

**REVISING/EDITING PART A**

1. The question asks which edit should be made to correct the sentence.
  - A. **CORRECT.** The sentence in the box needs a comma to separate the coordinate adjectives. Coordinate adjectives describe characteristics of the same noun or subject and are connected with a comma or “and.” This option is the only one that places a comma where it is needed, between the coordinate adjectives “agile” and “athletic.”
  - B. Incorrect. The option incorrectly adds a comma in the middle of the phrase “first and only,” which modifies, or gives additional information about, “professional basketball player.”
  - C. Incorrect. The option incorrectly adds a comma between two adjectives that are not coordinate adjectives. “Only” is part of the phrase “first and only” and is modifying “professional basketball player.”
  - D. Incorrect. The option is incorrect because a comma is not needed to set off the phrase “to score 100 points in a single game.”

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2. The question asks for the most precise revision for the words “The engineers tried some other things.”
  - E. Incorrect. This revision uses the word “materials” rather than precisely identifying what the engineers used.
  - F. **CORRECT.** This option revises the words to be more precise by using the specific words “tested” for the verb and “foam and fiberglass” for the materials.
  - G. Incorrect. This revision uses the word “examined” rather than a word indicating a process of experimental trial and error. The sentence also uses the word “materials” rather than precisely identifying what the engineers used.
  - H. Incorrect. This revision identifies the materials, but the imprecise verb “worked with” does not specify what the engineers were doing.

3. The question asks for the revision that corrects the error in sentence structure in the paragraph.
- A. CORRECT.** As written, the first sentence (“In 1967 Katherine Switzer . . . legendary race.”) is a run-on sentence because a comma is used to combine two independent clauses. Independent clauses are complete sentences with a subject and a verb. The clauses—“In 1967 Katherine Switzer signed up for the Boston Marathon using her first and middle initials instead of her full name” and “at that time, only men were permitted to officially register and receive a number for the legendary race”—should be separated with a period instead. This revision correctly places a period after the word “name” and capitalizes the word “At” to separate the two independent clauses into two sentences.
- B.** Incorrect. The revision introduces an error into the paragraph and does not revise the run-on in the first sentence. The clause “Once officials realized a woman was attempting to run in the race” is a dependent clause functioning as an adverb of the independent clause that follows it. Changing the comma after the word “race” to a period would incorrectly separate the adverbial dependent clause from the independent clause.
- C.** Incorrect. The revision introduces an error into the paragraph and does not revise the run-on in the first sentence. The sentence “Switzer prevailed and finished in just over four hours, paving the way for the official rule change that allowed for the inclusion of women” is a complex sentence, which combines an independent clause (“Switzer prevailed and finished in just over four hours”) and a dependent clause (“paving the way for the official rule change that allowed for the inclusion of women”). The clause “paving the way for the official rule change that allowed for the inclusion of women” is not a complete sentence and must stay connected to the first part of the sentence. Changing the comma after “hours” to a period would incorrectly separate the dependent clause from the independent clause.
- D.** Incorrect. The revision introduces an error into the paragraph and does not revise the run-on in the first sentence. Changing the comma after “261” to a period would incorrectly separate the modifying clause “the same number she had worn in that first run in 1967” from the words it describes (“number 261”). Additionally, the clause “the same number she had worn in that first run in 1967” is not a complete sentence.

4. The question asks for the identification of the sentence that contains an error in its construction and should be revised.
- E. Incorrect. There are no errors in sentence 1. The singular pronoun "its" matches the number of the word it refers to, the singular noun "blobfish." Additionally, the clause "a creature that certainly resembles its name" is correctly set off by commas to provide an additional, but not essential, detail about the blobfish. The comma separating "pink" and "gelatinous" is correct because these are coordinate adjectives.
  - F. Incorrect. There are no errors in sentence 2. The singular pronouns "it" and "its" match the number of the word they refer to, the singular noun "blobfish." Additionally, the structure of the sentence correctly shows that the clause "Because it has very few muscles and its density is close to that of water" modifies the words "the blobfish."
  - G. Incorrect. There are no errors in sentence 3. The "it" and "its" in the sentence refer to "the blobfish" mentioned in the previous sentence. The use of singular pronouns in sentence 3 is consistent with the rest of the paragraph.
  - H. **CORRECT.** Sentence 4 contains an error because the sentence uses the plural pronoun "them" to refer to "The blobfish's," which is singular in number. The word "them" should be changed to "it." The paragraph refers to the blobfish as a singular species in each of the four sentences, and sentence 4 should be revised to match.

## REVISING/EDITING PART B

### Cracking the Code

5. The question asks for the best way to combine sentences 3 through 5 to clarify the relationship between ideas.
- A. Incorrect. While this sentence shows a relationship between the ideas, it does not clarify the relationship accurately. Learning the language of code does not depend on people's previous ability to construct programs that will perform detailed and complex tasks. The word "because" incorrectly indicates that people can already construct complex programs prior to learning the coding language that would allow them to do so.
  - B. **CORRECT.** This sentence accurately shows the relationship between the ideas of the sentences. Before people can construct programs that will perform detailed and complex tasks, they have to learn a coding language. Knowing that language will, in turn, allow them to build programs that can perform detailed and complex tasks.
  - C. Incorrect. This sentence does not accurately express the relationship between ideas because the sentence implies that some people who code do not have to learn the language to perform their job functions. The passage clearly states that "computer code is part of every electronic interaction" (sentence 1) and that "programmers use it to instruct computers to perform different tasks" (sentence 2).
  - D. Incorrect. The conditional (If . . . then) construction of the sentence in Option D does not convey the intended relationship of the ideas in the sentences. The "then" statement ("they can construct programs that will perform detailed as well as complex tasks") does not follow the condition of the "if" statement ("people who code have to learn this language").
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6. The question asks for the sentence that should follow sentence 5 to best state the main claim in the passage.
- E. **CORRECT.** This sentence logically follows sentence 5 and introduces the main idea of the passage: that due to the high demand for coding skills across a wide range of industries and disciplines, learning basic coding skills can provide a range of opportunities for personal growth.
  - F. Incorrect. While this sentence incorporates a point made in the passage about how coding can benefit many occupational fields (sentence 10), this idea alone does not address the entire argument in the passage. This sentence does not capture the passage's emphasis on the variety of ways people can learn how to code (sentence 14).
  - G. Incorrect. While this sentence incorporates ideas about opportunities to learn coding skills in school (fourth paragraph), the larger claim presented in the passage is not about opportunities schools should offer in order to help students learn to code. The passage primarily focuses on the opportunities offered to people who take on the challenge of learning to code.
  - H. Incorrect. Although the passage discusses the opportunities that are available to some students to learn coding skills in school (sentences 15–16), this point is a supporting detail of the passage, not the main claim of the passage.

7. The question asks for the best revision of sentence 10 to provide a transition to the argument in the third paragraph.
- A. Incorrect. Some readers may choose this option because the second paragraph does discuss the complexities of coding; however, it does not discuss the difficulties of learning coding. The third paragraph demonstrates some of the complex ways coding is used in specific fields but does not illustrate how difficult learning coding may be.
  - B. **CORRECT.** This sentence provides the best revision of the transition sentence. The second paragraph ends with “the possibilities for applying them are infinite” (sentence 9), which supports the idea that people in “many occupational fields” (sentence 10) can benefit from having coding skills. The third paragraph illustrates this idea by providing specific examples of occupations that benefit from coding (stock market traders and doctors).
  - C. Incorrect. While sentence 13 suggests that employers recognize the value of coding skills, sentences 11 and 12 give examples of different industries that employ people who know how to code. The transition sentence should introduce the idea that coding skills are valuable to potential employees.
  - D. Incorrect. Some readers may choose this option because the second paragraph provides a brief definition of coding—“A coding language uses letters, numbers, and symbols that are arranged in a way that makes sense to a computer” (sentence 6)—which shows how this element of programming works, but the second paragraph does not specifically discuss what makes the field of computer programming unique. The third paragraph discusses how coding can be used in a variety of occupational fields (sentence 10).
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8. The question asks which sentence would best follow sentence 13 and support the ideas in the third paragraph.
- E. Incorrect. While this sentence provides an example of a high salary, which is mentioned in the paragraph (sentence 13), the reference to “Experienced programmers, software engineers, and system administrators at large companies” focuses on specific occupations that may use coding, as opposed to the range of diverse occupations discussed in the third paragraph.
  - F. Incorrect. While sentence 12 does mention coding skills in the medical field as an example, the information provided in this answer supports only that idea and not the other ideas expressed in the third paragraph.
  - G. Incorrect. This sentence generally discusses employers looking for two things: “experience in a specific industry” and “knowledge of basic coding.” The third paragraph, however, discusses the possibilities of using coding skills in a variety of occupations. The words “experience in a specific industry” do not connect to the idea the paragraph develops.
  - H. **CORRECT.** This sentence provides specific evidence of the job market favoring potential employees who have coding ability. It supports what is stated in sentence 13, that “jobs that require coding skills are typically higher paying.”

9. The question asks which concluding sentence would best follow sentence 20 and support the argument presented in the passage.
- A. Incorrect. While the passage does state that “jobs that require coding skills are typically higher paying” (sentence 13), it does not say or imply that coding skills are needed for most high-paying jobs.
  - B. **CORRECT.** The sentence successfully summarizes the main argument of the passage, which is that coding is involved in all electronic interaction (sentence 1) and is a useful skill to master, especially in many occupational fields (sentence 10).
  - C. Incorrect. In the fourth paragraph, the passage does promote students taking advantage of opportunities to learn coding; however, this information is a supporting detail and would not serve as a strong conclusion to the argument presented in the passage.
  - D. Incorrect. Some readers may choose this sentence because the fourth paragraph discusses how “some students may become interested in learning how to create programs, such as games and apps” (sentence 18), but this detail is only one part of the overall argument in the passage.
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## READING COMPREHENSION

### The Best Laid Plans of Ravens

10. The question asks how paragraph 1 introduces the ideas that ravens may perceive time and plan for the future.
- E. Incorrect. In the poem referenced in paragraph 1, the narrator does not consider whether a raven can see the future but believes it is actually happening. Additionally, the discussion in paragraph 1 is about how people have historically doubted animals’ ability to plan, not about why people have doubted this ability in ravens specifically.
  - F. **CORRECT.** Edgar Allan Poe’s poem features a raven that speaks in a prophetic way. Since prophecies are a prediction of the future, the statement suggests that the raven has a sense of time. This reference is then tied to a modern study where “researchers argue that ravens may be able to think ahead and even plan for the future” (paragraph 1).
  - G. Incorrect. Although the idea of a raven being aware of the future in the poem is tied to a study that “hints that one particular idea behind the poem might not be as far-fetched as it seems” (paragraph 1), this connection does not prove that the poem is what prompted scientists to conduct such a study.
  - H. Incorrect. Paragraph 1 introduces the idea “that ravens may be able to think ahead and even plan for the future” but does not explain in detail the importance of differentiating between whether ravens act on instinct or have the ability to plan.

