EXPLANATIONS OF CORRECT ANSWERS

FORM B

REVISING/EDITING PART A

1. (**A**) The question asks for the identification of a run-on sentence that needs to be corrected. Option B, Option C, and Option D identify complete sentences that are not run-ons. Option A identifies a sentence made up of two independent clauses that need to be more definitively separated between "opened" and "as," using either a semicolon or a period.

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2. (**G**) The sentence in the box demonstrates the use of a misplaced modifier. In Option E and Option F, the phrase "to promote their club" incorrectly modifies "a bake sale." While Option H makes it clearer that "to promote their club" refers to the "members of the debate team," the rest of the sentence is poorly written. Option G is the only option in which the phrase "to promote their club" clearly modifies "members of the debate team" and that clarifies that the bake sale is on Wednesday.

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3. (**C**) All the sentences should have a main verb in the past tense. For Option A (sentence 1), Option B (sentence 2), and Option D (sentence 4), the main verbs in the sentences are in the past tense ("spent," "did," "recited"). For Option C (sentence 3), the main verb in the sentence inappropriately shifts to the present tense ("studies") and should be revised to the past tense ("studied").

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4. (**F**) The sentence in the box needs a comma to set off the nonrestrictive clause "which is considered one of the New Seven Wonders of the World." Option E would remove the comma between a city and country, which would be incorrect. Option G would incorrectly remove the comma at the end of a nonrestrictive clause, which is set off by commas at the beginning and the end. Option H is incorrect because a comma is not necessary before the conjunction "and" to connect a dependent clause. Option F is the only option that places a comma where it is needed, after "Italy," to set off the nonrestrictive clause that follows.

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5. (**B**) The question asks for the most precise revision for the words ***The engineers tried some other things.*** Option A and Option C use the word "materials" rather than precisely identifying what the engineers used. Option D identifies the materials, but the imprecise verb "worked with" does not specify what the engineers were doing. Option B is the only option that revises the words to be precise by using the specific words "tested" for the verb and "foam and fiberglass" for the materials.

REVISING/EDITING PART B

The Local Library

6. (**E**) The question asks for a sentence that should replace sentence 4 to introduce the main claim in the passage. Option F 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 G states that the resources at a public library are most useful for students, which is discussed in the third and fourth paragraphs. The idea that the library is useful for students is offered as evidence for the main claim. Option H states the fact that local libraries provide services to help improve communities, which is explained in sentences 15–18, but this statement does not present an argument. Option E best presents the argument that the public library is a valuable resource and should be used by community members.

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7. (**D**) This question asks for the best way to combine sentences 6 and 7 to clarify the relationship between ideas. Option A makes an incorrect connection that the explosion of digital media happened "since" people can communicate instantaneously. Option B makes an incorrect connection because the use of the conjunction "although" suggests that the explosion of digital media in recent years led to something different before allowing people to communicate instantaneously, which does not make sense. Option C suggests that instantaneous communication is in addition to the explosion of digital media, rather than an effect. Option D is the only option that accurately connects the ideas in sentences 6 and 7 to show that the explosion of digital media has contributed to the ability of people to instantaneously communicate.

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8. (**H**) Sentence 9 expresses the idea that the library helps community members meet the need for human connection and companionship. Option E references the history of the library, which does not support the ideas in sentence 9 or the main argument in the passage. Option F introduces the idea of community meetings, but it does not support the idea in sentence 9. Option G mentions an expectation of the community, but it does not support the ideas in sentence 9, and it brings up a new idea unrelated to the main claim in the passage. Option H is the only option that provides support for sentence 9 and strengthens the connection between the information in sentence 9 and the main argument in the passage by listing examples of how people can connect at the library.

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9. (**B**) Sentence 11 provides an example of a way that a person can use the library, and sentence 12 offers another way. Option A suggests that sentence 12 is an example of the idea in sentence 11. Option C suggests that sentence 12 confirms the point made in sentence 11. Option D suggests that sentence 12 is a result of sentence 11. Option B is the only option that demonstrates that sentence 12 provides a similar example of a person who can use the library.

