would be expected to be, the passage does not go into enough detail to suggest that all people from the past were smaller than people

are today. Option D is also incorrect because there is no evidence in the passage of Camelia's death being the result of a crime.

36. (H) The question asks what archaeologists learned about the ancient culture based on the evidence found in paragraphs 4–5. Paragraph 5 states that a paleobotanist identified four domesticated grains within a bake oven at the site, which supports Option H. Option E is incorrect because there is not enough evidence in either paragraph to support the broad assumption that people in Kourion had a better diet than people today. Option F is incorrect because the passage mentions the discovery of the remains of only one domesticated animal, which does not support the idea that Kourion people kept a wide variety of domesticated animals. Option G is incorrect because paragraph 4 states that Camelia's age was determined to be about thirteen at the time of her death, but since her death was likely caused by a natural disaster, the suggestion that all Kourion people had a shorter life expectancy than people today is not supported.

37. (D) The question asks for the strongest reason for the author mentioning the zooarchaeologist in the passage. The primary purpose of the passage is to explain and describe modern archaeology, the technology it employs, and various aspects of the field. Zooarchaeology is a specialty within the field, which is stated in Option D. Option A is incorrect because other artifacts found near Camelia could have been introduced without mentioning the zooarchaeologist. Option B is incorrect because the text does not state any comparisons between zooarchaeologists and paleoarchaeologists. Option C is incorrect because the passage does not provide a list of archaeological specialists.

Snowy Mountains

38. (F) The question asks how the description in the first stanza helps establish a central idea of the poem. The poem is mostly about the grandeur of the mountains in spite of the spread of civilization. The first stanza contrasts these two elements, which is stated in Option F. Option E is incorrect because it is a detail that is referenced later in the poem. Option G is incorrect because the poem actually communicates the message that people do not recognize the greatness of the mountains. Option H is incorrect because, although the first stanza mentions the size of the mountains, it does not imply that people cannot see how large the mountains are.

39. (B) The question asks how the parallel structure of lines 1 and 15 affect the poem. Lines 1 and 15 communicate the feeling that the mountains are even higher and vaster than can be comprehended upon first view. This observation reflects the awe that the speaker feels, which is reinforced by the parallel structure of the lines, as stated in Option B. Option A is incorrect because the speaker never hints at fear when describing the mountains. Option C is incorrect because it reflects a literal interpretation of the figurative language in the two parallel lines: the mountains do not actually grow larger but are simply larger than can be understood at first. Option D is incorrect because the parallel structure of lines 1 and 15 is not meant to stress any sort of contrast between height and area but to reinforce the speaker's feeling by complementing each other.

40. (E) The question asks how the line from the poem helps develop the theme of the poem. Line 5 helps develop the theme that the mountains are more important than people realize by suggesting that the mountains serve a noble, foundational purpose in the world, as explained in Option E. Option F is incorrect because, while the poem does describe the strength and permanence of the mountains, the line does not suggest that these traits attract the clouds. Option G is incorrect because, while the line states that the highest peaks are "at rest," the mountains mentioned in the poem have already been harmed by human influence and do not remain untamed or untouched. Option H is incorrect because, while pillars are strong and may indicate shelter, there is no suggestion in the line that the mountains are protecting the people. Additionally, this concept is not a theme of the poem.

41. (D) The question asks how the isolation of the word affects the meaning of the poem. The isolation of the word "Uprise" powerfully emphasizes the first stanza's description of the magnificent mountains standing tall above the land below, as expressed in Option D. Option A is incorrect because the word describes the mountains and, therefore, does not create a contrast between the plateau and the city buildings, but rather between the mountains and the plateau. Option B is incorrect because the word contrasts the mountains with the plateau; it does not compare the mountains to the buildings in the city. Option C is incorrect because the first stanza describes the already developed land over which the mountains rise.

42. (G) The question asks how the poet develops the speaker's point of view in the second stanza. In the

EXPLANATIONS OF CORRECT ANSWERS *continued...*

second stanza, the speaker criticizes the destructive actions of “the world” (lines 8 and 10) against the mountains—actions such as tunneling “their granite cliffs” (line 11) and destroying “the lonely fragments of their peace” (line 14)—as described in Option G. Option E is incorrect because the speaker’s descriptions of the mountains’ grandeur mainly occur in the first and third stanzas, while in the second stanza, the speaker focuses on humanity and its negative effect on the mountains. Option F is incorrect because the wording of the second stanza—“makes war” (line 10), “Splits down their shining sides” (line 12), and “Destroys the lonely fragments” (line 14)—communicates the speaker’s position that people’s main impact on the mountains is destructive; the wording does not illustrate different ways people impact the natural environment. Option H is incorrect because no benefit to the mountains is described by the speaker in the second stanza.