- 11.** The question asks which sentence from paragraph 4 supports the argument presented in the sentence from paragraph 1.
- A.** Incorrect. This sentence from paragraph 4 refers to the ravens' ability to adapt and learn but not to plan and think ahead.
  - B.** Incorrect. This sentence from paragraph 4 relates the actions of the researcher rather than the actions of the ravens and does not provide evidence in support of the argument that ravens have the ability to think and plan ahead.
  - C.** Incorrect. This sentence from paragraph 4 does not describe a behavior of the ravens that would support the argument in the sentence from paragraph 1; instead it relates the actions of the researchers without giving any information about the ravens' responses.
  - D. CORRECT.** This sentence from paragraph 4 shows that the ravens seem to make a decision, which involves a thought process. The ravens chose to wait for the researcher rather than take the treats, suggesting that the ravens understood that the researcher would trade a larger treat for the bottle cap.
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- 12.** The question asks which statement describes the effect in the passage of the phrase "merely instinctual" from paragraph 2.
- E.** Incorrect. The passage does not question animals' ability to find and save food but rather whether this or other behavior involves thought and planning for the future.
  - F.** Incorrect. While the sentence states that "many animals hoard food," the passage does not suggest that they give priority of thought to this activity; they hoard food out of instinct.
  - G.** Incorrect. Although the passage discusses animals' tendency to store a great deal of food, it does not suggest that their hoarding goes beyond their needs.
  - H. CORRECT.** The passage suggests that in order for an animal's actions to qualify as planning for the future, "the animal must use specific decision-making skills to solve a problem" (paragraph 2). The behavior of hoarding food is based on instinct and done automatically without real thought.

- 13.** The question asks which of the ravens' behaviors in the first experiment described in paragraph 4 most strongly supports the claim that the birds are capable of planning.
- A.** Incorrect. While "the researchers showed the birds how to use a small stone to open a box and get treats" (paragraph 4), the acceptance of the treats does not demonstrate planning.
  - B. CORRECT.** Once the ravens learned which stone would open the box, they consistently selected only that stone.
  - C.** Incorrect. Although the birds learned which stone opened the box, this behavior demonstrates not their ability to plan but rather their intelligence.
  - D.** Incorrect. The birds' patience shows their anticipation for and understanding of the future gain of a treat but does not provide the strongest evidence of their ability to plan.
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- 14.** The question asks how the sentence from paragraph 4 fits into the overall structure of the passage and contributes to the development of ideas.
- E. CORRECT.** The patience the ravens demonstrated in the sentence from paragraph 4 while waiting for the return of the researcher in both experiments shows their understanding that the researcher's return holds a benefit for them.
  - F.** Incorrect. The passage does not state that there was a set timeline for the researcher's return; the seventeen hours, mentioned in the sentence from paragraph 4, was just the longest time measured.
  - G.** Incorrect. The experiment did involve the ravens solving a problem. The ravens' patience demonstrated an understanding that there would be future gain for them by waiting for the researcher, but the sentence from paragraph 4 does not demonstrate the ravens' ability to plan.
  - H.** Incorrect. The way the ravens obtained the food from the researcher required far more than instinct; in order to get the maximum amount of food, a number of learned skills, such as selecting a stone that would open the box and choosing the bottle cap over the immediate treat, were necessary. The ravens' ability to wait, as demonstrated in the sentence from paragraph 4, does not influence or affect a learned behavior or a possible instinct to hoard food.



15. The question asks how paragraph 5 fits into the overall structure of the passage and contributes to the development of ideas.
- A. Incorrect. While paragraph 5 states that “more evidence needs to be gathered before scientists can fully conclude that ravens can plan for the future,” this statement suggests that more research is needed, not that the results of the Lund University study are problematic.
  - B. Incorrect. Paragraph 5 does not discuss steps of the study or emphasize difficulties in determining whether the behaviors shown in the study were planned or practiced; instead it simply suggests that more study is required to make such a determination.
  - C. **CORRECT.** Paragraph 5 notes that some doubt remains (“Some scientists argue that the ravens might be choosing the stone and bottle cap because the ravens have been trained to do so, not necessarily because the ravens are thinking ahead”) and that more experimentation is needed; the author concludes that there is reason to believe the originally stated theory that ravens are quite smart and can give thought to how future events may affect them.
  - D. Incorrect. Paragraph 5 does not list the effects of the study or criticize the experiment for not differentiating between planning and instinct. The paragraph explains why the results of the experiments are not conclusive and emphasizes that more research is needed.
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16. The question asks how the author conveys a point of view on the study of animal intelligence.
- E. **CORRECT.** Paragraphs 3 and 4 focus on the process and details of the experiments that scientists conducted. This detailed information from the author provides a sense of how the ravens demonstrated planning abilities beyond natural instinct. The author supports the claims from the experiments, calling the findings “exciting” and stating in the conclusion that “these experiments show that ravens could be much smarter than first believed” (paragraph 5).
  - F. Incorrect. Although two experiments are described in the passage, the description presents the experiments as building on each other and does not compare their results. The passage states that “these experiments show that ravens could be much smarter than first believed, and scientists now believe that ravens do actually think about their own future” (paragraph 5).
  - G. Incorrect. The author presents information from the experiments and the results that were gathered from them; while there is an admission that “more evidence needs to be gathered before scientists can fully conclude that ravens can plan for the future” (paragraph 5), the author does not criticize the experiments that are presented.
  - H. Incorrect. While the author does discuss some previously held beliefs about animal intelligence in paragraph 1, the focus of the passage is that experiments indicate that there is reason to question these beliefs, since “these experiments show that ravens could be much smarter than first believed”(paragraph 5). The previously held beliefs are not considered inaccurate by the discussion in the passage because only one example—the raven—is provided. The passage does not state that beliefs about animal intelligence as a whole are inaccurate.

17. The question asks the reader to choose the statement with which the author of the passage would most likely agree.

- A. Incorrect. It is very likely that additional experiments or changes to the experiments presented can help scientists tell the difference between the types of behavior that the animals are showing. The current research supports “other recent advances in animal science” and also shows that ravens are “much smarter” (paragraph 5) than previously believed, making them excellent candidates for further research.
- B. **CORRECT.** As paragraph 5 notes, “more evidence needs to be gathered before scientists can fully conclude that ravens can plan for the future.” The evidence is not yet considered definitive because “some scientists argue that the ravens might be choosing the stone and bottle cap because the ravens have been trained to do so, not necessarily because the ravens are thinking ahead” (paragraph 5). Therefore, more research is needed in order to draw a complete conclusion as to whether or not the animals are demonstrating advanced intelligence or simply the results of training.
- C. Incorrect. The passage shows that the scientists did not draw conclusions based on one experiment alone. The passage also states in paragraph 5 that additional research and experiments are necessary in order to obtain conclusive evidence of ravens’ abilities to think and plan ahead.
- D. Incorrect. The passage claims that more evidence must be gathered in order to make a claim that animals can definitely plan for the future. The evidence presented helps scientists “believe that ravens do actually think about their own future” (paragraph 5), but more confirmation is needed. The passage does not discuss performing experiments on additional species.

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**Excerpt from *Winter Wheat***

18. The question asks how the sentences in paragraph 2 help develop a theme of the excerpt.

- E. Incorrect. Although the sentences from paragraph 2 describe Ellen’s “funny feeling” upon realizing that she will no longer be home when the beans that her mother is making are ready to eat, the details do not show that life presents many challenges. Additionally, the theme that life presents people with many challenges is not a theme found in the excerpt.
- F. Incorrect. The sentences from paragraph 2 state that Ellen has “a funny feeling” while awaiting a major life event, but they do not indicate that she is confused or stressed. The details in the sentences convey a sense of wistfulness, but the theme that the stress of major life events causes confusion is not found in the excerpt.
- G. **CORRECT.** The sentences from paragraph 2 show that Ellen’s mother has moved on from the familiar and left her childhood home behind, just as Ellen is about to do. This information links the experiences of parent and child and helps develop the theme that moving beyond the familiar is a common human experience.
- H. Incorrect. Although the sentences from paragraph 2 show that Ellen’s mother has learned to cook New England food very well (“as though she were a New Englander herself”), they do not provide information about how easy or difficult it was for Ellen’s mother to learn a new way of cooking. The theme that people can easily learn the routines of a new culture is not a theme found in the excerpt.

19. The question asks how the sentence from paragraph 3 contributes to the conflict in the excerpt.
- A. Incorrect. Although Ellen’s father does want to drive to the city, this sentence does not reveal his reasons for wanting to do so. Ellen’s father’s wish to drive to the city is important to the conflict of the excerpt not because of his underlying reasons but because his wish differs from Ellen’s mother’s wish to take Ellen to the train at Gotham—a difference of opinion that introduces tension between the parents.
  - B. **CORRECT.** The sentence causes Ellen’s parents to propose competing options for taking her to the train, and the resulting conversation recalls fraught memories of an earlier leave-taking in the family. The disagreement between Ellen’s mother and father over where to take Ellen to catch the train heightens the tension between them. Because the primary conflict of the excerpt is Ellen’s anxiety about the effect her leaving will have on the relationship between her parents, this remark contributes to the conflict by bringing her parents’ disagreement into view.
  - C. Incorrect. Although Ellen will put physical distance between herself and her parents on the following day, the remark she makes does not lead her to emotionally distance herself from her parents. Moreover, the emotional distance between Ellen and her parents is not the primary source of conflict in the excerpt.
  - D. Incorrect. While paragraph 1 states that Ellen’s mother “seems to think of nothing farther away than today or perhaps yesterday or tomorrow morning,” the sentence in paragraph 3 does not show any reluctance to plan far in advance. Moreover, planning for the future is not a source of conflict in the excerpt.
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20. The question asks how the phrase “looked straight at it” in paragraph 9 contributes to the meaning of the excerpt.
- E. **CORRECT.** The phrase shows Ellen deciding to directly confront the memory even though she initially wanted to ignore it (“I couldn’t keep from thinking of that time Dad went back East. I tried to” [paragraph 9]). Though the memory is emotionally fraught for Ellen, the phrase “looked straight at it” shows that she is willing to face problems—such as a painful family memory—head on.
  - F. Incorrect. The phrase in paragraph 9 does not show Ellen studying all parts of an issue but rather forcing herself to focus on something she would have preferred not to think about.
  - G. Incorrect. In looking “straight at” the memory, Ellen is not considering both sides of an argument. Instead, she is making herself think about an uncomfortable memory that she had been trying to avoid revisiting. The phrase indicates that she is finally willing to directly confront an unsettling recollection.
  - H. Incorrect. Given the detail in paragraph 9 that Ellen initially attempted to keep from thinking about her father’s trip to Vermont, the phrase “looked straight at it” indicates a willingness, but not an eagerness, to seek wisdom from reflecting on past experiences.