10. (**E**) The question asks for a revision of sentence 14 that best maintains the formal style established in the passage. Both Option F and Option H use the second person and directly address the reader, which is more informal. Also, Option H uses the informal phrase "whatever you need to do." Option G does not use second person, but it uses informal language like "work on" and "things." Option E is the only option that maintains the formal style by using "people" instead of "you" and the more formal language "resources available" and "accomplish many tasks."

11. (**C**) The question asks for where sentence 19 should be moved in order to improve the organization of the fourth paragraph. Sentence 19 describes a typical librarian and the direction he or she provides in the library. Option A places this sentence before the main idea of the paragraph, which states that public libraries offer a variety of resources. Sentence 19 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 B places the sentence before the librarian is introduced in the paragraph. Both sentences 17 and 18 (Option D) have moved on from the topic of the librarian, so sentence 19 would not logically fit between them. Option C correctly places sentence 19 after the librarian is introduced in sentence 16, with an example of what else the librarian does.

12. (**G**) The question asks for a sentence that is irrelevant to the argument presented in the passage. Option E is relevant because sentence 3 makes reference to the library being one of the oldest yet best resources. Option F is relevant because sentence 11 provides an example of how a person can get assistance at the library, the main idea of the third paragraph. Option H is relevant because sentence 20 emphasizes the important idea that libraries are accessible. Option G, while related to the topic of the library because it states the selection of materials available, does not contribute to the argument of the passage, which is that the library promotes a sense of community and offers assistance. This sentence should be deleted.

13. (**B**) The question asks for a concluding sentence that would follow sentence 21 to support the argument presented in the passage. Option A does not provide a logical conclusion to support the argument that the public library is a valuable resource because the sentence addresses the patrons of the library more than the function of the library. Option C presents the idea that the library has been in existence since 1833, but it does not logically support the main claim of the passage as a concluding sentence because it focuses only on this one idea. Option D states a new claim, that community leaders must work together to support library events, instead of a claim supporting the argument of the passage. Option B is correct because it logically follows sentence 21 and supports the argument that the public library is a valuable part of a community by urging community members to use, maintain, and support their local public library.

Moving Through Mountains

14. (**E**) Sentence 4 is the reason for the situation described in sentence 5. In Option F, the phrase "even though" changes the relationship between ideas so that the sentence illogically implies that needing to navigate around and through the mountains should have made transportation easy. Option G is incorrect because it states that traveling around the mountains or through winding tunnels emphasized that transporting people and goods was difficult rather than clarifying that this difficulty was an effect of having to travel around the mountains or through winding tunnels. Option H reverses the relationship between the ideas. Only Option E makes it clear that the transportation of people and goods was difficult because roads and railways had to navigate around and through the mountains.

15. (**C**) The correct answer should state the main topic of the passage. Option A offers overly detailed information about the funding to build the Gotthard Base Tunnel, but it does not explain what or where it is. Option B gives details about the opening of the tunnel but does not provide a description of the tunnel. Option D offers a result of the Gotthard Base Tunnel, rather than a description of what and where it is. Only Option C specifically states and clarifies the Gotthard Base Tunnel as the main topic.

16. (**F**) The correct answer needs to provide details about the tunnel-boring machines used to build the Gotthard Base Tunnel to supplement the general description of the machines in sentence 8. Option E offers information about how tunnel-boring machines were an improvement, which does not explain how the machines work. Option G is incorrect because it describes how the tunnel could not be completed until advances were made in tunnel-boring machine technology and does not describe the machines used for this tunnel. Option H explains that there are different types of machines for different geologies, but the geology of the tunnel area is not discussed in sentence 8 or the rest of the paragraph and the sentence does not explain how the machines work. Only Option F gives specific details about the tunnel-boring machines used to create the Gotthard Base Tunnel.