43. (D) The question asks for the line from the poem that best supports the idea that people have forfeited natural beauty for profit. Advertisements are often used as a means to gain a profit, as implied by the soap advertisement in line 13 (Option D). Additionally, the word “Plasters,” in line 13, communicates a negative connotation for the use of advertisements on the priceless natural beauty of the mountains, making Option D the correct response. Option A is incorrect because, while city roofs may spoil the natural beauty, they do not directly symbolize financial gain or profit in line 3. Option B is incorrect because, although making a profit might have been the root cause of the damage that was done to the mountains, making war on the mountains is not a direct message about profit or financial gain in line 10. Option C is incorrect because, although tunneling through the mountains affects the natural beauty of the mountains, it does not directly symbolize financial gain or profit in line 11.

44. (F) The question asks for the detail from the poem that reflects the speaker’s view that people often fail to appreciate that which is familiar. Line 9 (Option F) most directly supports this idea by implying that the mountains have been here for so long that people are accustomed to seeing them and no longer appreciate their beauty and value, making Option F the correct response. Option E is incorrect because line 6 describes the mountains’ location, rather than their longevity or familiarity. Option G is incorrect because, in line 12, the mention of harm that has been done to the mountains does not connect to a sense of overfamiliarity. Option H is incorrect because, although line 18 alludes to the longevity of the mountains, it does not connect the

longevity with a sense of overfamiliarity or the failure of people to appreciate the mountains’ worth.

45. (A) The question asks how the details in the third stanza contribute to the development of the theme of the poem. In the third stanza, phrases such as “Wilderness still untamed” (line 17), “time-resisting storm-worn stone” (line 22), and “The mountains swing along” (line 23) convey the message that in spite of the destruction described in the second stanza, the mountains manage to maintain their wild magnificence. This message is communicated in Option A. Option B is incorrect because, while the phrase “Barrier broken down” (line 21) conveys the idea that people can have some effect on the natural landscape, it does not convey how nature affects people. Option C is incorrect because the phrase “those who do not heed” (line 21) implies a choice to damage nature and not a lack of awareness or understanding. Option D is incorrect because the third stanza is not a call to humanity to respect the mountains but a description of the untamed, welcoming mountains and the joy they provide for those who appreciate them.

46. (G) The question asks how the lines help convey the speaker’s point of view. The words “those who do not need / The joy” in lines 21–22 suggest the speaker’s sadness that people do not realize that they are destroying something wonderful and irreplaceable, as expressed in Option G. Option E is incorrect because the word “barrier” (line 21) refers to the speaker’s opinion that the mountains were “spread by Gods” (line 19) and not to an obstacle that the speaker thinks should be removed. Option F is incorrect because, while the lines indicate that people have lost the need to connect with nature, they do not reveal that the speaker thinks that the cause of this loss is busyness. Option H is incorrect because, although the speaker does say that the stone is “time-resisting” (line 22), this belief is only a small detail of the speaker’s point of view.

47. (A) The question asks what the personification in the lines suggests in the poem. Line 25’s use of the word “Welcoming” suggests that the mountains are kind hosts. Lines 23 and 26, with language such as “The mountains swing along” and “The mists that dance and drive before the sun,” imply the carefree nature of the mountains as they resist the destructive work of humanity. Therefore, Option A is correct. Option B is incorrect because the wording in the lines is positive and victorious, with no language to suggest coming destruction. Option C is incorrect because, although the lines mention that “the mountains swing along” (line 23) and “the mists . . . dance” (line 26), the personification is used to describe the

mountains' perseverance, rather than to suggest that the mountains are entertaining others. Option D is incorrect because the lines refer to the joy of the mountains as they "swing along" (line 23) and do not suggest pride.

The Invention of the Telegraph

48. (H) The question asks for the best explanation of how the use of problem-solution in paragraph 2 helps develop the ideas in the passage. Option H is correct because it explains that Morse realized his problem was that he was not knowledgeable enough to continue his experimentation without help, so the solution was to seek help from a colleague. Option E is incorrect because, while the discussion on the ship fascinated Morse and reminded him of the lectures he had attended at Yale College, it was his failed attempts with electricity that caused him to reach out to Gale for help. Option F is incorrect because, while "Morse found when he began to develop his idea that he had little real understanding of the nature of electricity" (paragraph 3), the paragraph does not state that he was discouraged; it was his failed experimentation that resulted in him first realizing that he needed help. Option G is incorrect because the paragraph states that "Morse came to understand how [Faraday's electromagnet] worked," and that understanding is what caused him to think about sending messages over a wire; Also, Morse's difficulty was in understanding the properties of electricity in general once he began his experimentation.