- 21.** The question asks how the words “cold” and “dark” affect the tone in paragraph 10.
- A.** Incorrect. The mood of paragraph 10 is primarily one of sadness as Ellen says goodbye to her father at the train station. The words “cold” and “dark” do not convey unpredictability but rather emphasize Ellen’s feeling of loss over the departure of her father.
  - B.** Incorrect. Although the father’s departure causes tension with his wife (“ ‘I’ll manage,’ Mom snapped back” [paragraph 11]), Ellen does not display anger or resentment toward her parents.
  - C.** Incorrect. Although Ellen’s father states that he wishes his family could come with him on the trip to Vermont (“ ‘I wish you could go, Anna,’ Dad said to Mom, ‘and we could take Ellen’ ” [paragraph 12]), the words “cold” and “dark” describe Ellen’s perspective on her father’s departure. They create a tone of sadness from Ellen at being left behind rather than a tone of regret from her father because he has to leave.
  - D. CORRECT.** In paragraph 10, Ellen states, “I could feel how cold and dark it was.” The words “cold” and “dark” highlight her emotional response to the departure of her father, emphasizing the almost physical sense of grief she feels at being separated from someone so precious to her.
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- 22.** The question asks which sentence from the excerpt provides evidence that Ellen has a lot in common with her father.
- E. CORRECT.** This sentence from paragraph 1 shows that Ellen and her father both get excited about the coming of spring and share an interest in reading magazine serials (stories published in serial installments). The sentence implies that Ellen and her father have shared likes and interests, and therefore, it provides clear evidence that they have a lot in common.
  - F.** Incorrect. While this sentence from paragraph 4 highlights the warm relationship between Ellen and her father and shows that he would like to take her to the train station in town, it does not provide clear evidence that they share a lot in common.
  - G.** Incorrect. Although this sentence from paragraph 6 implies that Ellen understands her father well enough to intuit his preference to go to the train station in town (“but I knew he wanted to go into Clark City”), their closeness is not clear evidence that Ellen and her father have a lot in common.
  - H.** Incorrect. While this sentence from paragraph 25 shows Ellen’s concern about the effect that her leaving the farm will have on her parents, it does not provide clear evidence that Ellen and her father have a lot in common.

**23.** The question asks how the sentences from paragraph 1 and paragraph 19 help develop a central idea of the excerpt.

- A. CORRECT.** The sentences illustrate a practical aspect of Ellen’s mother’s personality and show that she is concerned with an immediate task that needs to be completed. The details in these sentences help develop the central idea that practical people focus on current needs—such as preparing food for the following day—rather than worrying about the future.
  - B.** Incorrect. These sentences do not show Ellen’s mother focusing on her daughter’s needs before her own, and the idea that parents consider their own needs only after considering those of their children is not a central idea of the excerpt.
  - C.** Incorrect. Although the sentence from paragraph 19 shows Ellen’s mother planning a few hours ahead by preparing the next morning’s breakfast, the idea that it is sometimes important to plan ahead is not a central idea of the excerpt, nor is it supported by the sentence from paragraph 1.
  - D.** Incorrect. The details in the sentences do not show that it is a waste of time to dream about the future. The sentences highlight the tendency of Ellen’s mother to focus her attention on the practical necessities of the moment, but the idea that dreaming about the future is a waste of time is not a central idea of the excerpt.
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**24.** The question asks how the flashback in paragraphs 10–24 affects the plot of the excerpt.

- E.** Incorrect. The flashback does not show that Ellen and her mother faced extra work as a result of the father’s trip to Vermont. Although paragraph 19 describes Ellen’s mother making oatmeal for the next day’s breakfast, this task was not extra work.
- F.** Incorrect. Although the flashback highlights Ellen’s fondness for each of her parents, it describes her father’s initial departure only and does not show what happened to the familial bond while he is away.
- G.** Incorrect. Although Ellen describes the memory of her father’s departure as something she wanted to avoid thinking about, she does not fear that it will be too difficult to leave her parents. Instead, she is concerned about what will happen to her parents’ relationship when she is no longer there.
- H. CORRECT.** The flashback illustrates the close connection that Ellen has with her parents by describing her sadness over the departure of her father (“My throat ached all the way” [paragraph 15]) and presenting a moment of comfort and reassurance between Ellen and her mother (“She laid her hand against my face and it felt rough and hard but firm” [paragraph 20]).

25. The question asks which sentence from the excerpt provides evidence that Mom wants Ellen to understand the family's heritage.
- A. Incorrect. Although this sentence from paragraph 2 describes a domestic moment that takes place within the family home, it does not relate to the heritage of either parent and therefore does not provide evidence that her mother wants Ellen to understand the family's heritage.
  - B. Incorrect. Although this sentence from paragraph 5 provides the name of the train station closest to Ellen's family's farm, the train stop at Gotham is not related to the family's heritage. Therefore, this sentence does not provide clear evidence that her mother wants Ellen to understand the family's heritage.
  - C. Incorrect. Although this sentence from paragraph 7 describes an aspect of the family dynamic (Ellen predicts that while browsing in stores in town, "Dad [would go] one way and Mom and I another"), their shopping habits do not provide clear evidence that her mother wants Ellen to understand the family's heritage.
  - D. **CORRECT.** In this sentence from paragraph 22, Ellen's mother addresses her by the Russian version of her name (Yeléna) and repeats her own Russian name (Anna Petrovna). The choice to call her daughter Yeléna instead of Ellen follows immediately after Ellen asks, "Mom, was that really your name—what Dad called you?" (paragraph 21), and the mother's surprised response provides evidence that she both wants and expects Ellen to understand the family's Russian heritage.
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### Massachusetts: Lowell National Historical Park

26. The question asks why the author includes the quotation from the Scottish traveler in paragraph 1 of the passage.
- E. Incorrect. While it is likely that people outside the United States recognized that both the natural landscape and the bustling industry were significant, the quotation from the Scottish traveler is meant to convey the variety of the types of attractions in the U.S., not to make a general statement about their contribution.
  - F. Incorrect. The Scottish traveler mentions both "American scenery" and "American industry" in the quotation, but the intent is to highlight that they are each points of interest. The quotation does not provide a comparison of the two attractions.
  - G. **CORRECT.** The quotation emphasizes the idea that the United States offers different attractions. The Scottish traveler highlights the two places in the United States that he will most remember: first, the beautiful natural formation of Niagara Falls (" 'the glory of American scenery' ") and second, the industrial city of Lowell (" 'the glory . . . of American industry' ").
  - H. Incorrect. The Scottish traveler mentions both "American scenery" and "American industry" in the quotation but does not imply that the natural resources contributed to the development of industry.

27. The question asks which description conveys the central idea that Lowell was “one of America’s most significant industrial cities” (paragraph 1).
- A. Incorrect. While the passage does state that the city’s canals, mills, and boardinghouses were built by early immigrants from Ireland, these details do not contribute to the development of the overall idea that Lowell was a significant industrial city.
  - B. Incorrect. The details about the women and immigrants who worked in the mills is important to the passage, but these details alone do not show that Lowell was a significant industrial city.
  - C. **CORRECT.** The details throughout the passage about the development of the mills and the people who worked in them convey the significance of Lowell in early American industry. Paragraph 2 shares details about the businesses that started in the early 1800s and contributed to the development of industry in the region (“The most recognized of these buildings are the Lowell Manufacturing Company chartered in 1821, the Suffolk or Wannalancit Mill completed around the 1880s, the Boott Mill Company established in 1835, and the Boott Mill Boardinghouse that opened in 1838”). Then paragraphs 3–6 provide specific details about the people who worked in the mills at different points in time.
  - D. Incorrect. Although the passage references Lowell’s culturally diverse community (“Young Yankee women, immigrant families, and European tourists all flocked to Lowell to find work at one of the many textile mills” [paragraph 1]), these groups alone are not what marked Lowell as a significant industrial city.
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28. The question asks for the sentence in paragraph 2 that best supports the idea that Lowell became “a bustling industrial city” (paragraph 1) in a short period of time.
- E. Incorrect. While the sentence provides details on when the town of Lowell was founded and the natural features of the area, it does not support the idea that the city became “a bustling industrial city” in a short period of time.
  - F. Incorrect. Although this sentence indicates that the mill buildings were a noticeable feature of the city and provides details on how the mills worked, it does not specifically show that Lowell had become “a bustling industrial city” in a short period of time.
  - G. Incorrect. While this sentence lists some recognizable mill buildings along the river and notes when their associated businesses were established, it does not support the idea that Lowell had become “a bustling industrial city” in a short period of time.
  - H. **CORRECT.** This sentence indicates that within only a few decades of the city’s founding, it experienced massive industrial growth, with “40 textile mills employing over 10,000 workers,” supporting the idea that Lowell became “a bustling industrial city” in a short period of time.

29. The question asks which statement best describes how the sentence in paragraph 3 fits into the overall structure of the passage.
- A. **CORRECT.** The sentence in paragraph 3 provides a transition from the overall description of the city and the mills to a description of the women who made up the workforce in the mills. The idea that women left domestic life in favor of working in the mills is important in the passage, and the sentence serves to connect that idea to the previous discussion about the mills.
  - B. Incorrect. While the mill girls' dissatisfaction with their working conditions is addressed later in the passage ("These wage cuts, deteriorating working conditions, and long workdays led the 'mill girls' to protest and organize strikes" [paragraph 4]), the sentence in paragraph 3 does not indicate a shift in tone from positive to negative. The sentence provides a transition to the discussion of the women who worked in the mills.
  - C. Incorrect. Although the sentence in paragraph 3 mentions that women became interested in working in the mills because of the "constricted lifestyle of small rural towns," structurally the sentence does not function as a summary because, instead of expanding on the idea of the difficulties or challenges of life in small rural towns and rural areas, the paragraph goes on to describe the advantages and disadvantages of life in the city for these women.
  - D. Incorrect. The sentence in paragraph 3 focuses on the choices women made to leave rural towns to work in the city in the early to mid-1800s, not the mid-1800s to the late 1800s. The sentence does not create a comparison between the workforce in the mid-1800s and that in the late 1800s.
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30. The question asks how the sentence in paragraph 5 contributes to the development of ideas in the passage.
- E. Incorrect. The sentence from paragraph 5 does not imply that Lowell was founded by early Irish immigrants. The sentence explains how Irish immigrants had been settling in Lowell since the city was established and that they contributed to the construction of the city, which allowed it to become an industrial center several decades later.
  - F. **CORRECT.** The sentence from paragraph 5 shows that early Irish immigrants were critical to the success of Lowell as an industrial city. This information supports the development of the idea that the work of Irish immigrants and immigrants from other places is an important element in the historical significance of industry in Lowell.
  - G. Incorrect. The sentence from paragraph 5 does not suggest that new Irish immigrants were readily accepted into the community. Paragraph 5 states that "initially, Lowell's Protestant community was slow to welcome Irish immigrants, but the hostility between Yankee Protestants and Irish Catholics eventually disappeared."
  - H. Incorrect. The sentence from paragraph 5 does not highlight the relationship between the mill girls and the new Irish immigrants. Paragraph 4 explains how the mill girls left Lowell, and paragraph 5 states that the mill girls were replaced by "predominantly Irish Catholics, who traveled to America during the Great Potato Famine" but does not discuss a relationship between them.



