

The New York City Department of Education  
**2021 Specialized High School Admissions Test**

**GENERAL DIRECTIONS**

**Student Name:** \_\_\_\_\_

**Identifying Information**

Turn to Side 1 of the answer sheet.

**Notify the proctor immediately if you are ill or should not be taking this test. Do not sign the statement or begin the test. Return your answer sheet to the proctor.**

**Line 1:** Read the statement and sign your name in the space following the word "signature." Do not print your name.

**Line 2:** Print today's date, using the numbers of the month, the day, and the year.

**Line 3:** Print your birth date with the number of the month first, then the number of the day, then the last two digits of the year. For example, a birth date of March 1, 2005, would be 3-1-05.

**Grid 4:** Print the letters of your first name, or as many as will fit, in the boxes. Write your name exactly as you did on the application. If you have a middle initial, print it in the box labeled "MI." Then print the letters of your last name, or as much as will fit, in the boxes provided. Below each box, fill in the circle that contains the same letter as the box. If there is a space or a hyphen in your name, fill in the circle under the appropriate blank or hyphen.

**Make dark marks that completely fill the circles.** If you change a mark, be sure to erase the first mark completely.

**Grid 5:** Carefully copy the order in which you ranked the specialized high schools on your Test Ticket onto Grid 5. If Grid 5 is not marked correctly, your admission to a specialized high school will be affected because your admission is based on the score you achieve and the order in which you rank your school preferences in this grid. The school choices indicated on your answer sheet are final.

**Fill in one and only one circle for each school for which you wish to be considered.** You may make as few as one or as many as eight choices. To increase your chances of being assigned to one of the specialized high schools, you are encouraged to make more than one choice. You **must** fill in a first choice school. Do not fill in a school more than once. Do not fill in the same school for each choice. Fill in only one circle in a row and only one circle in a column.

**Grid 6:** Complete the grid with your date of birth. Print the first three letters of the month in the first box, the number of the day in the next box, and the year in the last box. Then fill in the corresponding circles.

**Grid 7:**

1. Print the name of the school where you are now enrolled in the space at the top of the grid.
2. In the boxes marked "SCHOOL CODE," print the six-digit code that identifies your school and fill in the circle under the corresponding number or letter for each digit of the school code. (You can find your school code on your Test Ticket. If it is not there, tell the proctor, and the proctor will get the school code for you.)
3. If you attend a private or parochial school, fill in the circle marked "P."

**Grid 8:** Print your student ID number in Grid 8. You can find your student ID number on your Test Ticket. In the boxes, print your nine-digit student ID number. Below each box, fill in the circle containing the same number as in the box.

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 UNTIL YOU ARE TOLD TO DO SO.  
 TURN YOUR BOOKLET OVER TO THE BACK COVER.**

## GENERAL DIRECTIONS, continued

### Identifying Information, continued

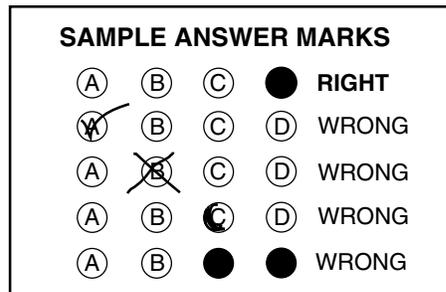
**Grid 9:** In most cases, Grid 9 is already filled in for you. If it is not, copy the letter and numbers shown in the upper-right corner of your test booklet into the boxes. Below each box, fill in the circle containing the same letter or number as the box.

Now review Side 1 to make sure you have completed all lines and grids correctly. Review each column to see that the filled-in circles correspond to the letters or numbers in the boxes above them.

Turn your answer sheet to Side 2. Print your test booklet letter and numbers, and your name, first name **first**, in the spaces provided.

### Marking Your Answers

Mark each of your answers on the answer sheet in the row of circles corresponding to the question number printed in the test booklet. Use only a Number 2 pencil. If you change an answer, be sure to erase it completely. Be careful to avoid making any stray pencil marks on your answer sheet. Each question has only one correct answer. If you mark more than one circle in any answer row, that question will be scored as incorrect.



You can use your test booklet or the provided scrap paper to take notes or solve questions; however, your answers must be recorded on the answer sheet in order to be counted. **You will not be able to mark your answers on the answer sheet after time is up, and answers left in the test booklet will not be scored.**

DO NOT MAKE ANY MARKS ON YOUR ANSWER SHEET OTHER THAN FILLING IN YOUR ANSWER CHOICES.

### Planning Your Time

You have 180 minutes to complete the entire test. **How you allot the time between the English Language Arts and Mathematics sections is up to you.** If you begin with the English Language Arts section, you may go on to the Mathematics section as soon as you are ready. Likewise, if you begin with the Mathematics section, you may go on to the English Language Arts section as soon as you are ready. If you complete the test before the allotted time (180 minutes) is over, you may go back to review questions in either section.

Be sure to read the directions for each section carefully. Each question has only one correct answer. Choose the best answer for each question. When you finish a question, go on to the next, until you have completed the last question. Your score is determined by the number of questions you answer correctly. **Answer every question, even if you may not be certain which answer is correct.** Don't spend too much time on a difficult question. Come back to it later if you have time. If time remains, you should check your answers.

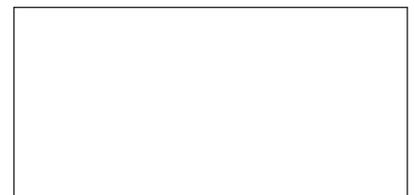
Students must stay for the entire test session.

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# A



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SAMPLE TEST, FORM A  
PART 1 — ENGLISH LANGUAGE ARTS  
57 QUESTIONS

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**REVISING/EDITING**  
QUESTIONS 1-15 (PART A AND PART B)

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**REVISING/EDITING PART A**

**DIRECTIONS:** Read and answer the following questions. You will be asked to recognize and correct errors so that the sentences or short paragraphs follow the conventions of standard written English. You may write in your test booklet as needed to take notes. You should reread relevant parts of the sentences or paragraphs, while being mindful of time, before marking the best answer for each question.

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1. What is the best way to combine the sentences?

- (1) Scientists now believe that Jupiter may have as many as seventy-nine moons.
- (2) One of Jupiter’s moons is named Io.
- (3) Io has the greatest number of active volcanoes in the solar system.

- A. Io, which is one of Jupiter’s moons, has the greatest number of active volcanoes in the solar system, and scientists now believe that Jupiter may have as many as seventy-nine moons.
- B. Scientists now believe that Jupiter may have as many as seventy-nine moons, and one of them is named Io, which has the greatest number of active volcanoes in the solar system.
- C. Scientists now believe that Jupiter may have as many as seventy-nine moons, including one named Io, which has the greatest number of active volcanoes in the solar system.
- D. Io, a moon with the greatest number of active volcanoes in the solar system, is one of Jupiter’s moons, and scientists now believe that Jupiter may have as many as seventy-nine moons.

2. Which revision corrects the error in sentence structure in the paragraph?

In September 2016 the National Museum of African American History and Culture opened as part of the Smithsonian Institution, the museum is already the Smithsonian's third most popular site. Experts say that they expect this newest Smithsonian facility to welcome nearly 4 million visitors a year. The museum features more than 30,000 objects, including Muhammad Ali's boxing gloves and a dress sewn by Rosa Parks. A commemorative copy of the Emancipation Proclamation, written in 1863 during the presidency of Abraham Lincoln, is also on display at the museum.

- E. Institution, and the
  - F. year, and the
  - G. objects, which include
  - H. Proclamation, which was written
3. Read this sentence.

The Appalachian Trail is a really long trail that a lot of people do each year.

Which revision of the sentence uses the most precise language?

- A. The Appalachian Trail is an extremely long trail that millions of people do each year.
  - B. The Appalachian Trail is a 2,200-mile trail that more than a million people hike each year.
  - C. The Appalachian Trail is a 2,200-mile trail that two million people hike each year.
  - D. The Appalachian Trail is a lengthy trail that a couple million people do each year.
4. Which edit should be made to correct this sentence?

In 1962 the agile athletic Wilt Chamberlain became the first and only professional basketball player in the United States to score 100 points in a single game.

- E. Insert a comma after **agile**.
- F. Insert a comma after **first**.
- G. Insert a comma after **only**.
- H. Insert a comma after **States**.

5. Which pair of revisions need to be made in this paragraph?

(1) When coal was used to heat homes, it frequently left soot stains on the walls. (2) Brothers Cleo and Noah McVicker, who owned a cleaning product company created a doughy substance to help people remove this soot. (3) Over time, as natural gas becomes more common, people had little need for soot cleansers, and the McVickers' family company struggled to stay in business. (4) Then one day Joe McVicker, Cleo's son, learned that his sister-in-law had been using the substance for art projects in her classroom, so he remarketed the product as the toy known today as Play-Doh.

- A. Sentence 1: Delete the comma after **homes**.  
Sentence 3: Change **becomes** to **became**.
- B. Sentence 1: Delete the comma after **homes**.  
Sentence 4: Change **remarketed** to **had remarketed**.
- C. Sentence 2: Insert a comma after **company**.  
Sentence 3: Change **becomes** to **became**.
- D. Sentence 2: Insert a comma after **company**.  
Sentence 4: Change **remarketed** to **had remarketed**.

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## REVISING/EDITING PART B

**DIRECTIONS:** Read each of the following two texts and answer the related questions. You will be asked to improve the writing quality of each text and to correct errors so that the texts follow the conventions of standard written English. You should reread relevant parts of each text, while being mindful of time, before marking the best answer for each question.

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### Find Time to Volunteer

(1) Many people believe that they gain a greater sense of purpose by giving their time to serve others. (2) These are the people who spend their free time volunteering at various places within the community. (3) Those who are served benefit from the work of these volunteers. (4) However, research shows that those who volunteer also receive benefits.

(5) For many students, this proposition may sound impossible. (6) Schoolwork can require hours of study each week. (7) Volunteering at a retirement center or homeless shelter requires both time and energy. (8) Extracurricular activities fill up after-school time. (9) Family obligations and part-time jobs often have to be worked into the schedule, too. (10) However, if students can find time to volunteer, even for a few hours a month, they may find that the benefits outweigh the scheduling difficulties.

(11) To begin with, students who engage in volunteer activities acquire valuable skills and experience, which can help them focus on potential fields of study and career options.

(12) Furthermore, when students list volunteer work on college applications, admissions counselors see applicants who care about making their community and college campus a better place.

(13) Volunteerism benefits more than students applying to college. (14) This type of experience is equally important for students moving directly into the workforce after high school.

(15) Volunteering demonstrates initiative, dedication, and a strong work ethic, qualities that companies value in a potential employee. (16) In a CareerBuilder study, 60 percent of managers regarded volunteerism as a significant asset when considering applicants.

(17) Students who volunteer undoubtedly make a positive investment in their future, but they also affect their present quality of life. (18) Studies have shown that volunteering is good for both the mind and the body. (19) Volunteering can boost mood levels and reduce anxiety. (20) According to the Mayo Clinic,<sup>1</sup> the feeling of doing something meaningful and the appreciation received from that action can reduce stress.

(21) Even the busiest of students can find a way to donate some time to a worthy cause.

(22) Though managing different commitments may seem overwhelming at times, students are sure to feel a sense of fulfillment in volunteerism.

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<sup>1</sup>**Mayo Clinic:** a nonprofit medical organization dedicated to treatment and research

6. Which revision of sentence 2 uses the most precise language?
- E. These are the people who spend their free time volunteering at animal shelters, helping with activities in community centers, or cleaning up parks.
  - F. These are the people who spend their free time helping others in numerous ways at a variety of places, events, or organizations that need support.
  - G. These are the people who spend their free time working at local establishments that help people, animals, or other groups in need of assistance.
  - H. These are the people who spend a lot of time volunteering at places where they can help people in many ways.
7. Which sentence should follow sentence 4 to introduce the main claim of the passage?
- A. With that in mind, high school students should consider engaging in some form of regular volunteerism.
  - B. Fortunately for students, these benefits are guaranteed to produce both immediate and long-term results.
  - C. In fact, studies have confirmed that volunteerism can be beneficial for students, the family, and the community.
  - D. For this reason, high school students should learn about how helping others can strengthen their communities.
8. Which sentence is least relevant to the ideas presented in the second paragraph (sentences 5–10) and should be deleted?
- E. sentence 6
  - F. sentence 7
  - G. sentence 8
  - H. sentence 9

9. Which of these would best follow sentence 12 and support the ideas presented in the third paragraph (sentences 11–12)?
- A. These students show that they are likely to be responsible, reliable, and helpful young adults. Admissions counselors know that character traits like these will benefit the applicants as well as whomever they interact with.
  - B. Volunteering can help students meet new people who can provide references and advice to the students when they are applying to colleges. It can also be an invaluable opportunity for students to meet possible future employers.
  - C. The counselors hope that young adults who demonstrate this behavior will go on to volunteer during their college years, working on campus in student government and leadership programs or serving in the community at hospitals, schools, and homeless shelters.
  - D. Many colleges are looking for students who are not just academically successful but who also work well with others and care about improving and serving surrounding communities.
10. Which concluding sentence should replace sentence 22 to provide the best support for the argument presented in the passage?
- E. In every city, there are homeless shelters, food pantries, youth centers, and political campaigns that depend on the support and commitment of hardworking young people.
  - F. Clearly, students who volunteer will experience a host of benefits, such as learning new skills, meeting interesting people, opening up opportunities for the future, and gaining a sense of satisfaction.
  - G. When students carefully evaluate their activities and prioritize volunteerism, they find a way to work it into their schedule and are soon encouraging their peers to do the same.
  - H. Whether they are seeking admission to college, preparing to enter the workforce, or simply looking to reduce stress, high school students who volunteer can help themselves as much as they help others.

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## The Benefits of Indoor Plants

(1) In an age of endless media content, it is easy to see why people might prefer to stay inside. (2) According to a study sponsored by the Environmental Protection Agency, Americans spend an average of 87 percent of their time indoors. (3) Scientists say that this separation between people and nature puts people at risk for physical and psychological issues.

(4) During the process of photosynthesis, plants convert carbon dioxide into oxygen and remove many harmful toxins from the air. (5) Spending prolonged periods of time indoors, away from plants, deprives people of these benefits. (6) Air that is not regularly detoxified can lead to a condition known as sick building syndrome. (7) This disorder first came to light in the 1970s when many office workers in the United States began to complain of unexplained flu-like symptoms. (8) Researchers determined the cause to be volatile organic compounds, or VOCs. (9) VOCs are harmful chemicals that are emitted by everyday objects such as carpet, furniture, cleaning products, and computers. (10) The NASA Clean Air Study found a simple way to remove a significant number of VOCs within a 24-hour period: add plants to indoor spaces.

(11) Adding plants to indoor spaces has psychological benefits too. (12) Research has long linked time spent in natural environments with increased energy and feelings of contentment. (13) While being outdoors is an excellent option for improving a person's mental health, recent research has indicated that encountering natural elements while indoors can also help. (14) To experience the maximum benefit of natural elements, experts suggest placing at least one live plant per 100 square feet of home or office space.