49. (B) The question asks how the use of sequencing, or arranging in chronological order, in paragraph 3 contributes to the overall structure of the passage. Paragraph 3 outlines the information that Gale knew who Henry was ("Well before Morse had his shipboard idea about a telegraph, Henry rang a bell at a distance by opening and closing an electric circuit") and that Gale told Morse. Gale's input was "crucial to Morse's telegraph system," and hiring Vail was an additional and necessary help. Therefore, Option B is correct because the creation of Morse's telegraph involved a series of steps that each built upon earlier ideas and inventions from others, such as Henry, Gale, and Vail. Option A is incorrect because, although the inventions and advancements of others assisted in the development of the telegraph, the passage does not suggest that the other men were attempting to create their own telegraph systems. Option C is incorrect because the only other long-distance communication system mentioned in the passage is the outdated semaphore system discussed in paragraph 1. Option D is incorrect because the telegraph system was in

development for more than ten years because of the lack of funding and the need for further experimentation.

50. (F) The question asks what the words "dramatic" and "spectacularly" convey in the sentence. Morse and Cornell rushed to post the wires overhead, and the "rigid deadline" (paragraph 7) was successfully met. The words have a positive and victorious tone that is consistent with the feeling of wonder that it worked and of celebration that the construction was completed, making Option F correct. Option E is incorrect because, while there may have been some feelings of relief and fulfillment that the lines were in place, the passage does not say so, and instead it focuses on the wonder and joy Morse and Cornell felt overcoming setbacks and completing the construction of Morse's telegraph system. Option G is incorrect because the passage does not share whether Morse or Cornell considered the future possibilities of the telegraph, only that the finished product was "dramatic," implying it was amazing to see. Option H is incorrect because, while the passage later discusses the expansion of overhead wires "up and down the Atlantic coast" and how they "connected the continents of Europe and America" (paragraph 8), there is no evidence shared in the passage that Morse planned to continue his work with electricity.

51. (A) The question asks for support from the passage for the idea that Morse was aware of his limitations. Option A is correct because the sentence from paragraph 2 details the materials with which Morse experimented unsuccessfully before turning to others for assistance. Option B is incorrect because, although the sentence from paragraph 3 notes that Gale provided necessary assistance, it makes no reference to Morse admitting defeat and requesting his help. Option C is incorrect because, although the sentence from paragraph 3 makes it clear that Henry, Gale, and Vail contributed to Morse's success, the sentence does not specifically say that Morse realized that he needed assistance to succeed. Option D is incorrect because the sentence from paragraph 7 refers to Morse seeking help from Ezra Cornell in constructing his system, not in developing a way to make it work.

52. (F) The question asks how a passage section helps convey a central idea of the passage. Paragraph 3 states that "Henry's experiments, Gale's assistance, and, soon after, hiring the young technician Alfred Vail were keys to Morse's success." The level of interest inspired Morse and others to work together to find a way to use electricity to send long-distance messages. Option F is correct; the section helps convey a central idea

EXPLANATIONS OF CORRECT ANSWERS *continued...*

because, overall, the section focuses on what fascinated Morse enough to begin his work and how others were just as interested and willing to work to achieve this goal. Option E is incorrect because, although the word collaborative suggests that multiple people contributed to the telegraph's success, the option does not clarify the research and effort needed in order to understand how to use electricity to send signals. Option G is incorrect because when Morse came to understand how Faraday's electromagnet worked, Morse wondered if it might be possible to send a coded message over a wire, but that thought later evolved into the telegraph only after more research and experimentation. Option H is incorrect because the influence of what Morse learned at Yale was only a minor factor in his development of the telegraph.

53. (B) The question asks how the graph supports the ideas in paragraph 8. The graph shows the number of messages transmitted from 1870 to 1920. In 1920 almost 160 million messages were transmitted, showing a “dramatic”—almost double—increase from 1910, which makes Option B the correct answer. Option A is incorrect because, while it can be implied from the expansion shown on the graph that people possibly welcomed the improvement in long-distance communication, the graph does not state this explicitly. Option C is incorrect because the graph does not show how many people used the telegraph, but rather it shows the number of messages sent. Additionally, paragraph 8 provides no details about hesitation on the part of individuals. Option D is incorrect because, while improvements in recording and interpreting code were made, the graph does not show the effect of this advancement on the speed or number of messages being transmitted.

54. (G) The question asks for the best summary of Morse's efforts to fund the construction of his telegraph system. Option G is correct because it details all the steps that resulted in Morse obtaining the appropriation, or \$30,000 needed. Option E is incorrect because it focuses on what Morse did while his application for the funding was delayed. Option F is incorrect because, while it begins with Morse applying for the grant, it focuses on the process required for the government to approve the appropriation. Option H is incorrect because it relates how Morse worked with others to develop his ideas about the telegraph before applying for funding for its construction.