- 31.** The question asks for the sentence that best summarizes the mill girls' time as the dominant workforce in Lowell.
- A.** Incorrect. While the passage explains that mill girls were initially eager to leave the domestic duties of life in rural areas, the summary sentence does not address the details about the mill girls' time working in the mills or the changes that led the mill girls to leave the industry.
  - B.** Incorrect. Mill girls initially found satisfaction in the mill work and lifestyle, and when they did leave, immigrants filled the empty jobs. This summary sentence, however, does not address the details about the mill girls' time as the primary workforce in Lowell or the circumstances that led them to leave their jobs in the mid-1800s.
  - C.** Incorrect. Mill girls did leave home to work in the Lowell mills, and they did grow dissatisfied over time, but this summary sentence does not include details about the mill girls' actions to improve the working conditions.
  - D. CORRECT.** This sentence summary best captures the mill girls' experience as outlined in paragraphs 3 and 4. The sentence concisely summarizes both the women's initial excitement about the opportunity to live independently ("Women found that Lowell's mills offered monthly wages for their services and provided them room and board" [paragraph 3]) and their eventual inability to secure better working conditions ("When their demands went unheard, the women left Lowell, and immigrant groups replaced them in the workforce" [paragraph 4]).
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- 32.** The question asks for the reason that best illustrates why Lowell lost its status as an industrial leader.
- E.** Incorrect. While the passage discusses the "long work hours, low wages, and poor living conditions in the city's crowded tenements" (paragraph 6) in Lowell, these details highlight the living and working conditions of immigrant groups. The author does not state that poor living and working conditions are the reason Lowell lost its status as a "model of industry."
  - F.** Incorrect. Paragraph 5 in the passage acknowledges that there was some tension between the different ethnic and religious groups in Lowell, but this idea is not what led to Lowell's decline as a "model of industry."
  - G. CORRECT.** When Lowell was initially established, the mills in the city thrived because of their advanced manufacturing methods ("gaining global recognition for its state-of-the-art technology, innovative canal and dam system, [and] mill architecture" [paragraph 1]). However, manufacturing technology changed and improved over time, and many mill owners chose to close the mills rather than modernize them, resulting in Lowell's loss of status as a "model of industry" ("The city officially began to close down its mills in the 1920s and '30s after Lowell's outdated mills could no longer compete against the state-of-the-art cotton mills in other communities" [paragraph 6]).
  - H.** Incorrect. The details about the temporary revival of the mills during World War II do not show why Lowell is no longer considered a "model of industry." The mills were used briefly during wartime because of an increased need for supplies, but this use of the mills was short-lived.

## Ode to Fireworks

- 33.** The question asks what the comparison in lines 8–9 of the poem is used to convey.
- A. CORRECT.** In lines 8–9 the speaker compares the deep thumping noises at the start of a fireworks show to the muffled thumping sound made when beating a rug to clean it. The imagery of “low, dull *thwumps*” (line 8) (onomatopoeia) describes a sound that is not clear or powerful. To the speaker, these low, distant explosions are the signal that the fireworks display is starting and that the loud, cracking sound of fireworks will be heard soon (“Then we counted the seconds between the lightning / and thunder” [lines 10–11]).
  - B.** Incorrect. The comparison in lines 8–9 deals with the low sound of the first fireworks shooting off rather than the streaks of light they emit. To the speaker, the low *thwumps* (onomatopoeia) are the signal that fireworks are about to explode overhead, much like the way a streak of lightning during a storm indicates that a crash of thunder will follow in a few seconds.
  - C.** Incorrect. The *thwump* (onomatopoeia) sounds are the start of the fireworks show, not thunder. As a comparison, the speaker says the initial *thwumps* of the fireworks signal anticipation for the full explosion that will come, much like the way the speaker would watch for lightning and count the seconds before an impending thunderclap (lines 10–11).
  - D.** Incorrect. The muffled *thwump* (onomatopoeia) sounds occur before the dazzling explosion of lights and before sparks start to fall from the sky. The comparison focuses on the sounds of the experience, not the sight of the experience.
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- 34.** The question asks what the word choice in lines 22–23 of the poem conveys about the speaker.
- E.** Incorrect. The word “jewels” is used figuratively to indicate the sentimental value that the experience of watching the fireworks holds for the speaker. There is no indication in the poem that the speaker values material possessions.
  - F.** Incorrect. The use of the word “jewels” highlights the importance of the memory in the speaker’s mind. The imagery in the words “written upon” expresses the way the bright streaks of light curve and fly across the night sky, not that the speaker views the fireworks display as magical.
  - G.** Incorrect. The speaker describes the elements of the fireworks display that stand out most clearly. The view of the bright, colorful fireworks streaking across the sky is distinct, but it is not unique to the country setting.
  - H. CORRECT.** The word “jewels” creates a picture of watching shining and sparkling explosions in the night sky and suggests that this experience holds sentimental and emotional value for the speaker. The speaker cherishes the memory of the experience.

35. The question asks what the use of italics on the word “*night*” in line 24 is most likely intended to emphasize.
- A. Incorrect. The purpose of italicizing the word “*night*” is not to convey mystery. While the speaker refers to not knowing the exact location where the firework viewing took place (“in the stubble of what had been / somebody’s cornfield” [lines 25–26]), the emphasis on “*night*” is meant to highlight the darkness and contrast the bright light from the fireworks soaring across the sky.
  - B. **CORRECT.** The italics are intended to place emphasis on one key aspect of nighttime—total darkness. The speaker is making a point that night in the country was truly dark, unlike the night the speaker currently experiences in a city, where light emitted from buildings and vehicles prevents complete darkness.
  - C. Incorrect. The tone in the second stanza is positive, showing admiration for the beauty visible in true darkness rather than fear: “But it was another thing to see / the sky at night written upon / with those jewels” (lines 21–23).
  - D. Incorrect. The speaker is talking about the general experience of watching fireworks on several occasions, not focusing on the events of a specific night. The use of italics on the word “*night*” emphasizes the speaker’s memory of the persistent darkness.
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36. The question asks what the purpose is of the repeated words “rising and falling” in lines 26 and 37.
- E. Incorrect. These lines do not provide insight into the speaker’s interactions or feelings of solitude. The speaker mentions the emptiness of the country and the crowds in the city, but these repeated words are meant to draw a connection between the locations rather than show differences between them.
  - F. **CORRECT.** The first mention of these words occurs during a recollection of the speaker’s past, and the second takes place during a description of the speaker’s present. The speaker looks to the connections between the country setting (“All around us, crickets / stridulated in the stubble of what had been / somebody’s cornfield, their song rising and falling” [lines 24–26]) and the city setting (“And the music around me is the music of people, / their voices rising and falling in a hundred languages” [lines 36–37]) as a source of comfort.
  - G. Incorrect. Even though the lines call out specific sounds, the purpose of the repetition of the words in the two parts of the poem is to show how the speaker connects the two settings. The “rising and falling” of the sounds is one detail the speaker highlights.
  - H. Incorrect. The repetition of the words “rising and falling” is used to compare the different locations in the speaker’s life, not to compare fireworks to the sounds of crickets in the country or to the sounds of people moving and talking in the city.

- 37.** The question asks what impact the phrase “Everything is a constant celebration” (line 33) has in the poem.
- A.** Incorrect. The speaker describes a sense of happiness and contentment in both the city and the country and does not indicate that one setting is more pleasurable than the other.
  - B.** Incorrect. The word “celebration” has a positive association and does not imply that the speaker is overwhelmed in the city. Throughout the third stanza (lines 28–42), the speaker conveys appreciation for the elements of the city that make it different from the country (“And the music around me is the music of people, / their voices rising and falling in a hundred languages” [lines 36–37]).
  - C. CORRECT.** From the speaker’s perspective, the constant light (“awash in light” [line 32]) contributes to the speaker’s feeling that, in the city, celebratory fireworks are ever present. In comparison, fireworks lit up the country sky only for celebratory occasions or annual events (“In autumn my mother drove us to the edge of the field / where the fair was set up year after year” [lines 1–2]).
  - D.** Incorrect. While the speaker observes many things going on in the city at a given moment, the “constant celebration” in line 33 is intended to convey a comparison to the speaker’s previous experience in the country rather than emphasize the hectic pace of life in the city. The continual light and sounds in the city remind the speaker of lights and sounds experienced only on occasion in the country.
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- 38.** The question asks how the memory in lines 41–42 affects the speaker.
- E.** Incorrect. The speaker does not express concern in these lines about the impossibility of returning to childhood or the past. For the speaker, the past and the memories associated with it are a source of comfort and a way to remember simpler times (“I remember the feel of the pickup truck bumping / across the ridged field” [lines 40–41]).
  - F.** Incorrect. While the speaker recalls anticipation before the start of a fireworks display, there is no hint that the speaker is impatient. Particularly in lines 41–42, the speaker is reminded of the expectation of hearing and seeing fireworks and the sense of simple contentment felt in the experience (“I find myself / craning my neck upward at odd moments” [lines 29–30]).
  - G.** Incorrect. The speaker is reflecting on past experiences and pointing out the elements of the city that remind the speaker of these past experiences. The speaker acknowledges the differences between the country and city settings but does not convey regret for leaving the rural area (“This is where we live now, / and it is how we live now, awash in light / of every hue” [lines 31–33]).
  - H. CORRECT.** The memory of watching the fireworks on the way home creates a sense of comfort that stays with the speaker (“escorted us home”). The speaker looks forward to moments when the youthful experience (“childhood bursts”) of being excited by something like a fireworks display can be a source of happiness.

39. The question asks what the fireworks in the poem represent about the speaker.

- A. Incorrect. While the speaker misses elements of the past, the speaker is also positive about the present, with comparisons to a “constant celebration” (line 33) and descriptions of “the music of people” (line 36). The speaker does not indicate a desire to return to a simpler way of living.
- B. **CORRECT.** The speaker misses the experience of watching the fireworks display with family and friends but understands that time has progressed and that life is now different. The lines “This was a treat we waited / all year for” (lines 6–7) highlight the significance of the memory of waiting for and watching the fireworks. In the speaker’s present, the lines “I remember the feel of the pickup truck bumping / across the ridged field” (lines 40–41) emphasize the key details from the experience that stand out in the speaker’s mind when something in the current environment reminds the speaker of the past.
- C. Incorrect. While the speaker does share details about the present and the tone is generally positive, the fireworks do not suggest that the speaker has high expectations for how everyday life should be. The third stanza (lines 28–42) describes some of the speaker’s imaginings about the aspects of going about one’s daily life, but the speaker does not form expectations from these fantasies.
- D. Incorrect. While the speaker does mention discussing cloud shapes with a family member in lines 19–20, the fireworks serve as a more general reminder of the speaker’s past life. Viewing the bright lights of the city makes the speaker recall memories of the speaker’s past and the feelings of anticipation before the fireworks show.

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**Excerpt from *In Search of the Unknown***

40. The question asks how paragraph 2 helps develop the plot.

- E. Incorrect. As paragraph 1 indicates, writing such letters is one of the main parts of the narrator’s job (“and I was always busy, part of the day, in dictating answers to correspondents”), and he shows no indication of disliking this work. The letters are to inform people whether the zoo will accept their animals.
- F. Incorrect. Paragraph 2 indicates that the narrator offers his letters to the professor merely for official approval. At the start of the excerpt, the narrator is confident in his reply and does not anticipate that his response will differ from that of the professor, so he has no need to “predict what the professor would say.”
- G. **CORRECT.** The phrase “uncompromising refusals” in paragraph 2 indicates the confidence that the narrator initially has in his belief that the animals described in the letters are not of value to the society. This confidence is badly shaken as the plot unfolds, as when Professor Farrago states that “ ‘I am daring to believe that it *is* the great auk itself’ ” (paragraph 23). The narrator’s transition from an attitude of dismissive doubt to one of budding hopefulness is a major part of the plot (“But I was not shocked; on the contrary, I was conscious that the same strange hope that Professor Farrago cherished was beginning, in spite of me, to stir my pulses, too” [paragraph 34]).
- H. Incorrect. The narrator does not resent the professor’s review of the letters; instead, the phrase “of course” in paragraph 2 shows that he expects to submit the letters to the professor as part of his job.