(15) Connecting with nature, even just by being near an indoor plant, is a significant factor in a person's well-being. (16) Sitting in front of an electronic screen all day isn't natural, and today's workers need to get up and get outdoors. (17) Richard Ryan, a psychology professor at the University of Rochester, puts it this way: "Nature is something within which we flourish, so having it be more a part of our lives is critical, especially when we live and work in built environments."

**11.** Which sentence should follow sentence 3 to best introduce the topic of the passage?

- A.** Placing plants in homes and offices can provide a healthy bridge between nature and the indoors.
- B.** It is important for people to realize that they need to spend more time near plants, whether indoors or out in nature.
- C.** For their personal health and well-being, people need to spend more time outdoors or bring the outdoors in.
- D.** Individuals with little connection to nature can experience illness, depression, and higher levels of stress.

- 12.** Which transition word or phrase should be added to the beginning of sentence 5?
- E.** As a result,
  - F.** Primarily,
  - G.** In contrast,
  - H.** Unfortunately,
- 13.** Which sentence could best follow sentence 13 to support the ideas in the third paragraph (sentences 11–14)?
- A.** A global study of 7,600 workers from sixteen countries revealed that employees who worked in spaces with natural elements, such as indoor plants, were more creative and productive than employees who worked in spaces without natural elements.
  - B.** Specifically, a study suggests that one well-known hotel is popular among guests because its owners have made a significant investment in landscaping and indoor plants known to have a relaxing effect.
  - C.** In fact, one recent study suggested that people who are routinely exposed to natural elements seem to increase their compassion for others, perhaps because that exposure generates compassion for the environment in which they live.
  - D.** According to a study that was conducted in 2003, plants can reduce the amount of noise that people perceive in indoor spaces with hard surfaces, just as adding carpet can make a room seem quieter.
- 14.** Which sentence presents ideas irrelevant to the topic of the passage and should be deleted?
- E.** sentence 11
  - F.** sentence 14
  - G.** sentence 15
  - H.** sentence 16
- 15.** Which concluding sentence should follow sentence 17 to best support the information presented in the passage?
- A.** Because indoor plants absorb the carbon dioxide in our air and release the oxygen we need to breathe, they are vital to our wholeness and wellness.
  - B.** Experts say that adding a Boston fern, a spider plant, or an aloe vera plant is a good place to start if you want to begin to incorporate nature into your home or office.
  - C.** More people should consider bringing natural elements inside to improve general wellness and reverse some of the negative effects of an indoor-centered society.
  - D.** As one study has confirmed, houseplants are a wise investment because they can remove almost 90 percent of the toxins in the air within the span of 24 hours.

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# READING COMPREHENSION

## QUESTIONS 16–57

**DIRECTIONS:** Read each of the following five texts, and answer the related questions. You may write in your test booklet as needed to take notes. You should reread relevant parts of each text, while being mindful of time, before marking the best answer for each question. Base your answers only on the content within the text.

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## Champion of the Channel

- 1 In 1926 an editor at the *London Daily News* predicted that Gertrude Ederle, an American swimmer with eighteen world records and three Olympic medals, would fail in her attempt to swim across the English Channel. He claimed that “even the most uncompromising champion of the rights and capacities of women must admit that in contests of physical skill, speed and endurance they must remain forever the weaker sex.” Yet, at only nineteen years old, Ederle not only became the first woman to accomplish this feat, she also broke the men’s record by two hours. Gertrude Ederle’s triumphant swim across the English Channel was a testimony to her determination, innovative spirit, and passion for swimming.
- 2 Crossing the English Channel is a daunting task for any swimmer. At its narrowest point, the channel measures twenty-one miles across. Its icy waters hover around sixty degrees Fahrenheit, and its unruly tides and currents toss swimmers about like bobbing corks. Stinging jellyfish, seaweed, and floating debris from shipwrecks and lost cargoes present added hazards.
- 3 For decades the channel’s perils have defeated countless swimmers. Ederle, too, failed in her first attempt to cross the channel in 1925. Just six miles short of finishing, she became ill, and her coach had to haul her out of the water. Undeterred, Ederle decided to try again. Ederle knew that if she did not complete the challenge this time, she might never get the opportunity to set this record, because a rival female swimmer was preparing to make her second attempt at the crossing as well.
- 4 To prepare for the marathon swim, Ederle found ways to improve her equipment. She and her sister Meg discovered that melted candle wax perfectly sealed goggle edges, effectively waterproofing Ederle’s goggles against hammering waves. The sisters also designed a two-piece silk swimsuit for Ederle. During her first channel-crossing attempt she had worn a standard one-piece swimsuit that, after the lengthy hours of swimming across the channel, had stretched out, filling with water and creating drag, making an already challenging task almost insurmountable. Unlike the cumbersome typical bathing suit, this silk invention weighed little and allowed for easy movement.
- 5 On August 6, 1926, Ederle waded into the channel near Cape Gris-Nez, France. At first she shivered in the bone-chilling water even though she had covered her body in eight layers of grease for insulation. Her limbs felt stiff. Her strokes were irregular. Driving forward, she fought to clear her mind and find what she called her “sphere,” a place where the sea became her only companion and the shrieks of gulls and the humming of boat engines faded away. Using a new overhand stroke called the American crawl, Ederle eventually settled into a steady pace, briskly breaking through waves.
- 6 Throughout Ederle’s swim, two tugboats accompanied her. One carried newspaper reporters who wired dispatches of her progress to shore. The other, displaying a sign that read “This way, ole kid!” with an arrow pointing forward, transported her coach, family, and friends. Her coach played songs, such as “Yes, We Have No Bananas,” on a phonograph so that Ederle could time her strokes to the rhythm. Using a net, her coach also passed her baby bottles of broth for nourishment.
- 7 For hours Ederle swam, dodging debris with an amused smile. However, as she neared the English shore, a sudden fierce storm erupted. The tides and waves forced Ederle backward, and she

fought the stubborn swells for several hours. The salty water caused her tongue to swell and inflamed her ears. Yet Ederle felt indescribably happy as she churned through the sea. Finally, as she neared the English shore, the storm abated, and the tide turned. No longer fighting against her, the sea pushed her toward the shore and victory.

- 8 After fourteen hours and thirty-one minutes, Ederle, on wobbly legs, stepped onto the English shore. The waiting crowd roared, honked their automobile horns, blasted their tugboat whistles, and set off flares that flashed in the sky. Ederle had swum into history.
- 9 When Ederle returned to New York, she received a parade, where thousands of people shouted "Trudy!" Not only were everyday American citizens proud of Ederle, but she also inspired them to be more active. Over the next few years, more than 60,000 people credited her with motivating them to earn their American Red Cross swimming certificates. Gertrude Ederle's accomplishment proved to the world that with determination and passion, it was possible for a person to achieve his or her goals.

#### SOLO SWIMS ACROSS THE ENGLISH CHANNEL

Earliest Speed Records		
Year	Swimmer	Time
1875	Matthew Webb (M)	21 hours, 45 minutes
1923	Enrico Tiraboschi (M)	16 hours, 33 minutes
1926	Gertrude Ederle (F)	14 hours, 31 minutes
1926	Arnst Vierkotter (M)	12 hours, 38 minutes
Current Speed Records		
Year	Swimmer	Time
2006	Yveta Hlavacova (F)	7 hours, 25 minutes
2012	Trent Grimsey (M)	6 hours, 55 minutes

16. What do the newspaper editor's comments in paragraph 1 reveal about the challenges Ederle faced in attempting her feat?
- E. Regardless of her ability, being an American put Ederle at a serious disadvantage over a Londoner, who would be more familiar with the English Channel.
  - F. At the time, Ederle still needed more training in order to succeed in the daunting task of swimming the English Channel.
  - G. While Ederle could participate in athletic competition, some people were not comfortable with her attempt to swim the channel because no woman had ever attempted it before.
  - H. In spite of her previous achievements, Ederle still experienced social as well as physical obstacles in attempting to swim the channel.

17. Which sentence is the best summary of the steps that Ederle took to prepare for her second attempt to swim across the English Channel?
- A. Working with her sister, Ederle waterproofed her goggles using melted candle wax to seal the edges and designed a two-piece silk bathing suit that was lightweight and would not stretch out during the long swim.
  - B. Ederle covered her body in numerous layers of grease for insulation and focused on finding her “sphere” during her swim.
  - C. Ederle began training with her coach, who played music while she swam to help her time her strokes to the music.
  - D. Ederle focused on developing better equipment than the standard swimsuit that proved cumbersome during her first attempt to cross the channel.

18. Read this sentence from paragraph 4.

**During her first channel-crossing attempt she had worn a standard one-piece swimsuit that, after the lengthy hours of swimming across the channel, had stretched out, filling with water and creating drag, making an already challenging task almost insurmountable.**

The word “insurmountable” is used to highlight

- E. how the bathing suit made it impossible for Ederle to make it across the channel.
  - F. how Ederle and her sister decided to improve Ederle’s swimming equipment in a creative way.
  - G. that the flaws in Ederle’s bathing suit made a difficult task even more complicated.
  - H. that the swimming equipment Ederle used needed to be custom made for her attempt.
19. Which statement describes how the author’s use of a problem-and-solution structure in paragraph 5 contributes to the development of ideas in the passage?
- A. Detailing the challenges presented by the cold channel waters highlights the effectiveness of Ederle’s training.
  - B. Describing Ederle’s physical difficulties during her swim provides evidence of the team effort required to ensure her safety.
  - C. Explaining the difficulties that arose early in the effort helps predict the additional obstacles that occurred during Ederle’s attempt.
  - D. Illustrating Ederle’s process of blocking out her discomfort shows that swimming the channel was both a mental and a physical challenge.

- 20.** Which sentence best supports the idea that Ederle succeeded in swimming across the channel because of her innovative approach to the challenge?
- E.** "Yet, at only nineteen years old, Ederle not only became the first woman to accomplish this feat, she also broke the men's record by two hours." (paragraph 1)
  - F.** "At first she shivered in the bone-chilling water even though she had covered her body in eight layers of grease for insulation." (paragraph 5)
  - G.** "Using a new overhand stroke called the American crawl, Ederle eventually settled into a steady pace, briskly breaking through waves." (paragraph 5)
  - H.** "No longer fighting against her, the sea pushed her toward the shore and victory." (paragraph 7)
- 21.** Paragraph 7 contributes to the development of a central idea of the passage by
- A.** illustrating that Ederle's physical strength and mental fortitude allowed her to stay focused on her goal.
  - B.** conveying that Ederle pushed herself to the edge of her physical capabilities in order to complete the swim.
  - C.** highlighting the impact the severe weather had on Ederle's emotions during her swim.
  - D.** emphasizing the surge of emotions Ederle felt as she came closer to achieving a personal goal.
- 22.** The idea that many people were interested in Ederle's attempt to swim the channel is illustrated in the passage mainly through the
- E.** information about Ederle's competition with another female swimmer who was also attempting to cross the channel.
  - F.** details about the reports of Ederle's progress during the swim and the celebration of her successful completion of the swim.
  - G.** details about how Ederle's historic swim contributed to an increase in the number of people learning how to swim.
  - H.** information about the resources Ederle used throughout her swim to maintain her motivation and stamina.

- 23.** Which sentence from the passage best conveys the author’s perspective regarding the impact of Ederle’s accomplishment?
- A.** “Undeterred, Ederle decided to try again.” (paragraph 3)
  - B.** “For hours Ederle swam, dodging debris with an amused smile.” (paragraph 7)
  - C.** “Yet Ederle felt indescribably happy as she churned through the sea.” (paragraph 7)
  - D.** “Ederle had swum into history.” (paragraph 8)
- 24.** The table supports the information in paragraph 9 mainly by
- E.** emphasizing that people have continued to swim across the channel and have significantly reduced the speed record.
  - F.** suggesting that Ederle inspired women to swim across the channel in an attempt to break the current speed record.
  - G.** revealing that other women competed with Ederle to set a record time for swimming across the English Channel.
  - H.** providing a comparison between the earliest channel-swimming records and the current record times.

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# 5 Reasons Physical Books Might Be Better Than E-Books

by Shaunacy Ferro

- 1 Though e-book<sup>1</sup> readers have become a more common sight around town, traditional books still have their evangelists.<sup>2</sup> According to *The New York Times*, e-book sales have been falling in 2015. Print definitely isn't dead. In fact, according to some research, it may actually be a better choice for some readers. While scientists are still trying to tease out exactly how digital reading affects us differently, here are five ways e-books might be inferior to their dead-tree cousins.

## **E-books can reduce reading comprehension.**

- 2 In a study of middle schoolers, West Chester University researchers found that students who read on iPads<sup>3</sup> had lower reading comprehension than when they read traditional printed books. They discovered that the kids sometimes skipped text in favor of interactive features in the e-books, suggesting that certain multimedia in children's e-books can be detrimental to the practice of reading itself. However, the researchers noted that some interactive features in e-books are designed to enhance comprehension, and that those might be more helpful than game-type interactive graphics.

## **Young kids can get distracted by e-books.**

- 3 Similar results were found by a small study by the Joan Ganz Cooney Center that consisted of 32 kids reading e-books and print books with their parents. It found that "enhanced" e-books might be distracting. Kids who read enhanced e-books—ones with interactive, multimedia experiences—were more engaged with them physically, but in the end they remembered fewer narrative details than those who read print books or basic e-books.

## **You remember less about a book's timeline.**

- 4 Another study of adults also found that e-books can be hard to absorb. The researchers asked 25 people to read a 28-page story on a Kindle<sup>4</sup> and 25 to read the story in paperback, then asked the readers to put 14 events from the story in chronological order. Those who read the story on a Kindle performed worse on the chronology test than the book readers, though they performed about the same as print readers in other tests. Earlier research by the same scholars, from Stavanger University in Norway, found that Norwegian 10th graders also remembered more about texts if they read them in print rather than on a computer screen.

## **They're not great as textbooks.**

- 5 While e-book textbooks are often cheaper (and easier to carry) than traditional door-stop<sup>5</sup>

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<sup>1</sup>**e-book:** an electronic book, a publication made available digitally for reading on a computer or other device

<sup>2</sup>**evangelists:** advocates or supporters

<sup>3</sup>**iPads:** tablet computers

<sup>4</sup>**Kindle:** device for reading e-books

<sup>5</sup>**door-stop:** a reference to the idea that some textbooks are large and heavy enough to hold a door open

textbooks, college students often don't prefer them. In some surveys of college kids, the majority of students have reported preferring print books. However, a 2012 study from the UK's National Literacy Trust of kids ages 8 to 16 found that more than 50 percent of children reported preferring screen reading.