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17. (**D**) The correct answer must be a location in which the sentence completes the detailed steps of how the tunnel was built. Option A, placing the sentence at the beginning of the paragraph (before sentence 7), would not make sense because the topic has not been introduced. Similarly, Option B, placing the sentence after sentence 7, would not make sense because adding concrete would have to happen after the rock was broken down and removed from the tunnel. Similarly, Option C, placing the sentence between sentences 9 and 10, would not make sense because the use of concrete did not take place before the removal of "28 million tons of rock." Option D, placing the sentence between sentences 10 and 11, is correct because placing the sentence there helps the reader understand the full sequence of steps in constructing the tunnel before the cost of the project is introduced.

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18. (**G**) The correct answer must be a transition that clarifies the relationship between the ideas in sentences 14 and 15. Option E, "even so," suggests that travel between Zurich and Milan would not be affected by the tunnel. Option F may seem attractive because "additionally" is used to show that sentence 15 gives a new idea related to the earlier one in sentence 14. However, sentence 15 doesn't add an idea related to faster travel time. Option H, "therefore," is used to show that one idea or event is the result of another. However, the one-hour reduction in travel time from Zurich to Milan mentioned in sentence 15 is not a result of travel being faster from northern to southern Europe but a detail to show one trip that will be faster. Only Option G, "for example," correctly shows that the reduced travel time from Zurich to Milan is an example of faster travel between northern and southern Europe.

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19. (**D**) The correct answer must be a sentence that is irrelevant to the topic. Sentence 3 (Option A) introduces the obstacle that the Gotthard Base Tunnel was built to overcome, so sentence 3 should not be removed. Sentence 11 (Option B) should not be removed because the sentence helps the reader understand that building the tunnel was a massive job. Sentence 13 (Option C) helps the reader understand how the tunnel will improve transportation through the Alps, so it should not be removed. However, the information about the Channel Tunnel in sentence 17 (Option D) does not help the reader understand the Gotthard Base Tunnel, so sentence 17 should be removed.

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20. (**F**) The correct answer needs to support key points from earlier in the passage. Option E would not be an effective concluding sentence because the economies of surrounding areas were never mentioned in the passage. Option G might seem attractive because building the Gotthard Base Tunnel appears to have required many people to work together. However, the passage does not explicitly mention people or groups working together. Option H would not be an effective concluding sentence because it focuses on the cost of the Gotthard Base Tunnel, which is referred to in only sentence 11 of the passage. Only Option F, which supports key elements from the introductory paragraph, would make an effective concluding sentence.

READING COMPREHENSION

Debates

21. (**C**) The passage is primarily about the participants in the first televised presidential debate (lines 10–24), details about how both Nixon and Kennedy acted during the debate (lines 25–47), and the impact of the debate (lines 47–61). All of these details are best stated by Option C. The reasons Nixon was expected to win (Option A), the discussion of domestic issues (Option B), and the qualifications of each candidate (Option D) are important details related to the debates but are not the overall topic.

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22. (**F**) Some observers suggested that had the debate not been on television, it is more likely that Nixon, not Kennedy, would have won the election (lines 64–67), which is Option F. The passage states that Nixon was well known, ahead in the polls, and more experienced than Kennedy (lines 16–20), so it is unlikely that Kennedy would have won anyway (Option E) or that the

election results would have been closer (Option G). The idea that the debates would not have become a tradition (Option H) is not supported by the passage.

23. (**C**) The answer to this question can be found in the fourth paragraph. Lines 57–59 state that "Some feared that the better TV performer was bound to come across as being the better candidate." This concern is best reflected in Option C. The less well-known candidates have to encounter more experienced candidates whether the political debates are televised or not, which rules out Option A. While certain candidates may be uncomfortable on live television, this was not the main concern described in the fourth paragraph, ruling out Option B. Multiple debates were planned before the first debate took place, so the idea in Option D would not be considered an undesirable consequence of televised debates.

24. (**F**) Details in lines 49–52 show that the televised debates benefitted Kennedy by allowing him to display his "charm, poise, and confident manner," which were favorable characteristics that convinced viewers he had the maturity to be president. This benefit is summarized by Option F. Option E is incorrect because it can be inferred that both candidates appeared to have an equal understanding of domestic issues since they are described as having "dealt with the issues calmly and carefully" (lines 31–33). Both Nixon and Kennedy took questions from reporters (lines 29–31), but there is no indication that Kennedy had a better relationship with reporters than Nixon did, which rules out Option G. The debate may have persuaded some viewers to agree with Kennedy's positons on domestic issues (Option H), but the passage does not support that this was an advantage for Kennedy because of the debates being televised.