- 41.** The question asks what the phrase “a faint trace of apology” in paragraph 3 conveys about the professor.
- A.** Incorrect. The fact that the narrator had intended to leave the office for the day is not the source of the professor’s faintly apologetic manner, which is instead caused by the professor’s understanding that their conversation about the letter and the expedition is likely to cause an argument (“with a whimsical smile that suggested amusement, impatience, annoyance” [paragraph 3]). In paragraph 29, the professor asks the narrator if he can leave on an expedition that same evening, which indicates that the professor does not feel bad about taking up the narrator’s time after work.
  - B.** Incorrect. The paragraphs that follow the sentence from paragraph 3 show the professor sharing his opinions without pause, even when his opinion of the narrator is unflattering (“ ‘Like swimming squirrels, you navigate with the help of Heaven and a stiff breeze, but you never land where you hope to—do you?’ ” [paragraph 17]).
  - C.** Incorrect. The professor knows that the narrator will push back regarding the letter, but the professor is not uncomfortable challenging the narrator. Professor Farrago seems perfectly at ease and comfortable as he begins the discussion with the narrator.
  - D. CORRECT.** The professor is both amused and annoyed by the narrator’s dismissal of the possibility that great auks still exist, and the professor knows that the narrator is likely to react negatively to being sent on what the narrator considers a “fool’s errand” (paragraph 25).
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- 42.** The question asks how the exchange between the professor and the narrator in paragraphs 8–11 contributes to the development of the characters.
- E. CORRECT.** Paragraphs 8–11 help develop the characters by revealing the difference between the opinions of the narrator and the professor. The narrator believes without any doubts that Halyard, the man who wrote the letter about the auks, is either “ ‘a liar or a fool’ ” (paragraph 9), while the professor believes in the possibility that the writer of the letter could actually be telling the truth (“I said as much to Professor Farrago, but, to my surprise, he appeared to waver.” [paragraph 8]).
  - F.** Incorrect. In paragraph 8, the narrator reacts to the letter writer with “a contemptuous tolerance,” and he is shocked to learn that the professor actually agrees with the man (paragraph 11) whom the narrator has bluntly condemned as a liar or a fool (“ ‘In my opinion,’ said I, ‘he’s one or the other.’ ” [paragraph 10]). The exchange presents an emphatic disagreement between the narrator and the professor, and it does not show them working together in a collaborative manner.
  - G.** Incorrect. Although the narrator initially distrusts the contents of the letter and shows “contemptuous tolerance for the writer” (paragraph 8), the excerpt portrays the professor as experienced and intelligent, not as one who is easily deceived.
  - H.** Incorrect. While the narrator does begin to consider the professor’s perspective at the end of the excerpt, paragraphs 8–11 primarily serve to establish the difference of opinion between the narrator and the professor about the writer of the letter.

**43.** The question asks how the professor's observations in paragraphs 15–17 create tension in the excerpt.

- A. CORRECT.** The professor criticizes " 'you young fellows' " (paragraph 15), suggesting that the ideas of young scientists like the narrator are unsupported (" 'like swimming squirrels,' " [paragraph 17]) and inaccurate (" 'but you never land where you hope to—do you?' " [paragraph 17]; " 'you embark on a theory for destinations that don't exist' " [paragraph 15]). The narrator then becomes "red in the face" (paragraph 18), indicating that the narrator is upset by the professor's criticism, and asks the professor about the great auk in an attempt to defend himself.
- B.** Incorrect. While the narrator does experience a negative reaction to the professor's words, the professor is being genuine, not sarcastic. In fact, the sarcasm comes from the narrator in paragraph 14 (" 'It is generally accepted,' I replied, sarcastically, 'that the great auk has been extinct for years. Therefore I may be pardoned for doubting that our correspondent possesses a pair of them alive' "), not from the professor.
- C.** Incorrect. The professor's observations cause the narrator to blush with embarrassment ("rather red in the face" [paragraph 18]), but the narrator understands the point that the professor is making about the narrator's acceptance of the idea that great auks do not exist. The narrator recognizes that the professor is criticizing his youthful ideas, not his opinion.
- D.** Incorrect. The professor shows amusement with the narrator's perspective. The narrator is embarrassed and upset by the professor's words, but the narrator does not display frustration with the professor's lack of interest in a commonly held view of the existence of a certain species of bird.

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**44.** The question asks how the interaction between the narrator and the professor in paragraphs 26–28 contributes to the development of the theme.

- E.** Incorrect. Paragraphs 26–28 do not show the narrator arguing against making the expedition. He instead argues that it is unnecessary for the professor to pay to send extra men on the expedition. The narrator points out that he can ask for assistance if he does, in fact, find great auks (" 'None,' I replied, bluntly; 'it's a useless expense, unless there is something to bring back. If there is I'll wire you, you may be sure' " [paragraph 28]).
- F.** Incorrect. When the professor criticizes the narrator's blind acceptance of the theory about the existence of the auks, the narrator is frustrated and embarrassed. This frustration does not stem from his inability to make decisions for the zoological society.
- G.** Incorrect. The professor states that " 'what I want you to do is to get those birds here safely' " (paragraph 27), which indicates that his main priority is the birds' safety rather than acquiring specimens regardless of the consequences (i.e., at any cost).
- H. CORRECT.** Paragraph 26 describes the professor and the narrator making practical plans for the expedition ("we made out a list of articles necessary for me and itemized the expenses I might incur"), indicating the narrator's acceptance of his assignment while also revealing that he does not anticipate a "successful termination to the expedition." Paragraph 28 further describes the personal objections of the narrator, who believes that adding extra men to the expedition is pointless (" 'a useless expense' "), since he does not expect to find any great auks to bring back.

- 45.** The question asks which sentence from the excerpt best explains why the professor is eager to send the narrator on an expedition.
- A.** Incorrect. In the sentence from paragraph 25, the narrator suspects the professor is losing his ability to reason because his request (to secure the great auk for the society) seems impossible. The professor is excited about the discovery, but the narrator doubts whether the discovery is real. The sentence does not explain why the professor is excited, however.
  - B.** Incorrect. Paragraph 26 shows the professor and the narrator planning the logistics of the trip, but it does not explain why the professor is eager to send the narrator on the expedition.
  - C.** Incorrect. Although the sentence from paragraph 27 expresses the professor's interest in having the narrator bring the birds back safely, it does not show the underlying reason why the safety of the birds is so crucial, which is that the great auk is extremely rare.
  - D. CORRECT.** The sentence from paragraph 33 reveals the professor's excitement to get "the rarest of living creatures," the great auk. In paragraph 14, the narrator states that "it is generally accepted . . . that the great auk has been extinct for years," which would make a living auk incredibly rare and explains the professor's eagerness for the narrator to go on the expedition.
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- 46.** The question asks how paragraph 34 helps develop the plot of the excerpt.
- E. CORRECT.** Despite his initial disbelief, the narrator admits in paragraph 34 that he is starting to feel the "same strange hope" the professor feels, which is to find the great auks (paragraph 33).
  - F.** Incorrect. While the narrator does make an effort in paragraphs 11–22 to understand the professor's thinking, paragraph 34 reveals that the narrator has been affected by the professor's "strange hope" for the auks and is beginning to share this hope "in spite of" himself.
  - G.** Incorrect. The narrator describes a feeling of hope in paragraph 34 that would not be present if he had simply been overruled by the professor and did not share any of the professor's belief in the possibility that the auks exist. In addition, it was established before paragraph 34 that the narrator was willing to be overruled ("I drew a chair up beside his desk—there was nothing to do but to obey, and this fool's errand was none of my conceiving" [paragraph 25]).
  - H.** Incorrect. The narrator does not express a sense of urgency in paragraph 34 to complete the expedition. Instead, he expresses hope that the great auks might really exist.



47. The question asks which sentence best demonstrates the professional relationship between the narrator and the professor.
- A. Incorrect. Although the professor's handing of the paper to the narrator indicates that they are beginning to discuss the letter about the great auk, the sentence from paragraph 4 does not convey the relationship between a subordinate employee (the narrator) and a superior (the professor).
  - B. Incorrect. The sentence from paragraph 24 presents the narrator's immediate internal reaction to the professor's words. The sentence emphasizes that the professor's belief in the great auk's existence is so outrageous that the narrator initially thinks the professor is starting to lose touch with reality. This is a momentary reaction to the professor's words, not a demonstration of the professional relationship between the two.
  - C. **CORRECT.** The sentence from paragraph 25 reveals that while the narrator disagrees with the professor ("this fool's errand was none of my conceiving"), he obeys because he works for the professor ("there was nothing to do but to obey").
  - D. Incorrect. The professor's good-humored offer of assistance in the sentence from paragraph 29 does not best demonstrate the underlying employer-employee relationship between the professor and the narrator. The narrator has to go on the expedition because the professor, his boss, told him to.
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48. The question asks how the author develops the contrast between the narrator's point of view and the professor's point of view.
- E. Incorrect. The excerpt does not describe the narrator's thoughts about how age and experience influence the professor's reasoning in enough detail to fully contrast them against the thoughts about the narrator that the professor expresses in paragraphs 15–17. The narrator's idea that the professor might be "on the verge of dotage" (paragraph 24) is meant in a humorous way.
  - F. **CORRECT.** The primary conflict of the excerpt revolves around the narrator's disagreement with the professor about whether the letter about the great auks could be true. As the two men converse, their contrasting attitudes toward the letter become clear: the narrator dismisses the possibility of great auks out of hand (" 'of course the man is mistaken' " [paragraph 5]; " 'here is a man . . . who wants you to send somebody to take charge of a bird that doesn't exist!' " [paragraph 12]), while the professor calmly admits that although " 'nine hundred and ninety-nine men in a thousand would throw that letter aside and condemn the writer' " (paragraph 9), he himself believes that the writer could be telling the truth (" 'How do you know,' asked Professor Farrago, 'that the bird in question does not exist?' " [paragraph 13]).
  - G. Incorrect. The professor explains why he disagrees with the narrator (paragraphs 19–21), but he does not make persistent efforts to convince the narrator to change his mind about the letter. Instead he states that the narrator will go on an expedition to retrieve " 'whatever it is that our correspondent has' " (paragraph 23), thereby requiring the narrator to go collect the great auks whether the narrator believes in them or not.
  - H. Incorrect. The point of the dialogue is not to explain the subordinate-supervisor relationship between the narrator and the professor but rather to contrast what each character believes about the contents of the letter.

**Excerpt from "Research Riddle Resolved"**

- 49.** The question asks how the sentence from paragraph 2 contributes to the overall structure of the excerpt.
- A.** Incorrect. While the sentence from paragraph 2 does mention the platypus's unique appearance, the remainder of the excerpt does not focus on the physiology of the platypus but instead focuses on the significance of scientists' platypus research and what it can "tell us about people" (paragraph 4).
  - B.** Incorrect. Paragraph 1 discusses the platypus as the "duck-billed" animal that "still captures our imagination anew and irresistibly attracts the attention of science writers everywhere," but highlighting the idea that the platypus's unusual appearance has attracted scientists' attention is not how the sentence from paragraph 2 fits into the overall structure of the excerpt.
  - C.** Incorrect. Paragraph 1 states that "the May 2008 *Nature* report detailing the DNA insides of the duckbilled platypus invited colorful tales from just about every mainstream media outlet," but it does not discuss current ideas in the field. Paragraph 2 focuses on the "scientific surprise" of the platypus.
  - D. CORRECT.** The sentence from paragraph 2 serves as a transition from the introductory idea that "the animal still captures our imagination anew and irresistibly attracts the attention of science writers everywhere" (paragraph 1) to the central idea that the platypus has great scientific significance.
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- 50.** The question asks what the phrase "evolutionary DNA tapestry" in paragraph 3 conveys about the platypus.
- E. CORRECT.** In the excerpt, the term "tapestry" conveys the sense of a rich history; the "platypus heritage" described in paragraph 3 is woven together with "threads" from mammals, birds, and reptiles in its genetic background.
  - F.** Incorrect. While paragraph 3 does mention mammals and reptiles, it does not discuss when the platypus developed traits from those classifications. Rather, it refers in general to "hundreds of millions of years ago, when reptiles and mammals branched off the evolutionary tree."
  - G.** Incorrect. The excerpt never claims that, compared with other animals, the platypus is the best resource for studying the evolution of animal genomes. The excerpt indicates that the platypus's status as a "scientific oddity" provides "a window into a time in history when mammals became unique—gaining the ability to bear live young, produce milk for them, and grow a warm, furry coat" (paragraph 6).
  - H.** Incorrect. The excerpt states that the platypus genome is a "scientific oddity" (paragraph 6) that is useful to researchers, but the reason it is useful is because of DNA evidence that shows "a window into a time in history when mammals became unique" (paragraph 6), not because its genes have never been altered. Because the platypus genome, like that of all animals, has evolved over time, the statement that platypus genes have never been altered is inaccurate ("They learned that the platypus lost most of its genetic ability to produce egg yolk—as compared to chicken genes. This suggests its departure from 'chicken-ness' " [paragraph 12]).