**They're tiring.**

- 6 Staring at a lit screen can be tiring for the eyes and the brain. A 2005 study from Sweden found that reading digitally required a higher cognitive workload than reading on paper. Furthermore, staring at LED<sup>6</sup> screens at night can disrupt sleep patterns. A 2014 Harvard study found that people who used e-readers with LED screens at night slept worse and were more tired the next day. So, if you're going to go for an e-book, go for one without the backlight.
- 7 The take-away message? If you're really trying to absorb material, you might want to go for a physical book. And if you're going to be up all night studying, turn off the backlight.
- 8 However, all this may not mean that reading on a Kindle is really going to melt your brain. For instance, reading an e-book on a computer is a much different experience than reading on a Kindle, which is specifically designed for consuming books. So, too, is playing with an interactive e-book on an iPad, compared to using a simpler e-book device that only presents the text, with no opportunities to click away into digital distractions.
- 9 And some studies have found that part of the difference between the way people absorb information from e-books versus paper might be due to approaching e-books differently—in one test, participants didn't regulate their study time with digital books like they did with paper texts, leading to worse performances. It's possible that our expectations of e-book reading—as well as the different designs of the digital reading experience on a computer or iPad or Kindle—might affect how we approach the text and how much effort we put into studying them. As generations of e-book readers evolve, and people become more accustomed to the idea of sitting down with a digital textbook, these factors could change—for better or for worse.

"5 Reasons Physical Books Might Be Better Than E-Books" by Shaunacy Ferro from MENTAL FLOSS, October 2, 2015. Copyright © 2015 Mental Floss, Inc.

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<sup>6</sup>**LED:** Light-emitting diode; LEDs are often used as a backlight for electronic devices such as smart phones and tablets.

- 25.** The details in paragraph 1 convey a central idea of the passage by noting that
- A.** fewer people are buying e-books than printed books.
  - B.** printed books have some advantages over e-books.
  - C.** printed books rely on natural materials more than e-books.
  - D.** some people recommend buying printed books over e-books.

- 26.** Which evidence from the passage best supports the claim that “print definitely isn’t dead” (paragraph 1)?
- E.** Most college students prefer using paper books to using e-books.
  - F.** Scientists are still studying the effects of reading on a screen.
  - G.** Paper books are less disruptive to sleep patterns than e-books are.
  - H.** Reading on a screen can affect both the eyes and the brain.
- 27.** The studies described in paragraph 6 are important to the author’s observations in paragraphs 7 and 8 because the findings
- A.** show that the author has personal opinions to share beyond the ideas included in the studies.
  - B.** give the author the opportunity to reach practical conclusions about reading that are based on scientific evidence.
  - C.** highlight the author’s statement that digital reading experiences vary based on the individual and the device.
  - D.** support the author’s inference that more studies on more types of devices are needed.
- 28.** What is the best summary of the research into the effects of e-book reading?
- E.** E-books are disliked by college students and preferred by kids, and their interactive features are distracting.
  - F.** Some e-books can aid comprehension, but most e-book readers remember few details.
  - G.** E-books reduce reading comprehension and increase distraction, and they are tiring for the eyes and brain.
  - H.** Enhanced e-books engage children, but offer too many opportunities to be distracted by non-reading activities.

- 29.** Which sentence from the passage suggests that people in the future will likely choose e-books over print books?
- A.** “They discovered that the kids sometimes skipped text in favor of interactive features in the e-books, suggesting that certain multimedia in children’s e-books can be detrimental to the practice of reading itself.” (paragraph 2)
  - B.** “However, the researchers noted that some interactive features in e-books are designed to enhance comprehension, and that those might be more helpful than game-type interactive graphics.” (paragraph 2)
  - C.** “Kids who read enhanced e-books—ones with interactive, multimedia experiences—were more engaged with them physically, but in the end they remembered fewer narrative details than those who read print books or basic e-books.” (paragraph 3)
  - D.** “However, a 2012 study from the UK’s National Literacy Trust of kids ages 8 to 16 found that more than 50 percent of children reported preferring screen reading.” (paragraph 5)
- 30.** Which evidence in the passage is most relevant to the author’s claim that “our expectations of e-book reading . . . might affect how we approach the text” (paragraph 9)?
- E.** Studies found that students used their study time less productively with e-books than with print books.
  - F.** A study found that e-books enhanced with multimedia engaged children to interact physically.
  - G.** Adult readers recalled more details from a story read in a print book than in an e-book.
  - H.** One study found that people who read e-books had poor recall of chronological events.
- 31.** Which sentence from the passage best reveals the author’s point of view about e-books?
- A.** “While scientists are still trying to tease out exactly how digital reading affects us differently, here are five ways e-books might be inferior to their dead-tree cousins.” (paragraph 1)
  - B.** “While e-book textbooks are often cheaper (and easier to carry) than traditional door-stop textbooks, college students often don’t prefer them.” (paragraph 5)
  - C.** “For instance, reading an e-book on a computer is a much different experience than reading on a Kindle, which is specifically designed for consuming books.” (paragraph 8)
  - D.** “So, too, is playing with an interactive e-book on an iPad, compared to using a simpler e-book device that only presents the text, with no opportunities to click away into digital distractions.” (paragraph 8)

# Snowy Mountains

by John Gould Fletcher

- Higher and still more high,  
Palaces made for cloud,  
Above the dingy city-roofs  
Blue-white like angels with broad wings,  
5 Pillars of the sky at rest  
The mountains from the great plateau  
Uprise.
- But the world heeds them not;  
They have been here now for too long a time.  
10 The world makes war on them,  
Tunnels their granite cliffs,  
Splits down their shining sides,  
Plasters their cliffs with soap-advertisements,  
Destroys the lonely fragments of their peace.
- 15 Vaster and still more vast,  
Peak after peak, pile after pile,  
Wilderness still untamed,  
To which the future is as was the past,  
Barrier spread by Gods,  
20 Sunning their shining foreheads,  
Barrier broken down by those who do not need  
The joy of time-resisting storm-worn stone,  
The mountains swing along  
The south horizon of the sky;  
25 Welcoming with wide floors of blue-green ice  
The mists that dance and drive before the sun.

“Snowy Mountains” by John Gould Fletcher—Public Domain

- 32.** The description in the first stanza (lines 1–7) helps establish a central idea of the poem by
- E.** comparing the length of time the mountains have existed with the length of time the city has existed.
  - F.** contrasting the grandeur of the mountains with the structures in the city below them.
  - G.** implying that the mountains are a source of inspiration to the people in the city below.
  - H.** suggesting that the mountains are larger than the people in the city realize.

**33.** Read line 5 from the poem.

**Pillars of the sky at rest**

The line helps develop the theme of the poem by suggesting that the mountains

- A.** serve a noble and supportive purpose in the world.
- B.** attract the clouds with their strength and permanence.
- C.** remain untamed through the ages.
- D.** provide protection for the people.

**34.** How does isolating the word “Uprise” in line 7 affect the meaning of the poem?

- E.** It creates a contrast between the great plateau and the city buildings.
- F.** It reveals the similarity between the tall buildings in the city and the tall mountains on the horizon.
- G.** It creates a vision of the region before people developed the land.
- H.** It emphasizes that the mountains dominate the landscape.

**35.** How does the poet develop the speaker’s point of view in the second stanza (lines 8–14)?

- A.** by describing images of the mountains’ awe-inspiring size and strength
- B.** by illustrating the differences among the various ways humans can affect the natural environment
- C.** by criticizing society for taking careless, harmful courses of action against nature
- D.** by demonstrating how the mountains and the people are able to benefit from each other

- 36.** Which line from the poem best supports the idea that people have sacrificed priceless natural beauty in order to make a profit?
- E.** "Above the dingy city-roofs" (line 3)
  - F.** "The world makes war on them," (line 10)
  - G.** "Tunnels their granite cliffs," (line 11)
  - H.** "Plasters their cliffs with soap-advertisements," (line 13)
- 37.** Which detail from the poem reflects the speaker's view that people often fail to appreciate what is familiar?
- A.** "The mountains from the great plateau" (line 6)
  - B.** "They have been here now for too long a time." (line 9)
  - C.** "Splits down their shining sides," (line 12)
  - D.** "To which the future is as was the past," (line 18)
- 38.** How do the details in the third stanza (lines 15–26) most contribute to the development of a theme of the poem?
- E.** by reflecting nature's capacity to resist change
  - F.** by showing that nature is capable of influencing human will
  - G.** by exposing how a lack of awareness leads to nature's ruin
  - H.** by explaining why people must respect nature

39. Read lines 21–22 from the poem.

**Barrier broken down by those who do not need  
The joy of time-resisting storm-worn stone,**

How do the lines help convey the speaker’s point of view?

- A. They suggest that the speaker wants to remove the obstacles that prevent others from experiencing the wonders of nature.
- B. They reveal the speaker’s opinion that some people are too busy to appreciate natural beauty.
- C. They suggest the speaker’s dismay that people destroy the natural landscape without understanding the ramifications of their actions.
- D. They explain that the speaker is confident that nature will never be fully destroyed by people.

40. Read lines 23–26 from the poem.

**The mountains swing along  
The south horizon of the sky;  
Welcoming with wide floors of blue-green ice  
The mists that dance and drive before the sun.**

The personification in these concluding lines of the poem suggests that the mountains are

- E. gracious hosts who are untroubled by the actions of people.
- F. unaware of their coming destruction.
- G. lively entertainers who are amused by the everyday concerns of people.
- H. too proud to reveal their pain.

## Excerpt from *A Voice in the Wilderness*

by Grace Livingston Hill

- 1 With a lurch the train came to a dead stop and Margaret Earle, hastily gathering up her belongings, hurried down the aisle and got out into the night.
- 2 It occurred to her, as she swung her heavy suit-case down the rather long step to the ground, and then carefully swung herself after it, that it was strange that neither conductor, brakeman, nor porter had come to help her off the train, when all three had taken the trouble to tell her that hers was the next station; but she could hear voices up ahead. Perhaps something was the matter with the engine that detained them and they had forgotten her for the moment.
- 3 The ground was rough where she stood, and there seemed no sign of a platform. Did they not have platforms in this wild Western land, or was the train so long that her car had stopped before reaching it?
- 4 She strained her eyes into the darkness, and tried to make out things from the two or three specks of light that danced about like fireflies in the distance. She could dimly see moving figures away up near the engine, and each one evidently carried a lantern. The train was tremendously long. A sudden feeling of isolation took possession of her. Perhaps she ought not to have got out until some one came to help her. Perhaps the train had not pulled into the station yet and she ought to get back on it and wait. Yet if the train started before she found the conductor she might be carried on somewhere and he justly blame her for a fool.
- 5 There did not seem to be any building on that side of the track. It was probably on the other, but she was standing too near the cars to see over. She tried to move back to look, but the ground sloped and she slipped and fell in the cinders,<sup>1</sup> bruising her knee and cutting her wrist.
- 6 In sudden panic she arose. She would get back into the train, no matter what the consequences. They had no right to put her out here, away off from the station, at night, in a strange country. If the train started before she could find the conductor she would tell him that he must back it up again and let her off. He certainly could not expect her to get out like this.
- 7 She lifted the heavy suit-case up the high step that was even farther from the ground than it had been when she came down, because her fall had loosened some of the earth and caused it to slide away from the track. Then, reaching to the rail of the step, she tried to pull herself up, but as she did so the engine gave a long snort and the whole train, as if it were in league against her, lurched forward crazily, shaking off her hold. She slipped to her knees again, the suit-case, toppled from the lower step, descending upon her, and together they slid and rolled down the short bank, while the train . . . ran giddily off into the night.
- 8 The horror of being deserted helped the girl to rise in spite of bruises and shock. She lifted imploring hands to the unresponsive cars as they hurried by her—one, two, three, with bright windows, each showing a passenger, comfortable and safe inside, unconscious of her need.
- 9 A moment of useless screaming, running, trying to attract some one's attention, a sickening sense

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<sup>1</sup>**cinders:** track bed made from the residue of burnt coal

of terror and failure, and the last car slatted itself past with a mocking clatter, as if it enjoyed her discomfort.

- 10 Margaret stood dazed, reaching out helpless hands, then dropped them at her sides and gazed after the fast-retreating train, the light on its last car swinging tauntingly, blinking now and then with a leer in its eye, rapidly vanishing from her sight into the depth of the night.
- 11 She gasped and looked about her for the station that but a short moment before had been so real to her mind; and, lo! on this side and on that there was none!
- 12 The night was wide like a great floor shut in by a low, vast dome of curving blue set with the largest, most wonderful stars she had ever seen. Heavy shadows of purple-green, smoke-like, hovered over earth darker and more intense than the unfathomable blue of the night sky. It seemed like the secret nesting-place of mysteries wherein no human foot might dare intrude. It was incredible that such could be but common sage-brush, sand, and greasewood wrapped about with the beauty of the lonely night.
- 13 No building broke the inky outlines of the plain, nor friendly light streamed out to cheer her heart. Not even a tree was in sight, except on the far horizon, where a heavy line of deeper darkness might mean a forest. Nothing, absolutely nothing, in the blue, deep, starry dome above and the bluer darkness of the earth below save one sharp shaft ahead like a black mast throwing out a dark arm across the track.
- 14 As soon as she sighted it she picked up her baggage and made her painful way toward it, for her knees and wrist were bruised and her baggage was heavy.
- 15 A soft drip, drip greeted her as she drew nearer; something plashing down among the cinders by the track. Then she saw the tall column with its arm outstretched, and looming darker among the sage-brush the outlines of a water-tank. It was so she recognized the engine's drinking-tank, and knew that she had mistaken a pause to water the engine for a regular stop at a station.

From A VOICE IN THE WILDERNESS by Grace Livingston Hill—Public Domain

- 41.** In paragraph 2, how does the phrase “when all three had taken the trouble to tell her” affect the tone in the first part of the excerpt?
- A.** It creates an accusatory tone by suggesting that Margaret believes that others are responsible for her problem.
  - B.** It introduces a defiant tone by suggesting that Margaret left the train early to prove a point.
  - C.** It suggests a frustrated tone by showing that Margaret feels confused by the inconsistent help offered by the railroad employees.
  - D.** It establishes an appreciative tone by showing that Margaret feels cared for by the railroad employees.

42. Which sentence from the excerpt best supports the idea that Margaret is unaccustomed to traveling to new places by train?
- E. "With a lurch the train came to a dead stop and Margaret Earle, hastily gathering up her belongings, hurried down the aisle and got out into the night." (paragraph 1)
  - F. "Perhaps something was the matter with the engine that detained them and they had forgotten her for the moment." (paragraph 2)
  - G. "Did they not have platforms in this wild Western land, or was the train so long that her car had stopped before reaching it?" (paragraph 3)
  - H. "She could dimly see moving figures away up near the engine, and each one evidently carried a lantern." (paragraph 4)

43. Read this sentence from paragraph 4.

**She strained her eyes into the darkness, and tried to make out things from the two or three specks of light that danced about like fireflies in the distance.**

The simile used in the sentence affects the tone of the paragraph by emphasizing a

- A. feeling of comfort as Margaret connects her unfamiliar surroundings with familiar images.
  - B. sense of lonesomeness as Margaret realizes that she is on her own in the wilderness.
  - C. sense of tranquility as Margaret is distracted from the urgency of her situation by the beauty of the night.
  - D. feeling of dread as Margaret regards the desolation of the land that surrounds her.
44. How do Margaret's earlier interactions with the conductor, brakeman, and porter affect the plot?
- E. They prompt Margaret to get off the train without further assistance.
  - F. They cause Margaret to think that she knows what to do once she gets off the train.
  - G. They compel Margaret to wonder whether the train has not pulled all the way into the station.
  - H. They lead Margaret to believe that train stations in rural areas lack platforms.