55. (A) The question asks how the map provides additional support for a central idea of the passage. The map shows the telegraph line crossing continents in 1902, just forty-four years after the first message

was sent in 1858. This is a much greater distance than the first line Morse built between “the Supreme Court chamber of the Capitol building and the railroad station in Baltimore” (paragraph 7), making Option A correct. Option B is incorrect because the map shows the distance the line covers; it does not indicate Morse's lack of foresight in seeking patents only in North America. Option C is incorrect because, while Gale's advice was crucial to Morse's success, the map shows the physical line stretching across continents many years later, after their initial work. Option D is incorrect because, while it can be inferred that the telegraph had influence across the world, the amount of influence cannot be determined.

56. (E) The question asks for information that conveys the idea that the United States was mostly unaware of the possibilities of electricity in the mid-nineteenth century. The passage states that most signaling systems at the time were “visual or ‘semaphore’ systems using flags or lights” (paragraph 1) and that the United States was looking for “just such a system along its entire Atlantic coast” (paragraph 1). Option E is correct because waving lights and flags reveals how limiting and simple the system of the time was, and Option E states that the United States wanted to expand this system, not improve upon it. Option F is incorrect because the delay in funding had to do with the Panic of 1837 and the “long depression” (paragraph 5), not because the House of Representatives was not aware or ready for innovation in the use of electricity. Option G is incorrect because it focuses on what prompted Morse to consider an electronic wire-based communications system. Option H is incorrect because it describes a basic aspect of an early electrical discovery that demonstrated the interest of scientists in the possibilities of electricity, not the United States as a whole.

57. (D) The question asks which statement best represents a viewpoint held by the author of the passage. Paragraph 8 states that “Telegraph lines soon extended westward, and within Morse's own lifetime they connected the continents of Europe and America.” Therefore, Option D is correct because the author presents Morse's telegraph as a great leap in the ability to quickly communicate messages over distances never before imagined. Option A is incorrect because the author explains that the aboveground wiring was used only because “Cornell suggested that [it was] the fastest and cheapest way” (paragraph 7), not because it would be more successful. Option B is incorrect because the author conveys the importance of this advancement in communication without providing detailed information about electrical systems. Option C is incorrect because,

while the Panic of 1837 caused a delay in Morse's funding, the author shows that Morse received the appropriation in 1843 and was able to overcome the financial setback he faced.

58. (120) There are 5 choices for the first digit, 4 choices for the second digit, 3 choices for the third digit, 2 choices for the fourth digit, and 1 choice for the final digit. The total number of possibilities is $5 \times 4 \times 3 \times 2 \times 1 = 120$.

59. (3)
$$\frac{147-x}{12} = 12$$
$$147 - x = 144$$
$$x = 3$$

60. (-3.4)
$$|(-6) - (-5) + 4.2| - |3 - 9.6| = |3.2| - |-6.6|$$
$$= 3.2 - 6.6 = -3.4$$

61. (300) Let x be the total number of pages in the workbook. Then, 20% of x is 60. Set up a proportion and solve for x :

$$\frac{20}{100} = \frac{60}{x}$$

$$20x = 6,000$$

$$x = \frac{6,000}{20} = 300 \text{ pages}$$

62. (65) Call the missing angle in the top half of the figure x . The sum of the four angles on the top of the figure is equal to 180° .

$$x + y + 30 + 60 = 180$$

Since x is a vertical angle with the 25° angle, then x is also 25° . Use that to solve for y .

$$25 + y + 30 + 60 = 180$$

$$y + 115 = 180$$

$$y = 65$$

63. (D)
$$x(x - 2y) = 9[9 - 2(-7)] = 9(9 + 14)$$
$$= 9(23) = 207$$

64. (E) Find the missing angle, angle QPT, of triangle PQT: $180^\circ - 70^\circ - 50^\circ = 60^\circ$

In parallelogram PQRS, angle QPT is congruent to angle QRS, so the measure of angle QRS is also 60° .

65. (D) Break the equations apart to each equal M :

$$M = 3N$$

$$M = \frac{P}{4}$$

$$M = Q + 5$$

$$M = \frac{R}{7}$$

Pick a number to substitute into the equations, and solve the equations to find the values of M , N , P , Q , and R .

Let $M = 2$. Since all the equations are equal to 2, substitute 2 to find each variable.

$$M = 3N$$

$$2 = 3N$$

$$\frac{2}{3} = N$$

$$M = \frac{P}{4}$$

$$2 = \frac{P}{4}$$

$$8 = P$$

$$M = Q + 5$$

$$2 = Q + 5$$

$$-3 = Q$$

$$M = \frac{R}{7}$$

$$2 = \frac{R}{7}$$

$$14 = R$$

Variable R has the greatest value.