**51.** The question asks how paragraphs 4–6 contribute to the development of ideas in the excerpt.

- A.** Incorrect. Although paragraph 6 states that the “platypus genome results are far more than confirmation of a scientific oddity,” the paragraphs do not summarize the evidence that the platypus is an evolutionary peculiarity, an idea which is primarily described in paragraphs 12–14. Rather, paragraphs 4–6 indicate why researchers are interested in platypus genetics as a way to deepen their understanding of humans and other mammals.
  - B.** Incorrect. Although the paragraphs suggest that research on platypus DNA can provide useful information about humans (“what can its DNA tell us about people and the diseases we get?” [paragraph 4]; “Plenty, says an international team of scientists who did this work” [paragraph 5]), they do not provide a transition to the study of the human genome. Instead, they explain that researchers are interested in the genetic material of the platypus because it helps them understand the evolutionary development of mammals (“The platypus genome results . . . provide researchers a window into a time in history when mammals became unique” [paragraph 6]). Mammals are a group that includes humans and many other species, and the researchers are interested in learning more about the evolutionary development of the larger group (mammals), not a single species of mammal (humans).
  - C.** Incorrect. Although paragraph 6 refers to unique features of mammal species (“the ability to bear live young, produce milk for them, and grow a warm, furry coat”), the paragraphs primarily focus on the scientific relevance of the platypus genome results and do not highlight the idea that mammals are a diverse group with some similarities.
  - D. CORRECT.** The paragraphs explain why the genetic material of the platypus (or their “genome results” [paragraph 6]) are interesting to scientists who study mammals, a group that includes human beings. Paragraph 4 asks “what can [platypus] DNA tell us about people and the diseases we get?” Paragraphs 5 and 6 answer the question posed in paragraph 4, stating that scientists believe we can learn “plenty” from platypus DNA because it provides researchers “a window into a time in history when mammals became unique—gaining the ability to bear live young, produce milk for them, and grow a warm, furry coat.”
- 

**52.** The question asks how paragraph 8 fits into the overall structure of the excerpt.

- E. CORRECT.** Paragraph 8 acts as a transition from the discussion of how “our own, modern-day genomes are still a big mystery” (paragraph 7) to the discussion of how scientists use comparative genomics to compare “human genes with those from animals” (paragraph 8).
- F.** Incorrect. Paragraph 8 describes scientists’ primary interest in understanding the genetic evolution of humans, not animals, by comparing “human genes with those from animals.” The paragraph does not clarify or provide details about how scientists study gradual changes in the genetic material of a given animal species.
- G.** Incorrect. Rather than contrasting the effort of the study of the human genome with the effort of a separate study of animal genomes, paragraph 8 discusses a study that is comparing human and animal genomes “to see what has been kept the same and what has evolved to be different.”
- H.** Incorrect. While the mention in paragraph 8 of “3 billion DNA ‘letters’ ” certainly highlights the enormous challenge of fully analyzing the human genome, the point of paragraph 8 is to transition the excerpt to the topic of how comparative genomics can shed light on the human genome.

- 53.** The question asks for the best summary of the section “Same and Different” (paragraphs 9–11).
- A.** Incorrect. The fact that the platypus is the latest species whose genome is being compared with the human genome is just a detail of this section. The focus of the section is on the fact that comparing genomes can teach us about human diseases. Paragraph 9 reveals this when it states that “scientists compare the genome sequences of several species: human, mouse, and a wide variety of other organisms from single-celled fungi to elephants and, now, the platypus.”
  - B.** Incorrect. While comparative genomics is a way to examine many different species, this detail is not the main point of this section. Paragraph 10 notes that the “goal of this research” focuses on the fact that comparing genomes can teach us about human diseases.
  - C. CORRECT.** This sentence describes the most important idea of the section: the discovery of genes that humans have in common with other species that can yield information about human diseases. As stated in paragraph 10, “The goal of this research is to find regions of similarity and difference in order to better understand the structure and function of human genes.”
  - D.** Incorrect. While this section does mention the use of computers in comparative genomics, this information is a detail about how the research is carried out; the computers are a tool in discovering whether “this information may translate into ways to understand, treat, and prevent human diseases” (paragraph 11).
- 

- 54.** The question asks how the details in paragraphs 12–14 about the platypus’s different abilities convey a central idea of the excerpt.
- E.** Incorrect. The fact that “platypuses have genes that make the milk protein casein” (paragraph 13) just like humans do is an important supporting detail, but it is not a central idea of the excerpt.
  - F.** Incorrect. While paragraph 14 explains that the platypus produces venom “like its ancestral snake and lizard cousins,” which suggests the platypus has the ability to defend itself, this information is a supporting detail and not a central idea of the excerpt.
  - G.** Incorrect. Paragraphs 12–14 do state that the platypus has lost some of its “chicken-ness” (paragraph 12) while gaining traits in common with mammals and reptiles, but this information is a supporting detail and not a central idea of the excerpt.
  - H. CORRECT.** In describing the platypus’s different abilities, paragraph 12 states that “the findings traced the evolutionary path from birds and reptiles to mammals.” Paragraphs 12–14 elaborate on the findings to support a central idea of the excerpt, which is that the platypus is rare in having bird, reptile, and mammal DNA.

- 55.** The question asks which sentence from the excerpt best supports the idea that the same DNA material results in the same traits even in different classes of animals.
- A.** Incorrect. The sentence from paragraph 2 describes the combination of DNA material from several classes of animals that makes up platypus DNA; however, the sentence does not address whether any of those different animals share traits or whether they share some of the same DNA.
  - B.** Incorrect. The sentence from paragraph 3 emphasizes the relationship between two different classes of animals—reptiles and mammals—by discussing when they branched off the same evolutionary tree. However, the sentence does not address whether those classes of animals share any traits.
  - C.** Incorrect. The sentence from paragraph 4 questions whether platypus DNA can teach people something about humans and human disease, which implies that there must be something in common between these two animals. However, it does not state that these two animals actually share traits or DNA.
  - D. CORRECT.** The sentence from paragraph 14 describes two different classes of animals—reptiles and monotremes—that have the ability to create venom, a trait that resulted from the same DNA material “mixed and matched together.”
- 

- 56.** The question asks how researching the genomes of other animals can inform scientists’ understanding of human health and disease.
- E.** Incorrect. Although tracking how other animals evolved helps researchers better understand our “rich and diverse planet” (paragraph 18) through understanding genes, the potential benefits to human health will not necessarily preserve or sustain nature.
  - F. CORRECT.** Paragraph 11 explains that finding ways that animal genomes are similar to the human genome helps researchers “locate signals that control how genes work.”
  - G.** Incorrect. While paragraph 11 does point out that all living things share an ancestor, the idea that they, therefore, share genetic traits is only implied. This idea does not contribute to the main focus of the research.
  - H.** Incorrect. The statement that “understanding how other animals are similar to one another helps researchers understand how humans evolved” is too general to provide support for the main focus of the genetic research described in the excerpt. To learn more about human health and disease, scientists need to understand the similarities between the genetic material of different animal species. These scientists are interested in learning more about issues that currently affect humans, not understanding their evolutionary history.

**57.** The question asks how the author elaborates on the idea that creating a full analysis of platypus DNA was an important scientific endeavor.

- A. CORRECT.** The importance of the research into platypus DNA is explained in the excerpt through descriptions of what this research can teach us about human genetics and disease. The question is raised directly in paragraph 4 and begins to be answered in paragraph 6 ("The platypus genome results . . . provide researchers a window into a time in history when mammals became unique—gaining the ability to bear live young, produce milk for them, and grow a warm, furry coat"). This importance is also addressed in the "Same and Different" section (paragraphs 9–11) and in paragraphs 15 and 16.
- B.** Incorrect. The comparison of the platypus with its bird and reptile relatives in paragraphs 12–15 is important to locating the platypus on its evolutionary family tree and in showing the connection between DNA and functionality. This comparison does not, however, explain the excerpt's main reason for asserting that the analysis of platypus DNA was an important scientific endeavor.
- C.** Incorrect. Although the excerpt mentions that part of the platypus's appeal is its "cuteness and weirdness" (paragraph 2) and describes it as having a "patchwork of genes" (paragraph 2), the scientific importance of analyzing the platypus genome is not derived from its unusualness but rather from its ability to shed light on the human genome through comparative genomics ("One thing is clear—the stunning blend of reptile, bird, and mammal puts the platypus in a class of its own, and it gives researchers much more: information about how mammals like us came about" [paragraph 17]).
- D.** Incorrect. The excerpt briefly explains the connection between genes and some of the platypus's physiological functions, such as producing milk and venom (paragraphs 13 and 14). Although paragraph 15 mentions the scientific value of understanding these genetic connections ("Such investigations may help medical researchers understand health issues related to reproduction and lactation"), paragraph 16 indicates that there is even greater value in studying the platypus genome through comparative genomics ("More generally, though, studying how nature cuts and pastes gene modules gives scientists an inside scoop on how genetic changes relate to health and disease risk"). The full analysis of the platypus DNA was an important scientific endeavor primarily because it furthers the ability of scientists to understand "millions of years of evolution" and offers "vital information to understanding the role of genes in the health and disease of mammals like us" (paragraph 18). The discussion of physiological function itself is not the real importance of the scientific endeavor.

- 58. (162)** To find angle  $x$ , first find the measure of angle PQR by finding the measure of angle PSR.

$$m\angle PSR = m\angle PQR$$

$$m\angle PSR = 180 - 72$$

$$m\angle PSR = 108$$

The measure of angle PQR is also 108.

Find the measure of angle  $x$ :

$$108 + 90 + x = 360$$

$$198 + x = 360$$

$$x = 162$$

- 59. (99)** Let  $x$  be the number of oak trees when 264 pine trees are planted.

Set up a proportion and solve for  $x$ :

$$\frac{x}{264} = \frac{3}{8}$$

$$8x = 762$$

$$x = 99$$

- 60. (-4)**  $4w = 2w - 8$   
 $2w = -8$   
 $w = -4$

- 61. (45)** Let  $x$  = number of students with only cats as pets. Let  $y$  = number of students with only dogs as pets.

Calculate  $x$  and  $y$  using the given information:

There are 20 students who have cats, and of those 20 students, 3 have both cats and dogs.