45. Read paragraph 9 from the excerpt.

**A moment of useless screaming, running, trying to attract some one's attention, a sickening sense of terror and failure, and the last car slatted itself past with a mocking clatter, as if it enjoyed her discomfort.**

The imagery in this sentence conveys the

- A. growing irritation Margaret feels as she is ignored by people on the train.
- B. effort Margaret is making despite being physically unable to keep up with the train.
- C. anger that Margaret is experiencing as she watches the train leave without her.
- D. vulnerability Margaret feels as the train leaves her behind.

46. How does Margaret's experience in paragraph 9 emphasize a theme of the excerpt?

- E. It confirms Margaret's understanding that she cannot rely on help from anyone else.
- F. It leads Margaret to realize that her desire to change her situation is impractical.
- G. It causes Margaret to believe that her own actions led to an unfavorable outcome.
- H. It reinforces Margaret's frustration about her lack of control over her surroundings.

47. Read paragraph 10 from the excerpt.

**Margaret stood dazed, reaching out helpless hands, then dropped them at her sides and gazed after the fast-retreating train, the light on its last car swinging tauntingly, blinking now and then with a leer in its eye, rapidly vanishing from her sight into the depth of the night.**

What does the figurative language in this sentence emphasize?

- A. the sense of doubt that Margaret experiences when she is deciding what to do next
- B. the anger that Margaret feels toward the people on the train who she expected to help her
- C. the embarrassment that Margaret feels when she imagines what others will think of her
- D. the hopelessness that Margaret feels when she accepts that the train is continuing on

48. How does paragraph 11 contribute to the plot of the excerpt?

- E. It reveals that the reality of the situation is different from Margaret's assumptions.
- F. It illustrates that Margaret's main problem is her own imagination.
- G. It shows that Margaret is surprised by the unexpected adventure she is about to undertake.
- H. It provides insight into how Margaret reacts to stressful situations.

*Samuel Morse, an American inventor, is credited with creating the electronic telegraph, a communication device that allows users to send messages using a system of short and long pulses that represent letters, numbers, and punctuation. In 1844 the United States Congress passed the Telegraph Bill, which provided Morse with the funds to build an electric telegraph system.*

## Invention of the Telegraph

### Earlier Signal Systems

- 1 Long before Samuel F. B. Morse electrically transmitted his famous message “What hath God wrought?” from Washington to Baltimore on May 24, 1844, there were signaling systems that enabled people to communicate over distances. Most were visual or “semaphore” systems using flags or lights. In the eighteenth century, such systems used an observer who would decipher a signal from a high tower on a distant hill and then send it on to the next station. The young American republic wanted just such a system along its entire Atlantic coast and offered a prize of \$30,000 for a workable proposal. The framers of this legislation<sup>1</sup> had no way of knowing that when they used the word “telegraph” to refer to this visual semaphore system, they would be offered an entirely new and revolutionary means of communication—electricity.

### The Growth of an Idea

- 2 The idea of using electricity to communicate over distance is said to have occurred to Morse during a conversation aboard ship when he was returning from Europe in 1832. Michael Faraday’s recently invented electromagnet was much discussed by the ship’s passengers, and when Morse came to understand how it worked, he speculated that it might be possible to send a coded message over a wire. While a student at Yale College years before, he had written his parents a letter about how interesting he found the lectures on electricity. Despite what he had learned at Yale, Morse found when he began to develop his idea that he had little real understanding of the nature of electricity, and after sporadic attempts to work with batteries, magnets, and wires, he finally turned for help to a colleague at the University of the City of New York, Leonard D. Gale.
- 3 Gale was a professor of chemistry and familiar with the electrical work of Princeton’s Joseph Henry, a true pioneer in the new field. Well before Morse had his shipboard idea about a telegraph, Henry rang a bell at a distance by opening and closing an electric circuit. In 1831, he had published an article, of which Morse was unaware, that contained details suggesting the idea of an electric telegraph. Gale’s help and his knowledge of this article proved crucial to Morse’s telegraph system because Gale not only pointed out flaws in the system but showed Morse how he could regularly boost the strength of a signal and overcome the distance problems he had encountered by using a relay system Henry had invented. Henry’s experiments, Gale’s assistance, and, soon after, hiring the young technician Alfred Vail were keys to Morse’s success.

### Obstacles and Opportunities

- 4 By December 1837, Morse had enough confidence in his new system to apply for the federal government’s appropriation, and during the next year he conducted demonstrations of his telegraph both in New York and Washington.

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<sup>1</sup>**legislation:** Telegraph Bill

- 5 However, when the economic disaster known as the Panic of 1837 took hold of the nation and caused a long depression, Morse was forced to wait for better times. It was during this period that Morse visited Europe again and tried not only to secure patent protection overseas but to examine competing telegraph systems in England. . . .
- 6 By 1843, the country was beginning to recover economically, and Morse again asked Congress for the \$30,000 that would allow him to build a telegraph line from Washington to Baltimore, forty miles away. The House of Representatives eventually passed the bill containing the Morse appropriation, and the Senate approved it in the final hours of that Congress’s last session. With President Tyler’s signature, Morse received the cash he needed and began to carry out plans for an underground telegraph line.

### **Realizing a Great Invention**

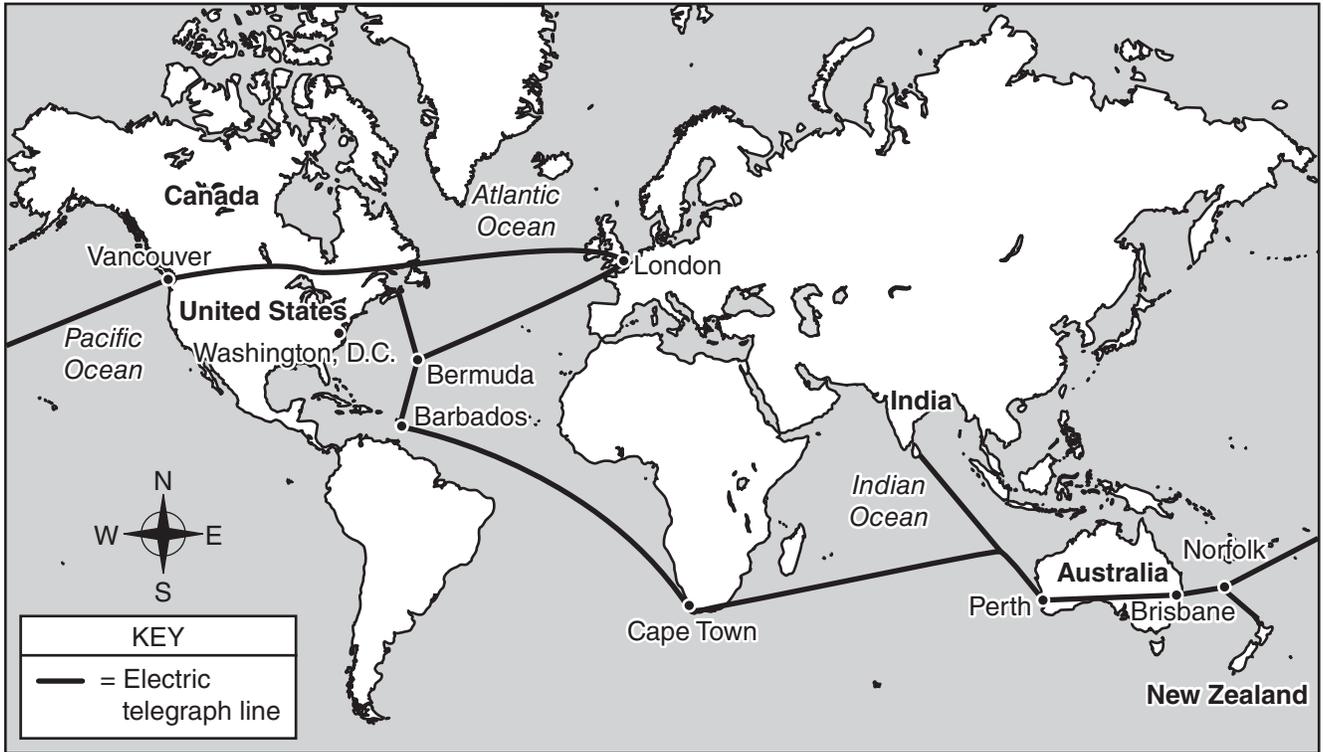
- 7 Morse had hired the ingenious construction engineer Ezra Cornell to lay the pipe carrying the wire, and although Cornell did his job superbly, one of Morse’s partners, Congressman F. O. J. Smith, had purchased wire with defective insulation. Too much time had been wasted laying bad wire, and with the project on a rigid deadline, something had to be done quickly. Cornell suggested that the fastest and cheapest way of connecting Washington and Baltimore was to string wires overhead on trees and poles. The desperate Morse gave the go-ahead, and the line was completed in time for the dramatic and spectacularly successful link between the Supreme Court chamber of the Capitol building and the railroad station in Baltimore.
- 8 Soon, as overhead wires connected cities up and down the Atlantic coast, the dots-and-dashes method<sup>2</sup> that recorded messages on a long moving strip of paper was replaced by the operator’s ability to interpret the code in real time. . . . Telegraph lines soon extended westward, and within Morse’s own lifetime they connected the continents of Europe and America.

“Invention of the Telegraph”—Public Domain/Library of Congress

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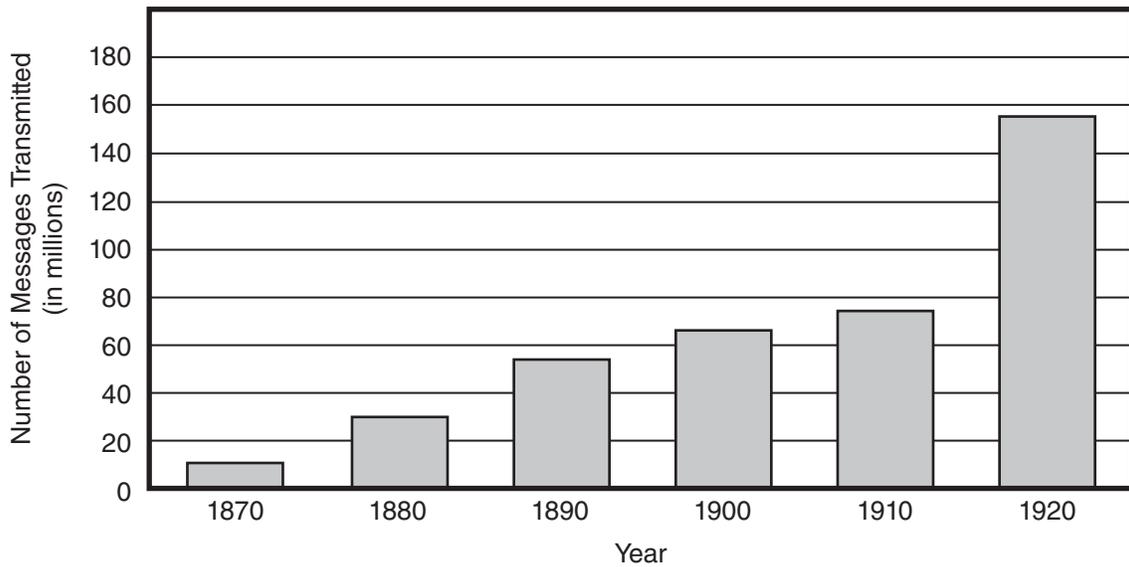
<sup>2</sup>**dots-and-dashes method:** the short and long pulses of Morse code that are sent and received by telegraph operators

BRITISH ALL-RED TELEGRAPH LINE, 1902



The first transatlantic electric telegraph message was sent in 1858, and by 1902 the British All-Red Line connected most of the world.

TELEGRAPH MESSAGES TRANSMITTED, 1870–1920



Source: U.S. Bureau of the Census. *Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part 2*. Washington, D.C., 1975.

- 49.** Which statement describes how the author’s use of problem-solution in paragraph 2 contributes to the development of ideas in the passage?
- A.** Morse’s discussion on a ship about Faraday’s electromagnet reminded him of the Yale College lectures on electricity, which he had enjoyed but had not fully understood, inspiring him to learn more about electricity from his colleague Gale.
  - B.** Morse’s discouragement over his lack of knowledge of electricity prompted him to experiment with batteries, magnets, and wires, which led to the development of a new long-distance communication system.
  - C.** Morse’s difficulty in understanding how Faraday’s electromagnet worked was frustrating, and it pushed him to create a system for sending signals over wires.
  - D.** Morse’s longtime fascination was not enough to make up for his lack of knowledge about electricity, so he eventually sought help from Gale.
- 50.** Which statement describes how the author’s use of sequencing in paragraph 3 contributes to the overall structure of the passage?
- E.** It shows that several people were simultaneously attempting to create an electric telegraph.
  - F.** It shows how the invention of the electric telegraph depended on information and techniques discovered by others.
  - G.** It shows that multiple means of long-distance communication were being used at the same time.
  - H.** It shows how quickly long-distance communication changed from visual signals to electrical signals.
- 51.** The details of the section “The Growth of an Idea” convey a central idea of the passage by suggesting that
- A.** the collaborative efforts of colleagues resulted in successful communication over a wire.
  - B.** a great deal of interest and work was devoted to understanding how to use electricity to send signals.
  - C.** Faraday’s invention of the electromagnet inspired the invention of the telegraph.
  - D.** colleges like Yale played a great role in making new discoveries about electricity and its applications.

52. Read this sentence from paragraph 7.

**The desperate Morse gave the go-ahead, and the line was completed in time for the dramatic and spectacularly successful link between the Supreme Court chamber of the Capitol building and the railroad station in Baltimore.**

The words “dramatic” and “spectacularly” in the sentence convey a

- E. sense of relief and fulfillment that the line was finished.
  - F. sense of wonder and of celebration that the telegraph line was accomplished.
  - G. feeling of excitement about the future possibilities of the telegraph.
  - H. feeling of confidence about being able to continue the work.
53. Which sentence is the best summary of how Morse obtained the funding necessary to build his telegraph system?
- A. Morse’s application for a federal grant was delayed until 1843, so he spent time traveling in Europe, where he concentrated on obtaining a patent for his system.
  - B. Morse applied for a government grant that required both houses of Congress and the president to pass a bill awarding him \$30,000 for his telegraph project.
  - C. Morse applied for a government appropriation and conducted telegraph demonstrations to show that his system could work, and after a delay caused by a financial depression, Congress approved the \$30,000 appropriation in 1843.
  - D. Working with Gale and Vail allowed Morse to find flaws in Henry’s work and to develop his own ideas before applying for the federal government appropriation.
54. The idea that, in the mid-nineteenth century, the United States was mostly unaware of the possibilities of electricity is illustrated in the passage mainly through the
- E. description of the government’s initial desire to expand a semaphore signaling system that used either flags or lights along the Atlantic Coast.
  - F. delay by the House of Representatives to pass the bill funding Morse’s telegraph line six years after he first applied for the appropriation.
  - G. discussions of the newly invented electromagnet that sparked the idea of sending codes through wires.
  - H. description of how an electric circuit could be closed to ring a bell at a distance.