EXPLANATIONS OF CORRECT ANSWERS *continued...*

66. (G) Set up a proportion:

$$\frac{x}{416} = \frac{3}{96}$$

$$96x = 1,248$$

$$x = 13 \text{ bundles}$$

67. (C) Set up an inequality to compare the costs:

$$0.15x \leq 10.50$$

$$x \leq 70$$

Therefore, 70 individual sheets of paper would cost \$10.50, so 69 is the greatest number of individual sheets of paper that Macie can buy that would be less expensive than the package.

68. (F) 7:00 p.m. is 6 hours after 1:00 p.m. Calculate the number of degrees the temperature dropped in 6 hours: $3 \times 6 = 18$ degrees.

Subtract that from the starting point (8 degrees) to find the solution:
 $8 - 18 = -10$ degrees.

69. (D) The ratio of red to blue to green is 15:7:3.

Find the proportion of blue marbles. Add the numbers of the ratio and use the total

sum as the denominator: $\frac{7}{15+7+3} = \frac{7}{25}$.

Find the proportion of green marbles: $\frac{3}{25}$.

Since there are a total of 75 marbles, the number of blue marbles is $\frac{7}{25} \times 75 = 21$.

The number of green marbles is

$$\frac{3}{25} \times 75 = 9. \text{ The number of red marbles is}$$

$$75 - 21 - 9 = 45.$$

If 2 blue marbles are removed and replaced with 2 green marbles, the number of blue marbles is now 19 and the number of green marbles is now 11. The ratio of red marbles to green marbles is 45:11.

70. (F) The total number of desserts ordered is
 $42 + 23 + 47 + 48 = 160$.

The probability that ice cream was chosen is

$$\frac{48}{160} = \frac{3}{10} = 30\%.$$

71. (C) Since 18 and 24 are both multiples of 6, find the least common multiple of only 18 and 24.

Multiples of 18: 18, 36, 54, 72...

Multiples of 24: 24, 48, 72...

The least common multiple of 6, 18, and 24 is 72.

72. (F) Let x be the number of dozens of eggs for 300 customers. Set up a proportion:

$$\frac{x}{300} = \frac{15}{200}$$

$$200x = 4500$$

$$x = 22.5 \text{ dozen eggs.}$$

Round up to 23 because you can't have half an egg.

73. (C) The total number of bottles of juice in the cooler is $5 + 3 + 6 = 14$.

The number of bottles of juice that are not apple juice (grape juice and orange juice) is
 $3 + 6 = 9$.

So the probability is $\frac{9}{14}$.

EXPLANATIONS OF CORRECT ANSWERS *continued...*

- 74. (H)** The radius of the large plate is 20 cm. Use that to find the area of the large plate:

$$A = \pi r^2 = \pi(20^2) = 400\pi \text{ sq cm}$$

The circumference of the smaller plate is 20π cm. Use that to find the radius, and then the area, of the smaller plate:

$$C = 2\pi r$$

$$20\pi = 2\pi r$$

$$r = 10$$

$$A = \pi r^2 = \pi(10^2) = 100\pi \text{ sq cm}$$

Subtract the area of the small plate from the area of the large plate:

$$400\pi - 100\pi = 300\pi \text{ sq cm}$$

- 75. (D)** The question says that an equal number (x) of each type of page space was purchased. To find the number of each type of page space that was purchased, multiply the price per type by x and set it equal to the total amount spent, then solve for x :

$$200x + 350x + 600x = 11,500$$

$$1,150x = 11,500$$

$$x = 10$$

Thus, the store purchased 10 units of each type of page space. To find the total **amount** of page space purchased, multiply each type of page space by 10, and add:

$$\begin{aligned} & \left(10 \times \frac{1}{4} \text{ page}\right) + \left(10 \times \frac{1}{2} \text{ page}\right) + (10 \times 1 \text{ page}) \\ &= 17\frac{1}{2} \text{ pages} \end{aligned}$$

- 76. (F)** Solve the inequality for x .

$$3x + 8 \leq 92$$

$$3x \leq 84$$

$$x \leq 28$$

The **positive** odd numbers less than 28 are 1, 3, 5, ..., 25, and 27. There are 14 of them.