If 3 out of 20 students also have dogs, then  $x = 20 - 3 = 17$

There are 23 students who have dogs, and of those 23 students, 3 have both cats and dogs.

If 3 out of 23 students also have cats, then  $y = 23 - 3 = 20$

To find the total number of students surveyed, add the number of students who only have cats ( $x$ ), the number of students who only have dogs ( $y$ ), the number of students who have both (3), and the number of students who have neither (5):

$$3 + 5 + x + y = 8 + 17 + 20 = 45$$

- 62. (63)** If  $x$  is the smaller consecutive integer, then  $x + 1$  is the larger consecutive integer. Use their sum ( $-15$ ) to find  $x$  :

$$x + (x + 1) = -15$$

$$2x + 1 = -15$$

$$2x = -16$$

$$x = -8$$

The two consecutive integers are  $-8$  and  $-7$ .

One is added to the smaller integer:  
 $-8 + 1 = -7$ , and 2 is subtracted from the larger integer:  $-7 - 2 = -9$ .

Find the product:  $-7 \times -9 = 63$

- 
- 63. (B)**  $2k = m + 3$  so  $k = \frac{m + 3}{2}$ .

Substitute each value of  $m$  to find the values of  $k$ :

$$k = \frac{5 + 3}{2} = \frac{8}{2} = 4$$

$$k = \frac{7 + 3}{2} = \frac{10}{2} = 5$$

$$k = \frac{9 + 3}{2} = \frac{12}{2} = 6$$

The set  $k$  is  $\{4, 5, 6\}$ .

- 64. (E)**  $7 + 3n + 6 - 4n - 8 =$   
 $(7 + 6 - 8) + (3n - 4n) =$   
 $5 - n$

- 
- 65. (A)** The sum of Adrianna's course grades equals 4 times the mean (average) of her grades:

$$90 \times 4 = 360$$

Roberto has the same sum (360) as Adrianna. Find the mean of his course grades:

$$360 \div 5 = 72$$



66. (H) Set up some equations.

Jenny ( $J$ ) has twice as many marbles as Keiko ( $K$ ):  $J = 2K$

Jenny gives Keiko 5 marbles, so now they each have:  $J - 5$  and  $K + 5$  marbles.

Jenny still has 10 more than Keiko:

$$J - 5 = (K + 5) + 10$$

To find how many marbles Jenny had to start with, solve  $J = 2K$  for  $K$  and substitute that into the second equation:

In equation  $J = 2K$ , solve for  $K$ :  $K = \frac{J}{2}$

Substitute  $\frac{J}{2}$  in for  $K$ .

$$J - 5 = (K + 5) + 10$$

$$J - 5 = \left(\frac{J}{2} + 5\right) + 10$$

$$J - 5 = \frac{J}{2} + 15$$

$$J = \frac{J}{2} + 20$$

$$\frac{J}{2} = 20$$

$$J = 40 \text{ marbles}$$

$$J = 40 \text{ marbles}$$

67. (A) Let  $x$  be the number of inches representing 1 foot. Set up a proportion and solve for  $x$ :

$$\frac{x}{1} = \frac{0.125}{125}$$

$$x = 0.001 \text{ in.}$$

68. (G) To find the percentage of cars that contain at least 3 people, add the percentage of cars containing 3 people, 4 people, and 5 or more people:

$$15\% + 7\% + 3\% = 25\%$$

Thus, 25% of the cars contained **at least** 3 people. Use 25% to calculate the number of cars with at least 3 people.

$$420 \times 0.25 = 105 \text{ cars.}$$

69. (B) Line segment  $\overline{RS}$  is the altitude, or height, of triangle QRP. The length of  $\overline{QP}$  is 8 cm.

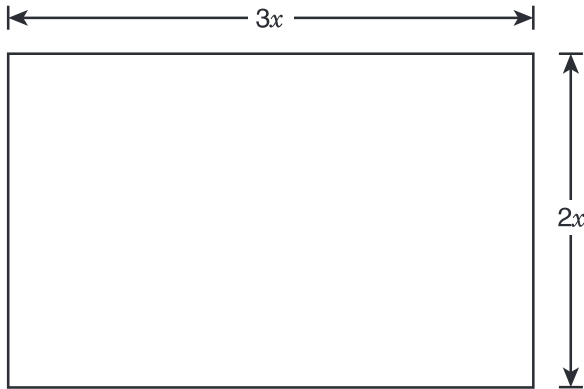
Use the information to find the area of triangle QRP:

$$A = \frac{1}{2}bh = \frac{1}{2}(8)(6) = 24 \text{ sq cm.}$$

There are 4 congruent triangles in the pyramid, so the surface area of the pyramid **excluding** the base is

$$4 \times 24 = 96 \text{ sq cm.}$$

- 70. (F)** Let  $2x =$  the width and  $3x =$  the length. Draw the rectangle to help visualize.



Since 2 times width + 2 times length = perimeter, we get

$$2(2x) + 2(3x) = 510$$

$$4x + 6x = 510$$

$$10x = 510$$

$$x = 51$$

$$2x = 102 \text{ cm and } 3x = 153 \text{ cm}$$

- 71. (D)** Multiply each term by 2 to eliminate the fraction, and isolate  $x$  :

$$-4(2) < \left(\frac{x}{2}\right)(2) < 2(2)$$

$$-8 < x < 4$$

Therefore,  $x$  must be between  $-8$  and  $4$ .

- 72. (H)** Since both ratios have  $y$  in common, solve for  $x$  and  $z$  in terms of  $y$  in both equations.

Using  $y:x = 1:4$ , solve for  $x$  in terms of  $y$ .

$$\frac{x}{y} = \frac{1}{4}$$

$$x = \frac{1}{4}y$$

Using the ratio  $y:z = 4:5$ , solve for  $z$  in terms of  $y$ :

$$\frac{y}{z} = \frac{4}{5}$$

$$z = \frac{5}{4}y$$

The question states  $x + y + z = 50$ .

Substitute from the two equations above and solve for  $y$ .

$$\frac{1}{4}y + y + \frac{5}{4}y = 50$$

$$\frac{10}{4}y = 50$$

$$10y = 200$$

$$y = 20$$

- 73. (B)** Let  $x$  be the total number of colored pencils in the box.

Set up a proportion to find  $x$  :

$$\frac{2}{7} = \frac{6}{x}$$

$$2x = 42$$

$$x = 21$$

If there are 6 red pencils, then the number of pencils that are not red is  $21 - 6 = 15$ .

- 74. (F)** Use proportions to make the conversions:

**Lorgs to dollars:**

$$\frac{140}{x} = \frac{7}{1}$$

$$7x = 140$$

$$x = \$20$$

**Dalts to dollars:**

$$\frac{16}{x} = \frac{0.5}{1}$$

$$0.5x = 16$$

$$x = \$32$$

**Total dollars** =  $20 + 32 = \$52$

- 75. (B)** The shaded region is a right triangle. Each leg is 1 unit in length.

So the area is  $A = \frac{1}{2}bh = \frac{1}{2}(1)(1) = \frac{1}{2}$   
or 0.5 sq unit

- 76. (F)** Create a table with the information provided in the problem and use subtraction to fill in the rest of the table:

	Female	Male	TOTAL
Commutes to work	21%	<b>39%</b> <b>(60 - 21)</b>	60%
Does not commute to work	<b>24%</b> <b>(41 - 21)</b>	<b>16%</b> <b>(40 - 24)</b>	<b>40%</b> <b>(100 - 60)</b>
TOTAL	45%		100%

16% of the population is male and does not commute to work.

- 77. (A)** Let  $x$  be the price per pound for the meat. Set up an equation to show what Mrs. Cranston spent:

$$5(0.90) + 8x = 26.90$$

$$4.50 + 8x = 26.90$$

$$8x = 22.40$$

$$x = 2.80$$

The price per pound for the meat is \$2.80

**78. (E)** The probability that both cards are not blue is the same as the probability that both cards **are** red.

There are 4 red cards out of the 10, so the probability of the first card being red is  $\frac{4}{10}$ .

Now there are 9 cards left, and 3 of those are red, so the probability of the second card being red is  $\frac{3}{9}$ .

Multiply the two probabilities to find the probability that both cards are red (not blue):

$$\frac{4}{10} \times \frac{3}{9} = \frac{12}{90} = \frac{2}{15}$$

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**79. (D)** 1 sind = 4 lorgs, so 1 sind > 1 lorg.

2 harps = 5 sinds, so 1 harp > 1 sind.

1 plunk = 3 harps, so 1 plunk > 1 harp, meaning that 1 plunk > 1 sind and 1 lorg.

2 plunks = 5 dalts, so 1 plunk > 1 dalt.

Therefore, the plunk is the most valuable.

**80. (F)** Let  $x$  be the number of second-, third-, and fourth-year students. Then the total number of students in the college is  $663 + x$

Set up a proportion and solve for  $x$  :

$$\frac{15}{1} = \frac{663 + x}{179}$$

$$663 + x = 179(15)$$

$$663 + x = 2,685$$

$$x = 2,022$$

---

**81. (B)** According to the chart, 22% of people walk to work and 4% ride a bicycle.

Subtract to find the percentage of how many more people walk than bicycle:

$$22\% - 4\% = 18\%$$

To find the exact number of people, multiply 18% (0.18) by the number of people working in Center City (15,000):

$$15,000 \times 0.18 = 2,700$$

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**82. (F)** To find the smallest factor of 91, list the factors: 1, 7, 13, and 91.

The smallest factor (other than 1) is 7.

Of the options listed (30, 35, 39, and 44), only 35 is a multiple of 7.

- 83. (D)** Let  $x$  be the remaining side of the actual banner.

Set up a proportion:

$$\frac{x}{16} = \frac{36}{12}$$
$$x = 48 \text{ ft}$$

- 84. (G)** For each row, multiply the number of students by the score.

Add the products together and divide by the total number of students to find the mean (average) of the 10 students.

$$\frac{85(4) + 75(4) + 65(2)}{10} = \frac{340 + 300 + 130}{10}$$
$$= \frac{770}{10} = 77$$

- 85. (C)** The first integer is  $l$ , so the second is  $l + 1$ , the third is  $l + 2$ , then  $l + 3$ , and finally  $l + 4$ .

Since  $g$  is the fifth and greatest of the integers,  $g = l + 4$

Substitute  $l + 4$  for  $g$  and simplify:

$$\frac{l + g}{2} = \frac{l + l + 4}{2} = \frac{2l + 4}{2} = l + 2$$

- 86. (F)** Divide the rate by the number of seconds in an hour. (Find the number of seconds in an hour. There are 60 minutes in an hour and 60 seconds in a minute:  $60 \times 60 = 3,600$  seconds in an hour.):

$$\frac{55}{3,600} \text{ miles per second}$$

Multiply by the number of feet in a mile (5,280):

$$\frac{55 \times 5,280}{3,600} \text{ feet per second}$$

- 87. (D)** Set up an equation to express Tien's age ( $T$ ) and Jordan's age ( $J$ ) today:

$$T = \frac{1}{4}J$$

Two years from now, Tien's age will be  $T + 2$  and Jordan's age will be  $J + 2$ . Set up an equation about the relationship between Tien's age and Jordan's age in two years:

$$T + 2 = \frac{1}{3}(J + 2)$$

Solve the above equation for  $T$ :

$$T = \frac{1}{3}(J + 2) - 2$$

Now set the two equations equal to each other and solve for  $J$ :

$$\frac{1}{4}J = \frac{1}{3}(J + 2) - 2$$

$$\frac{1}{4}J = \frac{1}{3}J - \frac{4}{3}$$

$$-\frac{1}{12}J = -\frac{4}{3}$$

$$J = -\frac{4}{3}\left(-\frac{12}{1}\right)$$

$$J = 16$$

- 88. (E)** List the factors of 48:

1 and 48, 2 and 24, 3 and 16, 4 and 12, 6 and 8

There are no factors greater than 24 and less than 48.