- 55.** With which statement would the author most likely agree?
- A.** Morse’s telegraph was successful because the wires were strung above ground rather than underground as originally planned.
  - B.** Understanding the importance of Morse’s telegraph requires detailed knowledge of electrical systems.
  - C.** The implementation of Morse’s telegraph system was overly influenced by economic factors.
  - D.** Morse’s invention of the telegraph made a great stride toward better connecting people across the United States and across the world.
- 56.** How does the map provide additional support for a central idea of the passage?
- E.** by demonstrating that Morse’s telegraph system greatly exceeded the limitations of previous long-distance communication systems
  - F.** by indicating that Morse was lacking foresight by seeking a patent only in North America
  - G.** by proving that Gale’s advice helped Morse extend the telegraph’s range much farther than first thought possible
  - H.** by showing that the Morse telegraph had a surprisingly immense influence across the world
- 57.** How does the graph support the ideas in paragraph 8?
- A.** It indicates how welcome the improvement of long-distance communication was in the United States.
  - B.** It provides evidence of the dramatic increase in the number of telegraph messages as Morse’s system expanded across the United States.
  - C.** It reveals that by the twentieth century millions of people had used the telegraph despite earlier hesitations about the system.
  - D.** It shows how improvements that allowed Morse code to be read in real time made relaying telegraph messages faster and increased the system’s usage.

# PART 2 — MATHEMATICS

57 QUESTIONS

## IMPORTANT NOTES

- (1) Formulas and definitions of mathematical terms and symbols are **not** provided.
  - (2) Diagrams other than graphs are **not** necessarily drawn to scale. Do not assume any relationship in a diagram unless it is specifically stated or can be determined from the information given.
  - (3) Assume that a diagram is in one plane unless the question specifically states that it is not.
  - (4) Graphs are drawn to scale. Unless stated otherwise, you can assume relationships according to appearance. For example, lines on a graph that appear to be parallel can be assumed to be parallel. This is also true for concurrent lines, straight lines, collinear points, right angles, etc.
  - (5) Reduce (simplify) all fractions to lowest terms.
- 

CONTINUE TO THE NEXT PAGE ►

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# GRID-IN QUESTIONS

## QUESTIONS 58–62

**DIRECTIONS:** Solve each problem. On the answer sheet, write your answer in the boxes at the top of the grid. Start on the left side of each grid. Print only one number or symbol in each box. Under each box, fill in the circle that matches the number or symbol you wrote above.

- Do not fill in a circle under an unused box.
- Do not leave a box blank in the middle of an answer.

---

**58.** Simplify:

$$-3.8 + 2.3 - (-1.1)$$

**60.** A juice mixture contains  $\frac{3}{16}$  gallon of apple juice and  $\frac{3}{40}$  gallon of cranberry juice. How many gallons of apple juice per gallon of cranberry juice does the mixture contain? (Express your answer as a decimal.)

---

**59.** Angle M and angle R are supplementary. The measure of angle R is 5 times the measure of angle M. What is the measure of angle R in degrees?

- 61.** Mr. Chan's lawn grows  $2\frac{1}{8}$  inches every 2 weeks. He mows his lawn every 2 weeks and cuts off the top  $1\frac{3}{4}$  inches of lawn. If Mr. Chan's lawn was 4 inches tall at the beginning of the season, how many inches tall, in decimal form, is Mr. Chan's lawn after 8 weeks?

**62.**

RESULTS FROM SURVEY OF 110 FAMILIES

<b>Number of Children in the Family</b>	<b>Number of Families</b>
0	45
1	32
2	19
3	8
4	6

The table above shows the number of children in each of 110 families. What is the median number of children in these families?

# MULTIPLE CHOICE QUESTIONS

## QUESTIONS 63–114

**DIRECTIONS:** Solve each problem. Select the best answer from the choices given. Mark the letter of your answer on the answer sheet. When you are solving problems, you can write in the test booklet or on the scrap paper given to you.

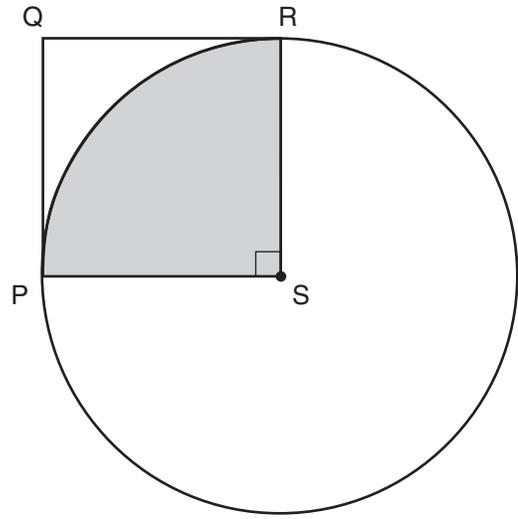
63. Mr. Jones has 550 goats, which is 10% more than Mr. King has. How many **more** goats does Mr. Jones have than Mr. King?

- A. 50
- B. 55
- C. 495
- D. 500

64. If  $\frac{2y}{x} - \frac{y}{2x} = \frac{\square}{2x}$  and  $x \neq 0$ , what expression is represented by  $\square$ ?

- E.  $y$
- F.  $2y$
- G.  $3y$
- H.  $4y$

65.



In the figure above, PQRS is a square. Point S is the center of the circle, and points P and R are on the circle. If the area of the square is 4 square centimeters, what is the area, in square centimeters, of the shaded quarter of the circle?

- A.  $\frac{\pi}{4}$
- B.  $\pi$
- C.  $2\pi$
- D.  $4\pi$

66. A list of consecutive integers begins with  $m$  and ends with  $n$ . If  $n - m = 66$ , how many integers are in the list?

- E. 2
- F. 33
- G. 66
- H. 67

67. Simplify:

$$\frac{\left(\frac{39(x-3)}{3}\right) + 39}{13}$$

- A.  $x$
- B.  $x - 2$
- C.  $13x - 36$
- D.  $x + \frac{36}{13}$

68. Jar 1 and Jar 2 each contain  $\frac{1}{2}$  cup of water. If  $\frac{1}{4}$  of the water in Jar 1 is poured into Jar 2, how much water is now in Jar 2?

- E.  $\frac{1}{8}$  cup
- F.  $\frac{1}{4}$  cup
- G.  $\frac{5}{8}$  cup
- H.  $\frac{3}{4}$  cup

69. If  $n$  is a whole number, and 0.01 is between  $\frac{1}{n}$  and  $\frac{1}{n+2}$ , what is the value of  $n$ ?

- A. 0
- B. 1
- C. 2
- D. 99

---

**70.** When asked a certain question in a poll, 72% of the people polled answered yes. If 56 people did **not** answer yes to that question, what is the total number of people who were polled?

- E.** 78
- F.** 128
- G.** 144
- H.** 200

---

**71.** A museum has a room in the shape of a rectangle. The area of the floor is 960 square feet. In a scale drawing of the museum, 1 inch = 20 feet. If the length of the room is 2 inches in the scale drawing, what is the width of this room in the scale drawing?

- A.**  $1\frac{1}{5}$  in.
- B.**  $1\frac{1}{4}$  in.
- C.** 24 in.
- D.** 40 in.

---

**72.** A program on a computer randomly generates a sequence of whole numbers from 1 to 9, inclusive. If the computer generates a sequence of 300 numbers, what is the best prediction of the number of odd numbers in the sequence?

- E.** 120
- F.** 133
- G.** 150
- H.** 167

---

**73.** A truck rental company charges a one-time fee of \$40 plus \$1 per mile driven. Dalia rented a truck and used a coupon for 20% off the total rental cost. After the coupon was applied, she spent a total of \$60. How many miles did she drive?

- A.** 8
- B.** 20
- C.** 32
- D.** 35

**74.** The probability of drawing a red candy at random from a bag of 25 candies is  $\frac{2}{5}$ . After 5 red candies are removed from the bag, what is the probability of randomly drawing a red candy from the bag?

**E.** 0

**F.**  $\frac{1}{10}$

**G.**  $\frac{1}{5}$

**H.**  $\frac{1}{4}$

**75.** Each number in a sequence is formed by doubling the previous number and then adding 1. If the 9th number in the sequence is 63, what is the 10th number minus the 7th number?

**A.** 96

**B.** 111

**C.** 112

**D.** 127

**76.** 8.9, 8.2, 8.5, 9.0, 8.4, 8.6, 8.8

At a skating championship, there are seven judges who each award a score for each skater's performance. The highest and lowest scores given to each skater are discarded, and the mean of the remaining scores is then calculated and reported as the skater's final score. What is the final score for the skater who received the scores shown above from the judges?

**E.** 8.60

**F.** 8.62

**G.** 8.64

**H.** 8.70

**77.** A piece of wood that is  $4\frac{1}{2}$  feet long is cut into 2 pieces of different lengths. The shorter piece has a length of  $x$  feet. Which inequality expresses all possible values of  $x$ ?

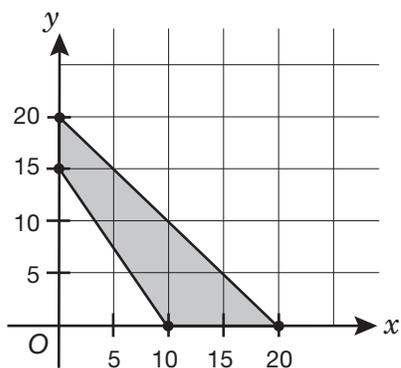
**A.**  $0 < x < 2\frac{1}{4}$

**B.**  $0 \leq x \leq 2\frac{1}{4}$

**C.**  $0 < x < 4\frac{1}{2}$

**D.**  $2\frac{1}{4} < x < 4\frac{1}{2}$

78.



What is the area, in square units, of the shaded region shown in the figure above?

- E. 75
- F. 125
- G. 150
- H. 200

79.

$$F = \frac{9}{5}C + 32$$

Yesterday in Centerville, the highest Fahrenheit temperature,  $F$ , was  $86^\circ$ , and the lowest was  $68^\circ$ . What was the difference between these temperatures, in degrees Celsius,  $C$ ?

- A.  $10.0^\circ\text{C}$
- B.  $15.0^\circ\text{C}$
- C.  $20.0^\circ\text{C}$
- D.  $32.4^\circ\text{C}$

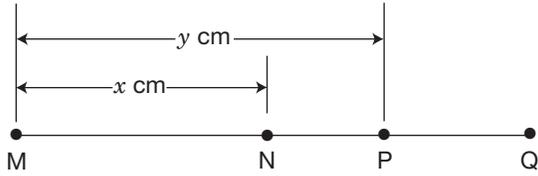
80. Let  $x$  be an odd number. In terms of  $x$ , what is the sum of the two even numbers closest to  $x$ ?

- E.  $x$
- F.  $2x$
- G.  $2x - 2$
- H.  $2x - 4$

81. In 1991, the total public debt of the United States was about \$3,600,000,000,000. In that year, there were about 250,000,000 people in the United States. Which amount is the best estimate of the public debt per person for that year?

- A. \$1,440
- B. \$14,400
- C. \$144,000
- D. \$14,400,000,000

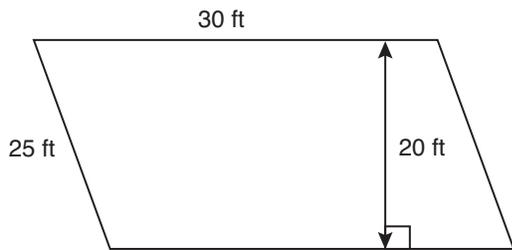
82.



In the figure above, N is the midpoint of  $\overline{MQ}$ . Which segment has length  $(2x - y)$  centimeters?

- E.  $\overline{PQ}$
- F.  $\overline{NP}$
- G.  $\overline{MQ}$
- H.  $\overline{MP}$

83.



What is the area of the parallelogram shown above?

- A. 750 sq ft
- B. 600 sq ft
- C. 500 sq ft
- D. 300 sq ft

84. On Wednesday, a baker produced 100 more loaves of bread than were produced on Tuesday. On Thursday, the baker produced 50 fewer loaves than were produced on Tuesday. If the total number of loaves produced on all three days was 230, how many loaves were produced on Wednesday?

- E. 60
- F. 80
- G. 120
- H. 160

85.

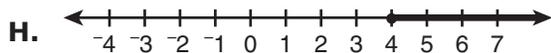
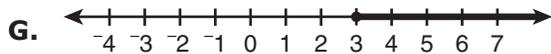
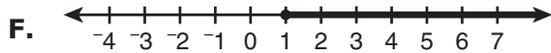
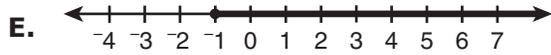
QUIZ SCORES IN  
MRS. ARCH'S CLASS

Quiz Score	Number of Students
60	9
70	7
80	4
90	5
100	3

In the table above, what is the mean quiz score?

- A. 60
- B. 70
- C. 75
- D. 80

86. Which graph represents the solution to the inequality  $x + 4 \geq 3$  ?



87. The reciprocal of  $\frac{1}{4}$  is added to the reciprocal of 3. What is the reciprocal of this sum?

- A.  $\frac{3}{13}$   
 B.  $\frac{3}{4}$   
 C.  $\frac{4}{5}$   
 D.  $\frac{13}{4}$

88. Nura made a square poster with a side length of 13 inches. Latrice made a square poster with a side length of 15 inches. What is the difference, in square inches, between the area of Latrice's poster and the area of Nura's poster?

- E. 56  
 F. 8  
 G. 4  
 H. 2

- 89.

INGREDIENTS FOR  
4 SERVINGS OF OATMEAL

Ingredient	Cups
Oats	$\frac{2}{3}$
Water	$3\frac{1}{4}$

The table shows the cups of ingredients used to make 4 servings of oatmeal. What is the unit rate for cups of oats per cup of water?

- A.  $\frac{1}{6}$   
 B.  $\frac{8}{39}$   
 C.  $\frac{13}{16}$   
 D.  $\frac{13}{8}$

90. If  $\left(\frac{3}{5} - \frac{1}{2}\right)x = \frac{1}{4} + \frac{2}{3}$ , what is the value of  $x$ ?

- E.  $\frac{11}{120}$
- F.  $\frac{2}{7}$
- G.  $\frac{5}{6}$
- H.  $\frac{55}{6}$

91. In a certain state, the sales tax rate increased from 7.0% to 7.5%. What was the increase in the sales tax on a \$200 item?

- A. \$1
- B. \$10
- C. \$14
- D. \$15

92. Evaluate:

$$|(-8) - 12 + (-17) - (-31)| - |24|$$

- E. -30
- F. -18
- G. 18
- H. 44

93.

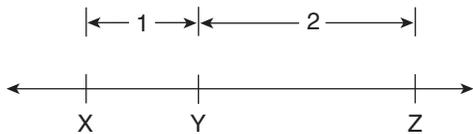
CELL PHONE SALES  
BY COLOR

Color	Percent of Cell Phones Sold
White	$8k$
Black	30
Blue	$30 - 2k$
Red	$k + 5$
Total	100

The table above shows cell phone sales by color. What percent of the cell phones sold were blue?