- 77. (A)** Substitute 3 for y and solve for x :

$$\frac{36}{y} = 4x$$

$$\frac{36}{3} = 4x$$

$$12 = 4x$$

$$3 = x$$

- 78. (H)** Since $\overline{XY} = 20$ cm, use that to find \overline{YZ} :

$$\overline{YZ} = \frac{3}{5}\overline{XY} = \frac{3}{5}(20) = 12 \text{ cm}$$

$$\overline{XZ} = \overline{XY} + \overline{YZ} = 20 + 12 = 32 \text{ cm}$$

- 79. (C)** Calculate the cost of the cloth before tax:

$$1\frac{3}{4} \times 8 = \frac{7}{4} \times 8 = \$14$$

Now find the tax for \$14 worth of cloth:

$$14 \times 8\% = 14 \times \frac{8}{100} = \$1.12$$

Finally, add the cost of the fabric and the tax:

$$\$14 + \$1.12 = \$15.12$$

- 80. (F)** To find M , subtract $N - M$ and set it equal to the length:

$$1\frac{1}{3} - M = 5\frac{5}{6}$$

$$-M = 5\frac{5}{6} - 1\frac{1}{3}$$

$$-M = 5\frac{5}{6} - 1\frac{2}{6}$$

$$-M = 4\frac{3}{6}$$

$$M = -4\frac{1}{2}$$

EXPLANATIONS OF CORRECT ANSWERS *continued...*

- 81. (B)** Add the four values in the ratio ($177 + 12 + 7 + 4 = 200$) and use the sum as the denominator. Use that to find the fraction of zinc in one of the coins. Then reduce the fraction:

$$\frac{12}{200} = \frac{3}{50}$$

Multiply this fraction by 8 to find the number of grams of zinc in decimal form:

$$\frac{3}{50} \times 8 = \frac{24}{50} = 0.48 \text{ g}$$

- 82. (G)** Jack scored a mean of 15 points per game in each of the first 3 games, so he earned a total of 45 points for the first 3 games. Use that information to calculate the mean over the four games:

$$\frac{45 + 27}{4} = \frac{72}{4} = 18$$

- 83. (B)** Find the number of liters that need to be added. Since $\frac{1}{3}$ of the oil drum is full, $\frac{2}{3}$ of the drum remains empty:

$$\frac{2}{3} \times 4,320 = 2,880 \text{ liters}$$

Use the conversion $1 \text{ kL} = 1,000 \text{ L}$ to find the number of kL:

$$\frac{2,880}{1,000} = 2.88 \text{ kL}$$

- 84. (F)** First, find out how old Nicole and Carmen are now.

Let N = Nicole's age now.

Let C = Carmen's age now.

$$C + 2 = 17$$

$$C = 15 \text{ (Carmen's age now)}$$

$$N = 3C$$

$$N = 3(15) = 45 \text{ (Nicole's age now)}$$

$$N - 5 = 45 - 5 = 40 \text{ (Nicole's age 5 years ago)}$$

- 85. (C)** Let x be the original amount of the chemical. It loses 20% after each week, which means 80% of the chemical remains at the end of each week.

$$\text{End of first week: } 0.80x$$

At the end of the second week, 80% of the amount left at the end of the first week remains.

$$\text{End of second week:}$$

$$0.80(0.80x) = 0.64x \text{ or } 64\%$$

- 86. (G)** One more than an odd integer must be even.

One more than $w - 1$ is w , therefore w must be even. Two times an even integer must be even, therefore $2w$ is even. An even integer decreased by 2 must be even.

Therefore, $2w - 2$ must be even.

- 87. (B)** Find the least common multiple of 2, 3, and 4 — which is 12. So, it takes 12 minutes before all three are back at the starting line. Ann completes 1 lap every 2 minutes, so in 12 minutes she has completed 6 laps.

$$\begin{aligned} \mathbf{88. (F)} \quad 4(7 - 3x) - (5 - x) &= 28 - 12x - 5 + x \\ &= 23 - 11x \end{aligned}$$

- 89. (D)** First, add the number of students for each category to find out how many total students were in the survey: $12 + 16 + 7 + 5 = 40$

The number of students who had at least 2 pets are the ones who have 2 pets (7) plus the ones who have 3 or more (5). The total number of students with at least 2 pets is $7 + 5 = 12$.

The probability of a student in the survey having at least two pets is:

$$\frac{12}{40} = \frac{3}{10}$$

EXPLANATIONS OF CORRECT ANSWERS *continued...*

90. (E) Let x be the total number of liters the container can hold.

$$\frac{n+10}{x} = 60\% \text{ and } \frac{n+16}{x} = 75\%$$

First, solve each equation for x :

Equation 1:

$$\frac{n+10}{x} = \frac{60}{100}$$

$$\frac{n+10}{x} = \frac{3}{5}$$

$$3x = 5(n + 10)$$

$$x = \frac{5n+50}{3}$$

Equation 2:

$$\frac{n+16}{x} = \frac{75}{100}$$

$$\frac{n+16}{x} = \frac{3}{4}$$

$$3x = 4(n + 16)$$

$$x = \frac{4n+64}{3}$$

Now, set the two equations equal to each other and solve for n .

$$\frac{5n+50}{3} = \frac{4n+64}{3}$$

$$5n + 50 = 4n + 64$$

$$n + 50 = 64$$

$$n = 14 \text{ liters}$$

91. (B) $5x^3 + 3x + 9 + \frac{1}{x^2}$

$$= 5(10^3) + 3(10) + 9 + \frac{1}{10^2}$$

$$= 5,000 + 30 + 9 + \frac{1}{100} = 5,039.01$$

92. (E) The length of one side of the square is 6 cm. Since R, S, and T are midpoints, then \overline{TM} , \overline{MR} , \overline{RN} , and \overline{NS} are all equal to 3 cm. Triangles TMR and RNS are both right triangles, so the area of one of the triangles is $\frac{1}{2} \times 3 \times 3 = \frac{9}{2}$. The triangles are congruent, so the sum of the areas is $\frac{9}{2} + \frac{9}{2} = 9$ sq cm.