25. (**D**) The detail in Option D supports the last sentence of the passage: Nixon's greater experience (lines 16–20) may have been more apparent to radio listeners who would not have been distracted by his poor television appearance. While lines 53–54 state that fewer people watched the later debates (Option A), this does not support the idea that Nixon would have won had the debates not been televised. The idea that both Nixon and Kennedy responded to questions calmly and carefully (lines 31–33) also does not indicate that Nixon would have won, ruling out Option B. While Nixon was ill just before the debate (lines 40–41), this does not support the idea that Nixon was the favorite to win before the debate, ruling out Option C.

26. (**F**) The answer is given in lines 3–9, which explains that the debates of 1960 were the first time presidential debates were broadcast on television and reached a greater audience than ever before, including people who were not interested in politics. This is summarized in Option F. Option E is a true statement, but it does not explain why people not interested in politics would have watched the debates. The text does not indicate that Kennedy's youth and charisma were the main reasons people watched the debates, ruling out Option G. The idea that people wanted to verify the newspaper polls (Option H) is not supported by the passage.

Ice

27. (**B**) The passage begins by asking why ice is slippery (lines 2–5) and then reviews several theories of slipperiness: smoothness, friction, pressure, and Faraday's theory. Option B best states the topic of the passage. The circumstances that allow ice to melt (Option A), the discoveries of Michael Faraday (Option C), and the processes of freezing and melting (Option D) are details related to the theories of ice slipperiness, but they do not express the main idea of the passage.

28. (**E**) The most likely reason that the author mentions lead and diamond crystals (lines 70–71) is to illustrate that solids other than ice have slippery surfaces and indicate that other substances can contain this property under the right circumstances (lines 72–73). This is best stated in Option E. Option F cannot be correct, because these crystals are not made of frozen water. The properties of lead and diamond crystals are not related to Faraday's theory, ruling out Option G. While lead and diamond crystals may demonstrate the slipperiness property under certain temperature and pressure conditions (Option H), the author does not list these substances in order to show the effects of temperature and pressure on their slipperiness.

29. (**C**) According to Faraday, the liquid on the ice cubes' surfaces freezes solid when the surfaces make contact (lines 42–45). This information is restated in Option C. Option A is incorrect because Faraday's explanation does not include the concept of friction. Neither the pressure theory, described in the third paragraph, nor Faraday's theory, described in lines 35–42, support the idea that applied pressure forces ice cubes to stick together, ruling out Option B. Smoothness (Option D) was a discredited explanation for slipperiness, not for why two ice cubes fuse when held together.

30. (**E**) The experiment at Lawrence Berkeley Laboratory is mentioned in lines 51–57. The author most likely mentions the experiment because the data provide evidence that the ice surface remains liquid-like, creating a slippery layer of molecules on the ice surface (Option E). In the past, studying ice molecules was impossible (lines 46–48), but the experiment at Lawrence Berkeley Laboratory does not indicate the difficulty of studying ice molecules presently, ruling out Option F. Option G is incorrect because the experiment described in the fifth paragraph did lead to the conclusion that the molecules vibrated only up and down (lines 63–64). Ice cubes freezing together refers to Faraday's observations in lines 41–42 (Option H), but the experiment at the lab in 1996 is included to present observations about ice on a molecular level.

31. (**B**) The distinction between the two terms is made in lines 63–65. The surface of ice is liquid-like because the surface molecules move only up and down, which is Option B. Option A describes the results of the experiment, not the ice surface itself. The passage does not state that the liquid-like state is related to temperature (Option C) or pressure (Option D).