- A. 18%
- B. 20%
- C. 22%
- D. 28%

94.



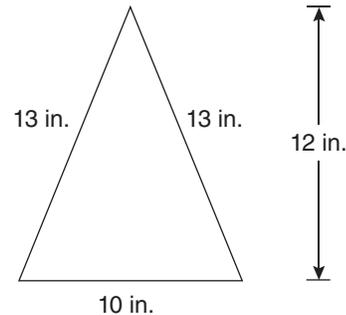
On the number line above, the distance between X and Y is 1 unit, and the distance between Y and Z is 2 units. What is the distance between Y and the midpoint of X and Z?

- E.  $\frac{1}{2}$
- F. 1
- G.  $1\frac{1}{2}$
- H. 3

95. By what percent did the price of a cup of coffee increase if its price was increased from \$1.25 to \$1.35?

- A. 7%
- B. 8%
- C. 10%
- D. 12%

96.



Raquel is cutting out pieces of cardboard to make a pyramid. She will use a square piece for the base and identical triangular pieces for the sides. The figure above shows the dimensions of the triangle for each side. What will be the total surface area, in square inches, of the pyramid, including the square base?

- E. 280
- F. 295
- G. 340
- H. 360

97. The price of a sandwich was raised from \$6.25 to \$6.75. What was the percent increase in the price?

- A. 5%
- B. 8%
- C. 7%
- D. 50%

---

**98.** Terrell played 5 computer games and earned a mean score of 8 points per game. If his mean score for the first 4 games was 7 points per game, how many points was his score in the fifth game?

- E.** 9
- F.** 11
- G.** 12
- H.** 14

---

**99.** Lian bought enough oranges to fill 4 bags. Each bag contains 8 oranges. The total cost was \$11.52. At that rate, how much would Lian pay for 42 oranges?

- A.** \$17.28
- B.** \$15.12
- C.** \$15.02
- D.** \$12.52

---

**100.**  $3.6 \div 0.018 =$

- E.** 0.005
- F.** 0.648
- G.** 20
- H.** 200

---

**101.** A tank with a 500-gallon capacity currently contains 75 gallons of water. Additional water is poured into this tank at a rate of 5 gallons per minute. After 45 minutes of adding water, what percentage of the tank's total capacity will be filled? (Assume that there is no loss of water from the tank.)

- A.** 45%
- B.** 55%
- C.** 60%
- D.** 70%

---

**102.** Misha wants to use ribbon to make 2 straps for a backpack. The ribbon costs \$5.00 a yard. If each strap requires  $1\frac{1}{4}$  yards of ribbon, how much will Misha pay for the ribbon (not including tax)?

- E.** \$4.00
- F.** \$6.25
- G.** \$11.25
- H.** \$12.50

**103.** A graph shows the proportional relationship between the number of test questions a student gets correct,  $x$ , and the student's test score,  $y$ . The ordered pair  $\left(1, \frac{5}{4}\right)$  is on the graph. What does the  $y$ -coordinate of the ordered pair represent in this relationship?

- A.** The test will last  $1\frac{1}{4}$  hours.
- B.** Each test question is worth  $1\frac{1}{4}$  points.
- C.** An average student can answer 5 questions in 4 minutes.
- D.** A student who answers 5 questions correctly will earn 4 points.

**104.** In a survey of 200 adults in the town of Waskegon, 45 reported reading the online version of the *Waskegon Bulletin* the previous day. If 25,000 adults live in Waskegon, which number is the best estimate of the number of adults who read the online version of the *Waskegon Bulletin* the previous day?

- E.** 5,600
- F.** 9,000
- G.** 11,300
- H.** 24,800

**105.** A hiker plans on hiking 17 miles in 3 days. Which equation describes the relationship between the number of days hiked,  $x$ , and the number of miles traveled,  $y$ ?

- A.**  $y = \frac{3}{17}x$
- B.**  $y = 3x$
- C.**  $y = \frac{17}{3}x$
- D.**  $y = 17x$

**106.** Carolyn walked 3 miles from her house to the library and then  $2\frac{1}{2}$  miles farther to the grocery store. Returning home by the same route, she walked  $1\frac{2}{3}$  miles before stopping at a friend's house. How many miles did Carolyn have left to walk home?

- E.**  $3\frac{5}{6}$
- F.**  $4\frac{1}{6}$
- G.**  $4\frac{2}{3}$
- H.**  $7\frac{1}{6}$

**107.** A child grows  $1\frac{1}{4}$  inches in  $\frac{1}{3}$  of a year. What would be his yearly growth rate in inches per year?

- A.  $\frac{5}{12}$
- B.  $3\frac{1}{4}$
- C.  $3\frac{3}{4}$
- D.  $4\frac{1}{4}$

**108.**  $3(0.01) - 3(0.1) =$

- E. -0.33
- F. -0.27
- G. 0
- H. 0.33

**109.** What is the value of  $10\frac{1}{2} + \left(-5\frac{1}{3}\right) - \left(-2\frac{3}{4}\right)$ ?

- A.  $2\frac{5}{12}$
- B.  $7\frac{11}{12}$
- C.  $13\frac{1}{12}$
- D.  $18\frac{7}{12}$

**110.** Carlos has \$350 in a savings account that earns 5% simple interest each year. How much will he have in the account after 1 year, if there is no money withdrawn?

- E. \$17.50
- F. \$175.00
- G. \$367.50
- H. \$525.00

**111.** The probability of an event occurring is 0.05. What is the chance that the event will occur?

- A.** likely
- B.** unlikely
- C.** impossible
- D.** neither likely nor unlikely

**112.** The table below shows the number of cups of red paint and blue paint used to make a purple paint mixture.

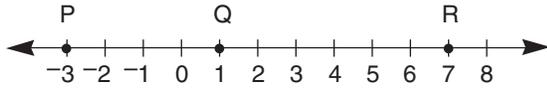
PURPLE PAINT

Cups of Red Paint	Cups of Blue Paint
1	1.5
4	6
11	$y$

Based on the relationship between the number of cups of red paint and the number of cups of blue paint, what is the value of  $y$ ?

- E.** 10.5
- F.** 13
- G.** 16.5
- H.** 24

113.



On the number line above, what is the distance, in units, between the midpoint of  $\overline{PQ}$  and the midpoint of  $\overline{QR}$ ?

- A. 3
- B. 4
- C. 5
- D. 6

114. An ice cream shop sells 16 cups of ice cream for \$48 and 4 cups for \$12. There is a proportional relationship between the number of cups of ice cream and the cost. What is the constant of proportionality for this relationship?

- E. 3 cups per dollar
- F. 3 dollars per cup
- G. 4 cups per dollar
- H. 4 dollars per cup

THIS IS THE END OF THE TEST.  
IF TIME REMAINS, YOU SHOULD CHECK  
YOUR ANSWERS. BE SURE THAT THERE  
ARE NO STRAY MARKS, PARTIALLY  
FILLED ANSWER CIRCLES, OR  
INCOMPLETE ERASURES ON YOUR  
ANSWER SHEET. ■

## REVISING/EDITING PART A

1. The question asks for the best way to combine the sentences.
  - A. Incorrect. Although the sentence incorporates the ideas presented in the three original sentences, it is incorrect because the combination suggests an incorrect relationship between the ideas. By beginning with “Io,” the sentence places emphasis on the moon and the detail about the number of active volcanoes rather than the key idea that “scientists now believe that Jupiter may have as many as seventy-nine moons.” Since Io is an example of one of Jupiter’s moons, the details about Io should follow and be subordinate to the main clause, which provides new information about the number of Jupiter’s moons in general.
  - B. Incorrect. Although the sentence incorporates all three ideas from the original sentences and correctly places the detail about the number of active volcanoes on Io in a dependent clause, this option is incorrect because it presents an imprecise relationship between the ideas. By using the conjunction (connecting word) “and,” the sentence construction suggests that scientists “now believe” not just that “Jupiter may have as many as seventy-nine moons” but that “one of them is named Io,” instead of presenting Io as an example of one of Jupiter’s moons.
  - C. **CORRECT.** The sentence is the best way to combine these sentences because it uses a complex sentence to present ideas clearly and precisely, and it shows the relationship between the ideas in the three sentences. The sentence starts by stating the number of moons scientists now believe Jupiter to have and then specifies that one of those moons is named Io. The dependent clause “which has the greatest number of active volcanoes in the solar system” immediately follows the word “Io” to provide additional information about the moon. A dependent clause contains a subject (“which,” referring to “Io”) and a verb (“has”) but is not a complete sentence on its own.
  - D. Incorrect. The sentence incorporates the key ideas from the three original sentences, but its structure does not accurately present the relationship between these ideas. The beginning of the sentence includes the detail about Io having “the greatest number of active volcanoes in the solar system” before specifying that Io is one of the seventy-nine moons of Jupiter. The presentation of the details about Io at the beginning lessens the emphasis of the key idea that “scientists now believe that Jupiter may have as many as seventy-nine moons.”

2. The question asks for the correction of an error in sentence structure in the paragraph.
- E. CORRECT.** The first sentence is a run-on sentence because both clauses—"In September 2016 the National Museum of African American History and Culture opened as part of the Smithsonian Institution" and "the museum is already the Smithsonian's third most popular site"—are independent clauses, and independent clauses should not be combined without the use of a conjunction and a comma. The revision in this option adds the word "and" before the comma, which corrects the run-on.
  - F.** Incorrect. The revision does not correct an error in sentence structure, since there are independent clauses on both sides of the period.
  - G.** Incorrect. Adding the words "which include" rather than the word "including" after the comma does not correct an error in sentence structure. The sentence is correct as written.
  - H.** Incorrect. Revising the wording in the underlined portion of the sentence to "which was written" from "written" does not correct a structural error. No edits are needed to correct the wording in the sentence.
- 

3. The question asks for the revision of the sentence that uses the most precise language.
- A.** Incorrect. The word "extremely" does not specify the precise length of the trail (2,200 miles); "millions" is less precise than the specific number of people who hike the trail each year (two million); and the verb "do" imprecisely describes the purpose of visiting the trail (hiking).
  - B.** Incorrect. While the revision specifies the precise length of the trail and the verb "hike" precisely describes the purpose of visiting the trail, "more than a million" is less precise than the specific number of people who hike the trail each year (two million).
  - C. CORRECT.** The length of the trail (2,200 miles), the specific number of people who hike the trail each year (two million), and the action of the visitors (hiking) are clear and precise in this revision of the sentence.
  - D.** Incorrect. The word "lengthy" is less precise than specifying the actual length of the trail (2,200 miles); "a couple million" is less precise than the specific number of people who hike the trail each year (two million); and the verb "do" imprecisely describes the purpose of visiting the trail (hiking).

4. The question asks which edit should be made to correct the sentence.
- E. 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.”
  - F.** Incorrect. The option incorrectly adds a comma in the middle of the adjectival phrase “first and only,” which modifies, or gives additional information about, “professional basketball player.”
  - G.** Incorrect. The option incorrectly adds a comma between two adjectives that are not coordinate adjectives. “Only” is part of the adjectival phrase “first and only” and is modifying “professional basketball player.”
  - H.** Incorrect. The option is incorrect because a comma is not needed to set off the phrase “to score 100 points in a single game.”
- 
5. The question asks for the pair of revisions needed to correct the errors in the paragraph, which appear in sentence 2 and sentence 3.
- A.** Incorrect. The comma after the word “homes” in sentence 1 is necessary for separating the subordinate clause “When coal was used to heat homes” from the main clause. The only edit needed in this pair is in sentence 3, which incorrectly shifts the verb into the present tense. The clause “as natural gas becomes more common” should be “as natural gas became more common.”
  - B.** Incorrect. The comma after the word “homes” in sentence 1 is necessary for separating the subordinate clause “When coal was used to heat homes” from the main clause. In sentence 4, the word “remarketed” is in the past tense established in the rest of the paragraph and should not change to the past perfect tense “had remarketed.”
  - C. CORRECT.** This option is the only choice that revises the errors in both sentence 2 and sentence 3. In sentence 2, a comma needs to follow the word “company” to set off the phrase “who owned a cleaning product company.” A comma is necessary because the phrase is a nonrestrictive clause: the phrase provides extra information about Cleo and Noah McVicker’s line of work, but the phrase is not necessary in order to understand the meaning of the sentence. The second error is in sentence 3, which incorrectly shifts the verb into the present tense. The clause “as natural gas becomes more common” should be “as natural gas became more common.”
  - D.** Incorrect. In sentence 2, a comma needs to follow the word “company” to set off the phrase “who owned a cleaning product company.” In sentence 4, the word “remarketed” is in the past tense established in the rest of the paragraph and should not change to the past perfect tense “had remarketed.”

## REVISING/EDITING PART B

### Find Time to Volunteer

6. The question asks which revision of sentence 2 uses the most precise language.
- E. CORRECT.** In sentence 2, the author states that people who volunteer in their free time do so “at various places.” The revision to sentence 2 provides the most precise language because it references three specific places (animal shelters, community centers, and parks) where people often volunteer.
  - F.** Incorrect. Although this sentence mentions “a variety of places, events, or organizations” at which people volunteer, the revision does not use the most precise language because it does not list specific places, events, or organizations.
  - G.** Incorrect. Although this sentence mentions “local establishments that help people, animals, or other groups,” the revision does not use the most precise language because it does not name the specific types of establishments at which people can volunteer.
  - H.** Incorrect. Although this sentence mentions “places where [volunteers] can help people in many ways,” the revision does not use the most precise language because it does not provide specific examples of where people can volunteer.
- 
7. The question asks which sentence should follow sentence 4 to introduce the main claim of the passage.
- A. CORRECT.** In sentence 4, the author states that “research shows that those who volunteer also receive benefits.” The sentence in the option logically follows the ideas in sentence 4 and provides the best thesis statement for the passage because it introduces the author’s main claim that high school students should consider the benefits of volunteerism.
  - B.** Incorrect. While the sentence refers to the “benefits” mentioned in sentence 4, it erroneously asserts that “immediate and long-term results” are “guaranteed.” In addition, the sentence does not introduce the author’s main claim that volunteering is beneficial for high school students.
  - C.** Incorrect. Although the sentence states that “volunteerism can be beneficial for students,” it also introduces the idea that volunteerism can benefit the family and the community as well, not just high school students.
  - D.** Incorrect. Although the sentence introduces the claim that “high school students should learn about” volunteering, it focuses on the idea that volunteering strengthens the community, rather than introducing the claim that volunteering is beneficial for high school students.