93. (D) Let x be the amount spent on planned expense in one year:

$$\frac{x}{29,600} = \frac{5}{8}$$

$$x = \frac{5}{8}(29,600) = 18,500$$

94. (G) First, figure out how many different topping pairs are possible. Use 1, 2, 3, 4, 5, 6, 7 to represent the toppings and create a list of possible pairs:

1,2; 1,3; 1,4; 1,5; 1,6; 1,7

2,3; 2,4; 2,5; 2,6; 2,7

3,4; 3,5; 3,6; 3,7

4,5; 4,6; 4,7

5,6; 5,7

6,7

So there are 21 different topping combinations for one pizza.

Since there are 3 pizza sizes, multiply the total number of combinations by 3 to get the total number of different pizzas Cody can create: $3 \times 21 = 63$.

95. (D) To find by what percent the number of families with 1 cat is greater than the number of families with 2 cats, calculate the difference between the two numbers and divide by the number of families with 2 cats:

$$\frac{42-35}{35} = \frac{7}{35} = \frac{1}{5} = 0.20 \text{ or } 20\%.$$

96. (H) One side of the square base is 3 ft long. Since the height of the box is 3 times the length, then the height is $3 \times 3 = 9$ ft. The volume of a rectangular prism is length \times height \times width. The volume of the wooden box is

$$V = 3 \times 3 \times 9 = 81 \text{ cu ft.}$$

97. (B) Calculate each mean speed:

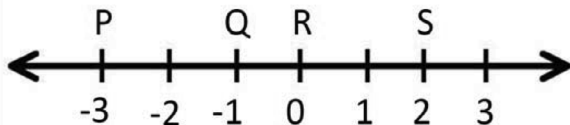
$$R = \frac{65}{5} = 13 \text{ kph}$$

$$S = \frac{72}{4} = 18 \text{ kph}$$

Then calculate the difference of both mean speeds:

$$S - R = 18 - 13 = 5 \text{ kph}$$

98. (G)



Find the midpoint of PQ and RS:

$$\text{Midpoint of PQ} = \frac{-1 - (-3)}{2} = \frac{2}{2} = 1 \text{ unit.}$$

The midpoint of PQ is located 1 unit from each endpoint, so the midpoint is at -2 .

$$\text{Midpoint of RS} = \frac{2 - 0}{2} = \frac{2}{2} = 1 \text{ unit.}$$

The midpoint of RS is located 1 unit from each endpoint, so the midpoint is at 1 .

The distance between the two midpoints is $1 - (-2) = 3$ units.

99. (D) If 1 L = 1,000 cu cm, then 1 L = 1,000 mL. Set up a proportion, letting x = the amount of cubic millimeters in 1,000 cubic centimeters.

$$\frac{1,000 \text{ cu mm}}{1 \text{ L}} = \frac{x \text{ cu mm}}{1,000 \text{ cu mm}}$$

Solve for x : 1,000,000 cubic millimeters are in 1,000 cubic centimeters.

100. (E) Both $x + 1$ and $y + 2$ are radii. So, set them equal to each other and solve for y .

$$y + 2 = x + 1$$

$$y = x - 1$$

101. (C) There are 5 sections between M and T. To find the length of one of these sections, find the distance between M and T and divide by 5:

$$\left(\frac{5}{8} - \left(-\frac{1}{4}\right)\right) \div \frac{5}{1} =$$

$$\left(\frac{5}{8} + \frac{2}{8}\right) \div \frac{5}{1} =$$

$$\frac{7}{8} \div \frac{5}{1} = \frac{7}{8} \times \frac{1}{5} = \frac{7}{40}$$

R is 3 sections away from M, so add:

$$-\frac{1}{4} + 3\left(\frac{7}{40}\right) = -\frac{10}{40} + \frac{21}{40} = \frac{11}{40}$$

R is located at $\frac{11}{40}$.

102. (H) Let x be the number of minutes Phan used his internet service in the month. Phan's monthly charges were $18 + 0.024x$. Since Deion's charges were the same as Phan's, set the expression equal to 30 and solve for x :

$$18 + 0.024x = 30$$

$$0.024x = 12$$

$$x = 500$$

Phan used his service for 500 minutes.