32. (**H**) The friction theory of slipperiness is explained in the second paragraph, which concludes that the theory cannot explain why ice is slippery for someone who stands motionless, essentially creating no friction. Something that a theory cannot explain can be said to weaken, or undermine, the theory. Option H, "a person slipping while standing immobile on an icy surface," is the best answer. Option E undermines the pressure theory, not the friction theory. Option F and Option G neither support nor undermine the friction theory.

33. (**A**) The author includes the information about the pressure theory to highlight that there are different perspectives on the validity of the pressure theory between what is presented in textbooks and what researchers believe to be true (lines 25–29). This is best stated in Option A. Option B is incorrect because the liquid-like theory, not the pressure theory, has gained more acceptance recently. Even if scientists have tested the pressure theory (Option C), the pressure theory still raises questions about why ice is still slippery when less pressure is applied (lines 29–34). There is scientific support for a plausible theory (Option D), but that support is for Faraday's theory, not the pressure theory.

Marsh

34. (**H**) The second through fifth paragraphs of the passage primarily describe Marsh's personal experiences and his ideas about nature, and the final paragraph explains how his ideas are the basis for the conservation movement. This is best stated in Option H. Option E focuses mainly on Marsh's early life and does not address his influence. Option F describes specific details about Marsh's beliefs but does not explain who he was or how he affected the conservation movement. Option G emphasizes that Marsh's ideas were radical and influential but does not provide any information about what Marsh's beliefs were.

35. (**D**) Marsh attributed people's practices to "the popular belief that nature could heal any damage that people inflict upon it" (lines 43–45), which suggests a lack of understanding, or ignorance, of nature (lines 31–32). This is best stated in Option D. Although future generations are working to solve environmental problems, there is no indication in the passage that Marsh believed that people in his time expected future generations to solve environmental problems, ruling out Option A. While the people of Marsh's time made advances in industry, Marsh did not indicate that he believed that people thought industrial progress outweighed efforts to protect the environment (Option B). Option C is incorrect because there is also no evidence in the passage to suggest that Marsh believed that people were unwilling to change their practices.

36. (**F**) Lines 1–9 lead the reader to expect that Marsh was part of the modern environmental movement that began in the 1960s. Therefore, the fact that Marsh's influential book was published 100 years earlier is surprising (Option F). While Marsh's ideas have had a resurgence in popularity since the 1960s (lines 7–9), Marsh's observations about deforestation in Vermont (lines 16–19) and land mismanagement in Italy (lines 25–30) indicate that his ideas were just as applicable in his time as they are today, ruling out Option E. While Marsh could not have been aware that his ideas would lead to the start of a conservation movement (Option G), line 12 indicates that the surprising part is that Marsh had these ideas 100 years before the conservation movement became popular. While it's possible a greater awareness of human impact on the environment during Marsh's time could have prevented certain environmental issues today (Option H), this is conjecture and does not explain the author's purpose for using the word "surprisingly."

37. (**C**) The concept that Marsh's theories about nature were accurate is best supported by the statement that ideas from his book are now considered basic knowledge in the field of environmental science (lines 51–54), which is Option C. While Marsh made observations of environmental degradation (lines 13–22, lines 25–27), this does not provide evidence that his theories were accurate, ruling out Option A. While Marsh's writing did inspire a conservation movement (lines 77–80), these details do not call attention to the accuracy of his ideas, which rules out Option B. Option D is incorrect because it refers to personal opinions (lines 58–59, lines 67–70), not his theories, which are considered true today.

38. (**H**) Details about Marsh's approval of the Suez Canal (lines 63–67) show that Marsh did not oppose certain human activates because the advantages—improved transportation and commerce—improved human life and outweighed negative environmental damage (lines 67–70). Option H best summarizes that idea. Option E is not relevant to the statement in question. Option F acknowledges Marsh's contributions to the environmental movement but does not relate to his attitudes about certain alterations to the environment. Option G is incorrect because it relates to a time when Marsh observed environmental degradation in a foreign country.

39. (**C**) Marsh's main contribution to the modern environmental movement is given in lines 5–7—the idea that Western society was causing irreparable harm to the environment. Option C restates that idea. While Marsh did believe that some human alterations to the environment are necessary (lines 67–70; Option A), that people lacked an understanding of nature (lines 30–32; Option B), and that environmental degradation had been occurring for many years (lines 27–30; Option D), it is clear from the information in the first paragraph that the impact of human activity was his most influential idea.