8. The question asks which sentence is least relevant to the ideas presented in the second paragraph (sentences 5–10) and should be deleted.
- E. Incorrect. Sentence 5 introduces the topic of the second paragraph, which is that finding time to volunteer “may sound impossible” for many students. Sentence 6 logically follows this idea because it provides one reason why students might hesitate or be unable to volunteer. Therefore, sentence 6 is relevant to the ideas presented in the second paragraph and should not be deleted.
  - F. **CORRECT.** Sentence 7 states that “time and energy” are required for volunteering, which partially addresses the topic of the second paragraph about the various commitments that fill high school students’ schedules. However, sentence 7 interrupts the flow of the paragraph by interjecting specific examples (“volunteering at a retirement center or homeless shelter”) into a general list of activities and commitments. Thus, the sentence is the least relevant to the paragraph and should be deleted.
  - G. Incorrect. In the second paragraph, the author discusses why some high school students may hesitate to volunteer. In sentences 6 and 9, the author points out that “schoolwork” and “family obligations and part-time jobs” are activities that require students’ time and may cause them to hesitate taking on any additional activities. Sentence 8 contributes to this idea by stating that “extracurricular activities” also require a time commitment from students. As a result, sentence 8 contributes to the ideas in the second paragraph and should not be deleted.
  - H. Incorrect. In the second paragraph, the author acknowledges that some high school students may hesitate to volunteer because of “schoolwork” and “extracurricular activities.” Sentence 9 contributes to this idea by stating that “family obligations and part-time jobs” also require a time commitment and may cause students to hesitate to volunteer. Therefore, sentence 9 contributes to the ideas in the second paragraph and should not be deleted.

9. The question asks which option would best follow sentence 12 to support the ideas presented in the third paragraph (sentences 11–12).
- A. Incorrect. The subject of the main clause in sentence 12 is “admissions counselors.” Although the second sentence in the option mentions “admissions counselors,” it does not support the ideas in the paragraph, because the statement that “admissions counselors know that character traits like these will benefit the applicants” focuses on how students benefit while sentence 12 focuses on how these traits benefit the community.
  - B. Incorrect. While sentence 11 discusses the potential academic and professional connections that can be made through volunteering, sentence 12 moves on to the topic of college admissions. Since the sentences in the option revert back to the topic of connections, they do not support and logically follow a sentence about how college admissions counselors view students with volunteering experience.
  - C. Incorrect. Although the sentence in the option continues on the subject of admissions counselors and follows the idea in sentence 12 that these counselors tend to favor students who “care about making their community and college campus a better place,” the sentence focuses on what students will do while in college rather than on how volunteering helps them get into college. Therefore, the sentence does not best follow sentence 12 and support the ideas presented in the third paragraph.
  - D. **CORRECT.** In sentence 12, the author states that college admissions counselors view students who list volunteer work on admissions applications as “applicants who care about making their community and college campus a better place.” The sentence in the option best follows sentence 12 and supports the ideas in the third paragraph because it provides additional details about why admissions counselors look beyond academics when considering students for admissions and the positive qualities assigned to those who have volunteering experience.

- 10.** The question asks which concluding sentence should replace sentence 22 to provide the best support for the argument presented in the passage.
- E.** Incorrect. Although the sentence lists examples of organizations that depend on “hardworking young people” as volunteers, it should not replace sentence 22, because its use of specific examples does not provide a strong conclusion to the main idea in the passage, and it does not best support the main argument that students benefit themselves and their community when volunteering.
  - F.** Incorrect. While the sentence supports the argument that students “will experience a host of benefits” through volunteerism, it should not replace sentence 22 as a concluding sentence, because it does not best support the main argument that volunteerism benefits both the students and their community.
  - G.** Incorrect. Although the sentence emphasizes the importance of prioritizing volunteerism, it should not replace sentence 22, because it focuses on the main idea in the second paragraph (“For many students, this proposition may sound impossible.”), rather than the main argument that volunteerism benefits both students and their community. This sentence introduces the idea that student volunteers “are soon encouraging their peers” to volunteer, which does not best support the argument presented in the passage.
  - H. CORRECT.** This sentence should replace sentence 22 to conclude the passage because it lists specific reasons for volunteering (“Whether they are seeking admission to college, preparing to enter the workforce, or simply looking to reduce stress”) and best supports the main argument that volunteering not only helps students but can also help their community (“high school students who volunteer can help themselves as much as they help others”).
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### The Benefits of Indoor Plants

- 11.** The question asks which sentence should follow sentence 3 to best introduce the topic of the passage.
- A. CORRECT.** The sentence introduces the overall topic by previewing the main ideas in the passage. It introduces the connection between natural elements and well-being (“a healthy bridge”) and sets up the main argument of the passage (“Placing plants in homes and offices” can increase people’s well-being).
  - B.** Incorrect. Although sentence 3 mentions the connection between “people and nature,” this sentence references the importance of spending time near plants while both indoors and outdoors. However, the passage focuses specifically on the benefits of having indoor plants.
  - C.** Incorrect: Though the sentence describes a reason why indoor plants are important (“For [people’s] personal health and well-being”), the topic of the passage is related to the need for indoor plants, not the need for people to spend more time outdoors.
  - D.** Incorrect. While the sentence refers to how time away from nature can affect health and well-being, the vague wording (“little connection to nature”) makes this sentence too broad to introduce the topic of the passage, and thus, it should not follow sentence 3.

- 12.** The question asks for the transition word or phrase that should be added to the beginning of sentence 5.
- E.** Incorrect. The transition phrase “As a result” conveys a cause-and-effect relationship that does not exist between the ideas in sentence 4 and sentence 5. Although the plants’ conversion of carbon dioxide into oxygen removes harmful toxins from the air, the process of photosynthesis (sentence 4) does not deprive people of the plants’ benefits (sentence 5).
  - F.** Incorrect. Although the passage describes why people should spend time in close proximity to plants, the idea in sentence 5 is actually in opposition to the idea in sentence 4 rather than an elaboration of it. The transition word “Primarily” incorrectly suggests that the sentences describe the same idea.
  - G.** Incorrect. Although sentence 4 describes a positive idea (plants are beneficial) and sentence 5 describes a negative idea (deprivation), the transition phrase “In contrast” conveys an inaccurate relationship between the ideas in the sentences. Sentence 5 is not arguing against the beneficial effect of plants and should not begin with a transition that implies opposition.
  - H. CORRECT.** The relationship between the ideas in the sentences is correctly conveyed with the transition word “Unfortunately,” which signals the shift from the positive effect described in sentence 4 (plants are helpful) to the emphasis in sentence 5 that the positive effect is dependent on proximity to plants.
- 

- 13.** The question asks for the sentence that could best follow sentence 13 to support the ideas in the third paragraph (sentences 11–14).
- A. CORRECT.** The sentence could best follow sentence 13 because it directly supports the main idea of the third paragraph that indoor plants provide “psychological benefits” (sentence 11) by presenting the findings of a relevant research study. The details about the study provide a concrete example of the mental benefits of indoor plants: the employees in the study who worked near plants “were more creative” and accomplished more than those who worked in spaces without plants.
  - B.** Incorrect. Although the sentence describes a study in which indoor plants were found to have a positive effect, it does not clearly support the ideas in sentences 11–14, because the sentence focuses on the popularity of the hotel rather than psychological benefits. Therefore, this sentence does not best follow sentence 13 to support the ideas in the third paragraph.
  - C.** Incorrect. Although the sentence suggests that being “routinely exposed to natural elements” can increase the positive emotion of compassion, it could not best follow sentence 13, because the reference to “natural elements” is too vague to sufficiently support the ideas in the third paragraph. The sentence does not logically follow the idea from sentence 13, which refers specifically to “encountering natural elements while indoors.”
  - D.** Incorrect. The sentence develops the idea that indoor plants are helpful by comparing them to carpeting and stating that they can reduce the amount of noise that people perceive. Noise cancellation, though convenient, is irrelevant to the topic of the third paragraph, which is specific to the psychological benefits of indoor plants. Therefore, this sentence does not best follow sentence 13 to support the ideas in the third paragraph.

- 14.** The question asks for the sentence that presents ideas irrelevant to the topic of the passage and should be deleted.
- E.** Incorrect. Sentence 11 presents one of the key reasons why plants are so important in indoor spaces: they have a positive effect on mental health. The idea that plants provide psychological benefits is relevant to the topic of the passage, and the sentence should not be deleted.
  - F.** Incorrect. Sentence 14 is relevant to the topic because it explains how many plants a person should add to a space in order to experience “the maximum benefit of natural elements.” This idea addresses the main topic of the passage, and the sentence should not be deleted.
  - G.** Incorrect. Although “connecting with nature” is somewhat broader than the topic of the passage, sentence 15 is relevant and belongs in the passage because it specifically refers to using indoor plants as one way to connect with nature (“even just by being near an indoor plant”). Therefore, the sentence should not be deleted.
  - H. CORRECT.** While the topic of the passage is the harm caused by the “separation between people and nature” (sentence 3), the reference in sentence 16 to “an electronic screen” is irrelevant to the topic of the passage. The idea that “today’s workers need to get up and get outdoors” (sentence 16) is, in fact, the opposite of what the passage argues, and the sentence should be deleted.
- 

- 15.** The question asks for the concluding sentence that should follow sentence 17 to best support the information presented in the passage.
- A.** Incorrect. Although the sentence describes plants as “vital to our wholeness and wellness,” the detail about the absorption of carbon dioxide from the air is overly specific and does not capture the broader argument presented in the passage (that placing plants indoors “is a significant factor in a person’s well-being” [sentence 15]).
  - B.** Incorrect. The sentence’s reference to particular types of plants suitable for indoor spaces supports the idea of incorporating nature into a home or office, but the sentence does not address the benefits people can experience for doing so and thus does not present a logical conclusion for the information in the passage.
  - C. CORRECT.** The sentence directly presents the argument of the passage (“More people should consider bringing natural elements inside”) and supports the central ideas in the second and third paragraphs relating to the health and psychological benefits of having indoor plants.
  - D.** Incorrect. Although the sentence notes the positive impact that houseplants can have on air quality, the sentence does not logically follow the preceding information about the overall benefits to a person’s health and well-being.

## READING COMPREHENSION

### Champion of the Channel

- 16.** The question asks what the newspaper editor’s comments in paragraph 1 reveal about Ederle’s challenges leading up to her attempt to swim across the channel.
- E.** Incorrect. The idea that Ederle was at a disadvantage because she was American rather than English, and thus less familiar with the channel, was not the basis for the newspaper editor’s comments about the outcome of her swim.
  - F.** Incorrect. The passage establishes that Ederle was a highly accomplished swimmer who had won major world competitions (“Gertrude Ederle, an American swimmer with eighteen world records and three Olympic medals” [paragraph 1]).
  - G.** Incorrect. The newspaper editor’s point was that Ederle would be unsuccessful in her attempt to complete the swim because she was a woman, not that people were uncomfortable with the idea since no woman had attempted it before.
  - H. CORRECT.** The comments reveal a lack of social support since many people believed that a woman, no matter how skilled a swimmer, did not have the strength to overcome the physical challenges that the dangerous channel waters presented (“He claimed that ‘even the most uncompromising champion of the rights and capacities of women must admit that in contests of physical skill, speed and endurance they must remain forever the weaker sex.’ ” [paragraph 1]).
- 
- 17.** The question asks for the best summary of Ederle’s steps to prepare for her second attempt to swim across the English Channel.
- A. CORRECT.** Ederle’s preparation is outlined in paragraph 4. This option is correct because it acknowledges the idea that Ederle involved her sister in this process, and it details the efforts the two took to improve Ederle’s equipment, including sealing her goggles with wax and designing a better swimsuit.
  - B.** Incorrect. The option focuses on Ederle’s actions in the moments before her swim (covering her body with grease for insulation) and during her swim (finding her “sphere”), not her overall preparation methods.
  - C.** Incorrect. The option refers to a way that Ederle’s coach helped Ederle keep her strokes in rhythm during her swim. While this option suggests that Ederle and her coach had made thoughtful preparations, it does not address the many other steps that Ederle took to prepare for the swim.
  - D.** Incorrect. The option does not refer to the series of steps that Ederle took to prepare for her swim, but rather to just one of the efforts made (improving equipment), without acknowledging her sister’s contributions.

- 18.** The question asks about the effect of the word “insurmountable,” which means “incapable of being overcome,” in paragraph 4.
- E.** Incorrect. Ederle did not complete her first swim because she became ill (“Just six miles short of finishing, she became ill, and her coach had to haul her out of the water.” [paragraph 3]), not because the suit made it impossible for Ederle to complete her swim.
  - F.** Incorrect. The author uses the word “insurmountable” to draw attention to the increased difficulty caused by the swimsuit, not to draw attention to the sisters’ creativity in solving the problem.
  - G. CORRECT.** The suit Ederle wore during her first attempt to swim the channel “stretched out, filling with water and creating drag” (paragraph 4), which likely contributed to her failed attempt to swim across the channel.
  - H.** Incorrect. The passage does not address whether the original swimsuit was custom made, simply that the swimsuit created additional difficulties for Ederle in a situation that was already difficult.
- 
- 19.** The question asks how a problem-and-solution structure in paragraph 5 contributes to the ideas presented in the passage.
- A.** Incorrect. The details in paragraph 5 do not provide a connection between the cold temperature of the water and the effectiveness of Ederle’s training.
  - B.** Incorrect. The difficulties Ederle encountered were only partially relieved by her team, and her team’s efforts to ensure Ederle’s safety are not explained in the passage.
  - C.** Incorrect. The paragraph does not focus on the relationship between the problems Ederle encountered at the start of her swim and the problems she encountered during or near the end of her swim.
  - D. CORRECT.** The paragraph describes how the water’s temperature made Ederle uncomfortable and made it difficult for her to regulate her stroke. The paragraph continues with the explanation of how she overcame these issues by focusing her mind on the sea and tuning out the distractions in her surroundings (“the sea became her only companion and the shrieks of gulls and the humming of boat engines faded away.” [paragraph 5]).

- 20.** The question asks for the best support for the idea that Ederle’s swim across the channel was successful because of her innovative approach to the challenge.
- E.** Incorrect. The sentence from paragraph 1 shows that Ederle’s performance was groundbreaking but not necessarily innovative.
  - F.** Incorrect. The layers of grease mentioned in the sentence from paragraph 5 primarily served to insulate (keep Ederle warm) by helping her maintain her body temperature in the cold water; neither the sentence in paragraph 5 nor surrounding text evidence establish that this was an innovative practice.
  - G. CORRECT.** The sentence from paragraph 5 explains that Ederle employed a newly developed, or innovative, type of stroke that allowed her to maintain her pace through the rough water.
  - H.** Incorrect. While the sentence from paragraph 7 relates to a small component of Ederle’s success (the storm calming and the tide shifting), those changes were not a result of Ederle employing innovative techniques.
- 
- 21.** The question asks for an explanation of how paragraph 7 contributes to the development of a central idea of the passage.
- A.** Incorrect. Although Ederle needed to remain focused on her goal, the idea that her physical strength and mental fortitude allowed her to maintain this focus is not illustrated in paragraph 7. Paragraph 7 instead contributes to the development of a central idea by emphasizing Ederle’s emotional responses over the course of her swim.
  - B.** Incorrect. While paragraph 7 describes some of the physical challenges that Ederle faced (“The salty water caused her tongue to swell and inflamed her ears.”), the statement that she “pushed herself to the edge of her physical capabilities” is not the most accurate way to describe the focus of this paragraph. This option is incorrect because it omits the paragraph’s focus on Ederle’s emotional responses to the challenging circumstances of her swim.
  - C.** Incorrect. While paragraph 7 describes Ederle’s feelings of happiness and amusement during her swim, these feelings were caused by her anticipation and excitement as she approached achieving her goal, not by the severe weather.
  - D. CORRECT.** Paragraph 7 contributes to the development of a central idea by describing Ederle’s emotional state over the course of her swim. A central idea of the passage is that Ederle’s passion and determination allowed her to accomplish her goal of being the first woman to cross the English Channel. Paragraph 7 shows her passion and determination by emphasizing the positive emotions Ederle felt as she progressed during her swim, despite the unfavorable conditions (“For hours Ederle swam, dodging debris with an amused smile” and “Yet Ederle felt indescribably happy as she churned through the sea”).