- 
- 89. (D)**  $2\frac{1}{5} + 3\frac{3}{10} + 4\frac{2}{5} + 5\frac{1}{2}$

Convert all the fractions to a common denominator (10):

$$\begin{aligned} & 2\frac{2}{10} + 3\frac{3}{10} + 4\frac{4}{10} + 5\frac{5}{10} \\ & = (2 + 3 + 4 + 5) + \left(\frac{2 + 3 + 4 + 5}{10}\right) \\ & = 14 + 1\frac{4}{10} = 15\frac{2}{5} \end{aligned}$$

- 
- 90. (G)** The length of the stick must be the greatest common factor of 72 and 30. The factors of 30 are 1, 2, 3, 5, 6, 10, 15, and 30. Of those, only 1, 2, 3, and 6 are also factors of 72. The greatest of these is 6.

- 91. (B)** Create a list of the possible pairs. Let the cookies be named A, B, C, D, E, and F.

AB, AC, AD, AE, AF

BC, BD, BE, BF

CD, CE, CF

DE, DF

EF

There are a total of 15 possible pairs of cookies that Aiden can choose.

- 92. (G)** Set up proportions to figure out how many slides Deion and Kyra can create in 1 hour:

**Deion**

$$\frac{5}{20} = \frac{x}{60}$$

$$20x = 300$$

$$x = 15$$

Deion can create 15 slides in 1 hour.

**Kyra**

$$\frac{3}{10} = \frac{x}{60}$$

$$10x = 180$$

$$x = 18$$

Kyra can create 18 slides in 1 hour.

Add Deion and Kyra to figure out how many slides they can create together in 1 hour:

$$15 + 18 = 33$$

- 
- 93. (C)** Since  $LN = \frac{1}{8}$ , point N is located at

$$4\frac{5}{16} + \frac{1}{8} = 4\frac{7}{16}.$$

So M must be between point L,  $4\frac{5}{16}$ , and point N,  $4\frac{7}{16}$ .

Point L can also be written as 4.3125, and point N can be written as 4.4375.

The only option given that lies between those two points is 4.35.

- 94. (H)** Three years is 36 months ( $12 \times 3$ ). Set up an expression to find the total amount Johan paid:

$$1,000 + 300(36) = \$11,800$$

- 95. (B)** Ryan has 130 pages left to read ( $150 - 20$ ). He read 20 pages in 30 minutes, which means he read at a rate of 40 pages per 1 hour. To find out how much longer it will take him to finish the assignment, divide the total number of pages remaining (130) by the number of pages he is able to read per hour (40):

$$\frac{130}{40} = 3\frac{1}{4}$$

- 96. (G)** It is easier to rewrite  $\frac{M}{N}$  as  $M \div N$  since they are both fractions.

$$M \div N = \frac{W}{x} \div \frac{Y}{z} = \frac{W}{x} \times \frac{z}{y} = \frac{Wz}{xy}$$

- 97. (B)** The question asks for integers from 12 to 30 that are not divisible by 2 or 3.

The set of consecutive integers is {12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30}.

Since all even numbers are divisible by 2, eliminate all even numbers, leaving the odd numbers in the set: {13, 15, 17, 19, 21, 23, 25, 27, 29}.

Eliminate those integers that are multiples of 3 (15, 21, and 27). The remaining integers are: {13, 17, 19, 23, 25, 29}. Therefore, there are 6 numbers in the set that are multiples of **neither** 2 nor 3.

- 98. (F)** Since  $3n$  is even, then  $3n + 1$  must be odd. If  $3n + 1$  is odd, then  $3n + 3$  and  $3n + 5$  are also odd. So there are a total of 3 numbers in this range that are odd.



**99. (C)** The total number of candies in the box is  $5 + 3 + 2 = 10$ . The number of candies that are not banana is  $5 + 2 = 7$ .

The probability of the first candy not being banana is  $\frac{7}{10}$ . Now, out of 9 candies, there are 6 candies left that are not banana. The probability of the second candy not being banana is  $\frac{6}{9}$ . Multiply these two probabilities to get the solution:

$$\frac{7}{10} \times \frac{6}{9} = \frac{42}{90} = \frac{7}{15}$$

**100. (H)** Solve the equation for  $z$  :

$$\frac{w}{x} = \frac{y}{z}$$

$$wz = xy$$

$$z = \frac{xy}{w}$$

**101. (C)** Convert the ratios into fractions of WZ. Use the sum of the ratios for the denominator.

$$WX:XY:YZ = 4:2:3$$

$$WX = \frac{4}{4 + 2 + 3} = \frac{4}{9}$$

$$XY = \frac{2}{4 + 2 + 3} = \frac{2}{9}$$

The part of WZ that is WY is the sum of those fractions:

$$WY = \frac{4}{9} + \frac{2}{9} = \frac{6}{9} = \frac{2}{3}$$

Find the length of WZ:

$$WZ = 8 - (-10) = 18$$

The value of WY is  $\frac{2}{3}(18) = 12$ .

**102. (G)** Find 1% of 0.02:

$$0.02 \times \frac{1}{100} = 0.0002$$

The greatest allowable thickness would be  $0.02 + 0.0002 = 0.0202$  inch.

**103. (D)** Calculate the highest score for each section by adding the lowest score to the range:

$$\text{Section I: } 65 + 28 = 93$$

$$\text{Section II: } 62 + 25 = 87$$

$$\text{Section III: } 67 + 22 = 89$$

The overall highest score is 93, and the overall lowest score is 62.

Subtract the lowest score from the highest score to find the overall range:

$$93 - 62 = 31$$

**104. (G)** Take each city's number of schools and multiply by the number of students. It is not necessary to calculate all 5 of these. Cities M and N have the same number of students, so just calculate the number of students in City M because it has more schools than City N. The same goes for Q and R — only Q needs to be calculated because it has more schools than R.

$$M = 8 \times 500 = 4,000$$

$$P = 9 \times 400 = 3,600$$

$$Q = 6 \times 700 = 4,200$$

City Q has the greatest number of students.

**105. (D)** There are 6 digits in the repeating decimal (769230), so 7 would be the first, seventh, thirteenth digit and so on. To find the 391st digit, divide 391 by 6.

$$391 \div 6 = 65 \text{ R}1$$

Since the remainder is 1, that means the 391st digit is the same as the 1st digit, which is 7.

**106. (E)** One revolution is equal to the circumference of the tire:

$$C = 2\pi r = 2(1)\left(\frac{22}{7}\right) = \frac{44}{7} \text{ ft}$$

The car travels at 4,400 ft per minute. To calculate the number of revolutions, divide the speed by the circumference:

$$4,400 \div \frac{44}{7} = 4,400 \times \frac{7}{44} = 700$$

revolutions.

**107. (D)**  $100(2 + 0.1)^2 - 100 = 100(2.1^2) - 100$   
 $= 100(4.41) - 100 = 441 - 100 = 341$

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**108. (G)** The total number of handballs in the container is  $4 + 5 + 8 + 9 + 11 = 37$ .

Since there are 8 yellow handballs, the probability of selecting a yellow handball is  $\frac{8}{37}$ .

**109. (A)** Each chair costs Leon \$150 to make, and he sells the chair for \$275. His profit is found by subtracting the cost from the price:

$$\$275 - \$150 = \$125 \text{ per chair}$$

If Leon makes and sells 25 chairs in a week, his initial profit is

$25 \times \$125 = \$3,125$ . However, Leon has additional fixed expenses of \$1,250 per week, so this cost must also be subtracted to arrive at the profit. His final profit is  $\$3,125 - \$1,250 = \$1,875$ .

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**110. (H)** Convert 4 ft 7 in. to inches.

Since 12 in. = 1 ft

$$4(12) + 7 = 55 \text{ inches}$$

Multiply that by the conversion:

254 cm = 1 in.

$$55 \times 2.54 = 139.70 \text{ cm}$$

**111. (C)** Find the location of J by using

$$JK = 3\frac{1}{2} :$$

$$\frac{3}{8} - J = 3\frac{1}{2}$$

$$J = \frac{3}{8} - 3\frac{1}{2} = -3\frac{1}{8}$$

Find the location of M by using  $JM = 9\frac{3}{4}$  :

$$M - \left(-3\frac{1}{8}\right) = 9\frac{3}{4}$$

$$M + 3\frac{1}{8} = 9\frac{3}{4}$$

$$M = 9\frac{3}{4} - 3\frac{1}{8} = 6\frac{5}{8}$$

Use  $LM = 1\frac{1}{8}$  to find the location of L:

$$6\frac{5}{8} - L = 1\frac{1}{8}$$

$$L = 6\frac{5}{8} - 1\frac{1}{8} = 5\frac{4}{8} = 5\frac{1}{2}$$

**112. (G)**  $4x - 3y = 12$

$$4x = 3y + 12$$

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

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

**113. (A)** Determine the total number of servings of fruits and vegetables that the students ate by multiplying the number of servings by the number of students in each row of the table. Then add that column to get the total number of servings:

Number of Servings of Fruits and Vegetables	Number of Students	Number of Servings × Number of Students
0	5	0
1	7	7
2	3	6
3	4	12
4	0	0
5	1	5
<b>Total: 30</b>		

Calculate the mean by dividing the total number of servings of fruits and vegetables by the total number of students:

$$\frac{30}{20} = 1\frac{1}{2}$$

**114. (G)** The ratio is 4:3:2:1, so the total parts is 10.

Since there are two parts resin, the fraction of resin is  $\frac{2}{10} = \frac{1}{5}$ .

So the amount of resin in 30 lb of paste (for 1 billboard) is  $\frac{1}{5} \times 30 = 6$  lb.

For 4 billboards, that would be  $6 \times 4 = 24$  lb.

**Answer Key for Sample Form A**

1. A	14. E	27. C	40. G	53. C	66. H	79. D	92. G	105. D
2. F	15. C	28. H	41. D	54. H	67. A	80. F	93. C	106. E
3. A	16. E	29. A	42. E	55. D	68. G	81. B	94. H	107. D
4. H	17. B	30. F	43. A	56. F	69. B	82. F	95. B	108. G
5. B	18. G	31. D	44. H	57. A	70. F	83. D	96. G	109. A
6. E	19. B	32. G	45. D	58. 162	71. D	84. G	97. B	110. H
7. B	20. E	33. A	46. E	59. 99	72. H	85. C	98. F	111. C
8. H	21. D	34. H	47. C	60. -4	73. B	86. F	99. C	112. G
9. B	22. E	35. B	48. F	61. 45	74. F	87. D	100. H	113. A
10. F	23. A	36. F	49. D	62. 63	75. B	88. E	101. C	114. G
11. D	24. H	37. C	50. E	63. B	76. F	89. D	102. G	
12. H	25. D	38. H	51. D	64. E	77. A	90. G	103. D	
13. B	26. G	39. B	52. E	65. A	78. E	91. B	104. G	