Wind Energy

40. (**E**) Option E best describes what the passage is about, which is how wind energy has been used in a variety of ways from ancient sailboats to medieval windmills to modern turbines. Wind farms are a more modern development, and they are mentioned only in lines 68–74, which rules out Option F as the main topic of the passage. Option G is incorrect because the second and third paragraphs explain in detail about windmills that were used in other areas of the world, not just the United States. Developing windmills to generate electricity is mentioned in lines 54–56, but this detail is explained only at the end of the passage, ruling out Option H.

41. (**B**) The idea that windmills were an important resource in the western United States is best supported by the information about the use of windmills to pump water for farms and livestock in lines 44–45 ("essential role in pumping water") and lines 47–50 ("over six million small windmills were installed . . . for watering livestock and meeting other water needs"). This is best stated in Option B. The details about the development and use of wind farms in lines 68–71 (Option A) support the idea of wind being an alternative energy source but are not limited to a specific region. The energy crisis of 1970 (Option C) was not limited to the western United States, and steam power (Option D) led to a decline in the use of windmills.

42. (**E**) The author describes the different tasks windmills were used for mainly to emphasize that windmills and wind energy can be used to serve a variety of purposes and were important in the production of goods before steam power was harnessed. This purpose is best stated in Option E. While windmills did replace water wheels (lines 26–31), this is not the idea the author is emphasizing by including a list of the tasks windmills were adapted to perform, ruling out Option F. The passage does explain that windmills had been used for many years (lines 15–23), but this idea is not highlighted by the list of tasks, which rules out Option G. Option H is incorrect because it relates to the idea that Holland was famous for its windmills (line 32), which is not proved or emphasized by the tasks listed in lines 36–40.

43. (**C**) The need for wind machines to produce electricity on American farms before the 1950s is discussed in lines 54–59. The next two sentences explain that the need for windmills decreased in the 1950s because most homes were connected to an electric utility and no longer depended on windmills for electrical power (Option C). The energy crisis happened in the 1970s and prompted a renewed interest in wind energy, which rules out Option A. The idea that coal and natural gas generate more power than wind turbines (Option B) is not supported in the passage as the main reason for the decline in the use of wind machines in the 1950s. Electrical connectivity, not wind farms, reduced the need for individual windmills (Option D).

44. (**H**) The author's opinion regarding the future use of wind energy is discussed in the last paragraph: "wind farms may prove to be as important in the future as earlier windmills were in the past" (lines 72–74). Option H best conveys the author's optimism that wind farms will be a major source of electricity in the future. Option E is incorrect, given the author's optimism. Option F and Option G relate to the present state of wind farming more than the author's vision of the future.

45. (**B**) The country of Holland most notably used windmills to pump seawater away from bogs and reclaim large areas of land (lines 32–36), as stated in Option B. The pumping of water to remote locations (Option A) was more important in the United States than in Holland. While Holland is famous for its windmills (line 32), the passage clearly states that windmills were most notably used for practical purposes, such as clearing bogs (lines 33–34) or processing goods (line 39), which rules out Option C. The use of windmills to process goods was not limited to or most notably done by the Dutch, which rules out Option D.

Pueblo

46. (**H**) Option E cannot be the topic of the passage because only the first paragraph discusses how weather conditions affect tree growth. Option F is too broad to be a good statement of the topic. The reason for the abandonment of the Pueblo villages (Option G) is mentioned only in the last paragraph, so it is not the main topic. Option H offers the best statement of the topic of the passage.

47. (**D**) Option A is true but can be proved without a key beam. Option B is not related to the key beam. Option C misrepresents the importance of the key beam. Option D is correct. The key beam, with its overlapping ring patterns from the established and floating chronologies, allowed archaeologists to connect the two chronologies.