EXPLANATIONS OF CORRECT ANSWERS *continued...*

103. (B) Create a chart using the given information and use subtraction to figure out how many cars are not red **and** do not have a back-up camera:

	Red	Not Red	TOTAL
Back-up Camera	4	6 (10-4)	10
No back-up Camera		32 (38-6)	
TOTAL	12	38 (50-12)	50

The probability of selecting a car that meet both conditions from the total of 50 cars at the dealership is $\frac{32}{50} = \frac{16}{25}$.

104. (E) $0.06 = \frac{6}{100}$. Simplify the fraction to find the answer:

$$\frac{6}{100} = \frac{3}{50} \text{ so, } x = 3.$$

105. (C) The height of the triangle is 4 units. The length of the base is $n - m$. So the area is

$$A = \frac{1}{2}(n - m)(4) = 2(n - m).$$

106. (F) The total number of cards in the box is $8 + 6 + 5 + 4 + 1 = 24$. Set up a proportion to figure out which card has exactly a 1 in 4 chance of being picked at random. $\frac{x}{24} = \frac{1}{4}$ or $x = 6$. The dog card has a 1 in 4 chance of being randomly selected.

107. (C) Separate the compound inequality into two pieces:

$$2x - 2 \leq y \text{ and } y \leq 4x + 10$$

Substitute $y = 1$ into each inequality and solve for x :

$$2x - 2 \leq 1$$

$$2x \leq 3$$

$$x \leq \frac{3}{2}$$

$$1 \leq 4x + 10$$

$$-9 \leq 4x$$

$$-\frac{9}{4} \leq x$$

The solution is the number line that shows that x is greater than or equal to $-2\frac{1}{4}$ and less than or equal to $1\frac{1}{2}$.

108. (G) $\frac{14}{21} = \frac{p}{7}$

$$21p = 7(14)$$

$$21p = 98$$

$$p = \frac{98}{21} = \frac{14}{3}$$

109. (A) The total number of balls in the box is $7 + 14 + 21 = 42$.

The probability that the ball is black is

$$\frac{7}{42} = \frac{1}{6}.$$

EXPLANATIONS OF CORRECT ANSWERS *continued...*

110. (G) None of the 80 students ($800 - 720$) who answered “no” to Question A ($800 - 720$) could have answered “yes” to both questions. Therefore, the least possible number of students who could have answered “yes” to both questions, can be found by subtracting the 80 who answered “no” to Question A from the 640 who answered “yes” to Question B or $640 - 80 = 560$.

111. (A) Raoul is at least 3 years older than Vahn, which can be written as

$$r \geq v + 3$$

Rewrite this inequality to match the answer options:

$$r - v \geq 3$$

112. (F) Since 5.6 ricks and 12.88 dalts are both equal to 1 sind, then $5.6 \text{ ricks} = 12.88 \text{ dalts}$. To calculate the number of dalts (d) in 1 rick, set up a proportion:

$$\frac{5.6}{12.88} = \frac{1}{d}$$

$$5.6d = 12.88$$

$$d = 2.3$$

113. (D) The shelf, when full, holds 36 cans. When the shelf is half full, it holds 18 cans.

$$x - 4 = 18$$

$$x = 22$$

114. (G) The probability of the cup landing on its side is 72%. Carlos tossed the cup a total of 200 times ($50 + 150$). The number of times the cup lands on its side is 72% of 200:
 $0.72 \times 200 = 144$.

Answer Key for Sample Form B

1. B	13. B	25. D	37. D	49. B	61. 300	73. C	85. C	97. B	109. A
2. E	14. F	26. G	38. F	50. F	62. 65	74. H	86. G	98. G	110. G
3. C	15. D	27. C	39. B	51. A	63. D	75. D	87. B	99. D	111. A
4. G	16. G	28. E	40. E	52. F	64. E	76. F	88. F	100. E	112. F
5. A	17. C	29. D	41. D	53. B	65. D	77. A	89. D	101. C	113. D
6. H	18. H	30. F	42. G	54. G	66. G	78. H	90. E	102. H	114. G
7. A	19. B	31. A	43. D	55. A	67. C	79. C	91. B	103. B	
8. G	20. H	32. E	44. F	56. E	68. F	80. F	92. E	104. E	
9. B	21. A	33. B	45. A	57. D	69. D	81. B	93. D	105. C	
10. H	22. H	34. E	46. G	58. 120	70. F	82. G	94. G	106. F	
11. A	23. A	35. B	47. A	59. 3	71. C	83. B	95. D	107. C	
12. E	24. G	36. H	48. H	60. -3.4	72. F	84. F	96. H	108. G	