48. (**F**) The size of the tree rings provides information about the health of the tree and insight about environmental factors and weather patterns (Option F). The fact that archaeologists rely on tree-ring dating suggests that it is accurate (Option E), but this does not explain why the author describes ring widths. Option G is incorrect because the passage explains that trees that live in a specific place at the same time will have the same tree-ring pattern. Option H is incorrect because it does not offer an explanation about the conclusions that can be made from the size of tree rings.

49. (**B**) Tree-ring dating helped reveal that the Pueblo villages were likely abandoned during a long drought (Option B). Option C first led archaeologists to realize that the villages had been abandoned. Option A and Option D contributed to establishing the chronology but do not explain why the villages were abandoned.

50. (**E**) The third paragraph describes the development of a floating chronology that did not overlap the established chronology that went back to 1260. This implies that the years of the floating chronology preceded the years of the established chronology, which is stated in Option E. Option F is incorrect because the pattern of tree-rings in the logs reveals more about the chronology than the number of tree-rings does. Archaeologists knew that the Pueblo villages were abandoned before the Hopi villages were established because the Hopi villages had been continuously inhabited (lines 31–33), ruling out Option G. Option H is incorrect because the size of the logs does not provide information about their connection to the established chronology.

51. (**C**) Lines 41–44 suggest that archaeologists compared samples from both villages in hopes of finding a beam where the patterns matched (Option C). The discovery of the key beam is described later in the passage. Option A, Option B, and Option D are related to information that can be gathered from examining the logs, but the options do not accurately explain the archaeologists' purpose of finding a key beam.

American Scene

52. (**H**) The correct answer is found in lines 65–68; the general public identified with American Scene art because the paintings presented common images and mirrored the lives of many people, which is best stated in Option H. While farm life was depicted in a subset of American Scene art (Regionalist art; lines 16–32), this is not an explanation of why people identified with the art, which rules out Option E. Option G is incorrect because American Scene art primarily focused on painting the changing United States as the artists saw it (lines 11–15). Option F may seem true, but the emphasis of the passage is on the relatability of the scenes depicted in American Scene art, not the beauty.

53. (**A**) According to the third paragraph, Urban Realists "painted the drab realities of the contemporary urban environment" (lines 34–36) and depicted "the high price paid by individual men and women struggling to survive the Depression" (lines 41–43). The subject that

best matches that description is Option A. Option B and Option D may be set in an urban environment, but they do not fit the description of Urban Realist art given in the passage. Option C is incorrect because it does not describe an American city scene.

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54. (**G**) Lines 49–53 provide the correct answer. Edward Hopper, the painter of *Nighthawks*, portrayed dingy urban streets; however, he often found beauty in the midst of a city's drab surroundings, which is expressed in Option G. Option E and Option H do not state clear contrasts to the Urban Realist style. The international style had not yet developed, ruling out Option F.

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55. (**B**) The fourth paragraph is about Edward Hopper and his association with American Scene art. The paragraph highlights that Hopper's work was unique and hard to classify because of the way he found beauty in otherwise drab urban settings (lines 49–53). This is best stated in Option B. The end of the American Scene movement is described in the fifth paragraph, not the fourth, ruling out Option A. Option C is incorrect because Hopper's work has been remembered. Option D is incorrect because the fourth paragraph focuses on Hopper's contribution to the art style of the time. Additionally, Urban Realist style is a subcategory of American Scene style, and most typically contrasted with Regionalist art (lines 33–37).

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56. (**E**) The phrase "without apology" (lines 59–60) refers to how Hopper saw and portrayed his subjects. In his art, he presented people and places as he saw them, as in his painting *Nighthawks* (lines 55–57). This is described in Option E. While Hopper did paint scenes of real places (Option F), the phrase is about how he chose to portray those scenes in his work. Hopper's works became well known (Option G), but the phrase does not relate to the popularity of his work. The passage says that Hopper "escaped further classification" (line 49), but the phrase does not relate to the classification of his art style, which rules out Option H.

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57. (**C**) Regionalist art, with its pleasant and familiar subjects, retained some of its popularity because it showed American life as people wished to remember it (lines 8–11, lines 19–23). This is best stated in Option C. It did not retain some of its popularity because it portrayed modern life (Option A) or the time in which it was painted (Option B). Regionalist art did not depict Americans overcoming the Depression or life during World War II, ruling out Option D.

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 $5 \times 4 \times 3 \times 2 \times 1 = 120$.

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

$147 - x = 144$

$x = 3$

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

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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:

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

$20x = 6{,}000$

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

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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.

$25 + y + 30 + 60 = 180$

$y + 115 = 180$

$y = 65$

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

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

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.

---

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 $\frac{3}{25} \times 75 = 9$. 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 fruit punch) is $3 + 6 = 9$.

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

---

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

$A = \pi r^2 = \pi(20^2) = 400\pi$ 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:

$C = 2\pi r$

$20\pi = 2\pi r$

$r = 10$

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

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

$400\pi - 100\pi = 300\pi$ sq cm

---

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

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

$1{,}500x = 11{,}500$

$x = 10$

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

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

---

76. (**E**) In the second quadrant, where point R is located, the x-values are negative and the y-values are positive. Any point in the second quadrant will have a y-value greater than the x-value. So, the answer is point R.

---

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 $\overline{YZ}$:

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

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

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

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

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

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

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

---

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.

$C + 2 = 17$

$C = 15$ (Carmen's age now)

$N = 3C$

$N = 3(15) = 45$ (Nicole's age now)

$N - 5 = 45 - 5 = 40$ (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.

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.

End of second week:
$0.80(0.80x) = 0.64x$ 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.

---

88. (**F**) $4(7 - 3x) - (5 - x) = 28 - 12x - 5 + x$
$= 23 - 11x$

---

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:

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

---

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

$\frac{n+10}{x} = 60\%$ 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.

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

$5n + 50 = 4n + 64$

$n + 50 = 64$

$n = 14$ 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:

$\frac{42-35}{35} = \frac{7}{35} = \frac{1}{5} = 0.20$ 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

$V = 3 \times 3 \times 9 = 81$ cu ft.

---

97. (**B**) Calculate each mean speed:

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

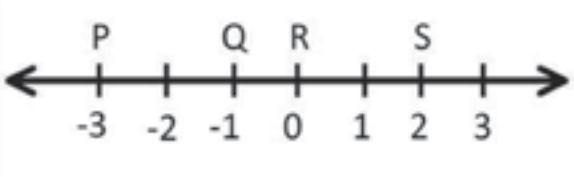
$$S = \frac{72}{4} = 18 \text{ kph}$$

Then calculate the difference of both mean speeds:

$S - R = 18 - 13 = 5$ kph

---

98. (**G**)



Find the midpoint of PQ and RS:

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

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

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

---

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:

$\frac{6}{100} = \frac{3}{50}$ 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:

$2x - 2 \leq y$ 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 $\frac{7}{42} = \frac{1}{6}$.

---

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 ricks = 12.88 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. A	13. B	25. D	37. C	49. B	61. 300	73. C	85. C	97. B	109. A
2. G	14. E	26. F	38. H	50. E	62. 65	74. H	86. G	98. G	110. G
3. C	15. C	27. B	39. C	51. C	63. D	75. D	87. B	99. D	111. A
4. F	16. F	28. E	40. E	52. H	64. E	76. E	88. F	100. E	112. F
5. B	17. D	29. C	41. B	53. A	65. D	77. A	89. D	101. C	113. D
6. E	18. G	30. E	42. E	54. G	66. G	78. H	90. E	102. H	114. G
7. D	19. D	31. B	43. C	55. B	67. C	79. C	91. B	103. B	
8. H	20. F	32. H	44. H	56. E	68. F	80. F	92. E	104. E	
9. B	21. C	33. A	45. B	57. C	69. D	81. B	93. D	105. C	
10. E	22. F	34. H	46. H	58. 120	70. F	82. G	94. G	106. F	
11. C	23. C	35. D	47. D	59. 3	71. C	83. B	95. D	107. C	
12. G	24. F	36. F	48. F	60. –3.4	72. F	84. F	96. H	108. G	