- 22.** The question asks how the idea that many people were interested in Ederle’s attempt to swim the channel is mainly illustrated in the passage.
- E.** Incorrect. While paragraph 3 states that “a rival female swimmer was preparing to make her second attempt at the crossing as well,” which suggests that Ederle’s competitor was interested in Ederle’s attempt to swim the channel, this information does not establish that many people were interested in Ederle’s attempt.
  - F. CORRECT.** Paragraph 6 includes the detail that newspaper reporters followed Ederle on a tugboat and “wired dispatches of her progress to shore,” which suggests that an audience was waiting for news about Ederle’s progress. Paragraph 8 states that when Ederle reached shore, “the waiting crowd roared, honked their automobile horns, blasted their tugboat whistles, and set off flares that flashed in the sky.” Further, paragraph 9 states that when Ederle returned to New York, “thousands of people” attended a parade in her honor. These details describing the celebration of Ederle’s feat further illustrate the idea that many people were interested in what she had accomplished.
  - G.** Incorrect. While paragraph 9 states that “more than 60,000 people credited [Ederle] with motivating them to earn their American Red Cross swimming certificates,” this detail describes how Ederle’s historic swim influenced people after the fact but does not illustrate the level of public interest during the attempt itself.
  - H.** Incorrect. Paragraph 6 provides details about how Ederle’s “coach, family, and friends” displayed signs, played songs, and “passed her baby bottles of broth” to help her maintain her motivation and stamina. However, these resources do not suggest the idea that people beyond Ederle’s immediate support team were interested in her attempt to swim the channel.
- 
- 23.** The question asks for the sentence from the passage that best conveys the author’s perspective about the impact of Ederle’s swim.
- A.** Incorrect. Although this option shows Ederle’s determination to accomplish her goal, it does not convey the author’s perspective. Rather, the option reinforces Ederle’s own perspective about the challenge that she was facing.
  - B.** Incorrect. The sentence presented in this option is incorrect because it relates to Ederle’s state of mind as she came closer to achieving her goal and does not provide details about the author’s opinion of the impact of Ederle’s accomplishment.
  - C.** Incorrect. The sentence presented in this option is incorrect because it simply presents Ederle’s emotional state as she nears her goal and does not provide information about the author’s perspective.
  - D. CORRECT.** This option is correct because, throughout the passage, the author emphasizes that Ederle’s accomplishment was memorable and great, which is best stated in the sentence from paragraph 8.

24. The question asks how the table supports the information in paragraph 9.
- E. **CORRECT.** The table supports the information in paragraph 9 by showing that people have continued to swim the channel and have improved upon past records. The information in the table about records set by those who came after Ederle builds upon the idea that “Gertrude Ederle’s accomplishment proved to the world that with determination and passion, it was possible for a person to achieve his or her goals” (paragraph 9).
  - F. Incorrect. Even though paragraph 9 states that Ederle “inspired [everyday American citizens] to be more active” and the table presents the time for the current female record holder, there is no indication in paragraph 9 or in the table that the record holder was inspired by Ederle.
  - G. Incorrect. Although paragraph 3 mentions that Ederle had a female rival and the table includes the speed records of other female swimmers, paragraph 9 focuses on the impact Ederle’s swim had on average Americans (“inspired them to be more active” and “motivating them to earn their American Red Cross swimming certificates”) and does not provide information about other female swimmers competing with Ederle to set the channel-swim record.
  - H. Incorrect. Although paragraph 1 mentions that Ederle “broke the men’s record by two hours” and the table allows for comparisons between the earliest speed records and those of the present day, there is no mention in paragraph 9 of past, present, or future channel-swim records.
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### 5 Reasons Physical Books Might Be Better Than E-Books

25. The question asks how the details in paragraph 1 convey a central idea of the passage. A specific central idea that needs to be identified in order to correctly answer this question is that reading a digital book “might be inferior” (paragraph 1) to reading a traditional book.
- A. Incorrect. In paragraph 1, the author notes that despite the popularity of e-books, their sales fell in 2015, leading to the author’s statement that “print definitely isn’t dead.” While these statements suggest that readers still purchase and enjoy printed books, sales information between print and e-books is not compared. Therefore, these details do not convey a central idea of the passage.
  - B. **CORRECT.** The author states in paragraph 1 that “according to some research,” reading a traditional book “may actually be a better choice for some readers” because “digital reading affects us differently.” The author then supports this statement throughout the passage, detailing five advantages that printed books have over e-books. This detail helps convey a central idea of the passage.
  - C. Incorrect. In paragraph 1, the author refers to printed books as “traditional books” and the “dead-tree cousins” of e-books. Although these references suggest that printed books rely on natural materials more than e-books do, the author does not provide additional details in the passage to convey this idea. Therefore, this detail does not help convey a central idea of the passage.
  - D. Incorrect. Although the author states in paragraph 1 that “traditional books still have their evangelists,” the author does not provide additional statistics or details in the passage to convey the idea that some people recommend buying printed books over e-books. Therefore, this detail does not help convey a central idea of the passage.

- 26.** The question asks which evidence from the passage best supports the claim in paragraph 1 that “print definitely isn’t dead.”
- E. CORRECT.** In paragraph 5, the author points out that “while e-book textbooks are often cheaper (and easier to carry) than traditional door-stop textbooks, college students often don’t prefer them.” The author adds that “in some surveys of college kids, the majority of students have reported preferring print books.” As a result, this evidence from the passage supports the claim in paragraph 1 that “print definitely isn’t dead.”
  - F.** Incorrect. In the passage, the author cites several studies that provide evidence that younger students “who read on iPads had lower reading comprehension than when they read traditional printed books” (paragraph 2). While this evidence supports the benefits of using traditional print material, it does not fully support the claim in paragraph 1 that “print definitely isn’t dead.”
  - G.** Incorrect. Although the main idea of paragraph 6 is supported by the 2014 study that showed that “people who used e-readers with LED screens at night slept worse and were more tired the next day,” this detail does not support the claim in paragraph 1 that “print definitely isn’t dead.”
  - H.** Incorrect. The author states in paragraph 6 that “staring at a lit screen can be tiring for the eyes and the brain” and that “reading digitally required a higher cognitive workload.” Although these details illustrate how using e-readers can have negative physical and mental effects, they do not support the claim in paragraph 1 that “print definitely isn’t dead.”

- 27.** The question asks how the findings from the studies described in paragraph 6 are important to the author's observations in paragraphs 7 and 8.
- A.** Incorrect. The evidence from the studies mentioned in paragraph 6 is not substantially supported by the personal opinions the author shares in paragraph 7 ("And if you're going to be up all night studying, turn off the backlight") or in paragraph 8 ("melt your brain" and "digital distractions").
- B. CORRECT.** In paragraph 6, the author cites studies from 2005 and 2014 that found that LED screens can "disrupt sleep patterns" and that "people who used e-readers with LED screens at night slept worse and were more tired the next day." Then, in paragraph 7, the author suggests that "if you're going to be up all night studying, turn off the backlight," and in paragraph 8, the author explains some differences between reading e-books on various devices. This information is not based on a personal opinion; instead, it is based on practical conclusions drawn from scientific evidence.
- C.** Incorrect. In paragraph 6, the author cites a 2005 study in which researchers found that "reading digitally required a higher cognitive workload than reading on paper." Then, in paragraph 8, the author concludes that "reading an e-book on a computer is a much different experience than reading on a Kindle, which is specifically designed for consuming books." Although the findings in paragraph 6 are important, they do not highlight the information presented by the author that digital reading experiences vary based on the reader and the device.
- D.** Incorrect. The author states in paragraph 8 that "reading an e-book on a computer is a much different experience than reading on a Kindle" and mentions how the same thing is true for "an interactive e-book on an iPad" compared with an e-book on "a simpler e-book device." Readers may conclude that this statement is meant to indicate the author's belief that more studies on more types of devices are needed. However, the author does not state or imply this belief in the passage.

- 28.** The question asks which sentence is the best summary of the research into the effects of e-book reading.
- E.** Incorrect. In paragraph 5, the author notes that “college students often don’t prefer” e-book textbooks but that more than half the children in a study reported “preferring screen reading.” Paragraph 3 describes a study that showed that “ ‘enhanced’ ” e-books might be distracting for young children. Therefore, this sentence is not the best summary, because it overstates the opinions of college students and implies that college students are distracted by interactive features, which is not discussed in the text.
  - F.** Incorrect. According to the information in paragraph 3, children who read “ ‘enhanced’ ” e-books “remembered fewer narrative details than those who read print books or basic e-books.” A study conducted with a group of tenth graders showed that these students “remembered more about texts if they read them in print rather than on a computer screen” (paragraph 4). Although the author points out in paragraph 2 that “some interactive features in e-books are designed to enhance comprehension,” a study found that “ ‘enhanced’ e-books might be distracting” (paragraph 3). Therefore, this sentence does not provide the best summary of the research about e-book reading, because the author does not show that e-books aid in reading comprehension.
  - G. CORRECT.** The author states in paragraph 2 that studies found that “students who read on iPads had lower reading comprehension than when they read traditional printed books” and that “e-books can be detrimental to the practice of reading itself.” In paragraph 3, the author also points out that a study found that “ ‘enhanced’ e-books might be distracting” and that children “remembered fewer narrative details than those who read print books or basic e-books.” Finally, in paragraph 6, the author states that “staring at a lit screen can be tiring for the eyes and the brain” and that “a 2005 study from Sweden found that reading digitally required a higher cognitive workload than reading on paper.” Therefore, this sentence provides the best summary of the research about e-book reading, because it includes accurate information about the results of the studies discussed in the text.
  - H.** Incorrect. In paragraph 2, the author does point out that “researchers noted that some interactive features in e-books are designed to enhance comprehension, and that those might be more helpful than game-type interactive graphics.” The author also explains in paragraph 3 how children “were more engaged with [e-books] physically.” Because this sentence does not include important details about reading comprehension or the physical toll of e-book reading on readers, it does not provide the best summary of the research about e-book reading.

- 29.** The question asks which sentence from the passage suggests that people in the future will likely choose e-books over print books.
- A.** Incorrect. While this sentence from paragraph 2 implies high engagement with the interactive features of e-books, it does not provide explicit evidence indicating that engagement with e-books is a reason for choosing them over print books.
  - B.** Incorrect. While this sentence from paragraph 2 highlights some of the benefits of e-books, such as the potential to “enhance comprehension,” those benefits are not explicitly linked to readers choosing e-books over print books.
  - C.** Incorrect. This sentence from paragraph 3 provides evidence that shows both benefits and drawbacks of reading e-books, including higher engagement but a decreased ability to recall details. Therefore, the sentence does not clarify why readers would choose e-books over print books.
  - D. CORRECT.** In this sentence from paragraph 5, the author cites a 2012 study that found that over 50 percent of 8- to 16-year-olds “reported preferring screen reading.” Since this specific age group will one day influence the future of reading, and the results of the study provide a compelling percentage, this sentence provides clear evidence for what future readers will prefer.
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- 30.** The question asks which evidence in the passage is most relevant to the author’s claim that “our expectations of e-book reading . . . might affect how we approach the text” (paragraph 9).
- E. CORRECT.** According to information in the passage, “kids sometimes skipped text in favor of interactive features” (paragraph 2) and they “remembered fewer narrative details” (paragraph 3). Additionally, a study found that “participants didn’t regulate their study time with digital books like they did with paper texts, leading to worse performances” (paragraph 9). This information directly demonstrates the author’s claim that expectations of e-book reading might be affected by how people approach the text.
  - F.** Incorrect. In paragraph 3, the author states that e-books may be physically engaging, but they are also “distracting,” and readers who used them “remembered fewer narrative details.” While this evidence is important in helping readers understand why children who read e-books may comprehend less information than children who read print text, the evidence does not as strongly relate to the author’s claim as the idea in the correct answer does.
  - G.** Incorrect. The author states that one “study of adults also found that e-books can be hard to absorb” (paragraph 4) and that “if you’re really trying to absorb material, you might want to go for a physical book” (paragraph 7). Although the evidence presented here provides support for the idea that retaining information from an e-book is more difficult than from a print book, it does not as strongly relate to the author’s claim as the idea in the correct answer does.
  - H.** Incorrect. The author points out in paragraph 4 that adults “who read the story on a Kindle performed worse on the chronology test than the book readers.” Although this evidence shows how well adults can recall a series of events read in an e-book versus how well adults can recall a series of events read in a print book, the evidence does not as strongly relate to the author’s claim as the idea in the correct answer does.

- 31.** The question asks which sentence from the passage best reveals the author’s point of view about e-books.
- A. CORRECT.** The sentence from paragraph 1 best reveals the author’s point of view because it introduces the author’s argument that “e-books might be inferior,” which is illustrated throughout the text.
  - B.** Incorrect. The sentence from paragraph 5 provides a small detail about college students preferring traditional books over e-books despite the fact that e-books may seem ideal by being “cheaper (and easier to carry).” This statement supports one point made in the text but not the author’s broader point of view about e-books in general.
  - C.** Incorrect. In the second sentence from paragraph 8, the author discusses answers to why “all this may not mean that reading on a Kindle is really going to melt your brain” and compares reading on a Kindle with reading on a computer to explain how they are different. The sentence focuses on the experiences with using two types of e-book devices rather than on the author’s broader opinion about e-books.
  - D.** Incorrect. In the last sentence from paragraph 8, the author uses the previous comparison between reading on a Kindle and reading on a computer to illustrate the differences between “playing with an interactive e-book on an iPad” and using “a simpler e-book device that only presents the text” and limits distractions. However, similar to the sentence in Option C, this sentence focuses on the experiences of using two types of e-book devices rather than on the author’s broader point of view about e-books.
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### Snowy Mountains

- 32.** The question asks how the description in the first stanza (lines 1–7) helps establish a central idea of the poem.
- E.** Incorrect. Details comparing the length of time the mountains have existed with the length of time the city has existed are referenced later in the poem.
  - F. CORRECT.** The poem is mostly about the grandeur of the mountains in spite of the spread of civilization. The first stanza contrasts these two elements.
  - G.** Incorrect. The poem actually communicates the message that people do not recognize the greatness of the mountains. This message is conveyed in the second stanza rather than in the first stanza.
  - H.** Incorrect. Although the first stanza mentions the size of the mountains, it does not imply that people cannot see how large the mountains are.

- 33.** The question asks how line 5 helps develop the theme of the poem.
- A. CORRECT.** Line 5 helps develop the theme that the mountains are more important than people realize by suggesting that the mountains serve a noble, supportive purpose in the world.
  - B.** Incorrect. While the poem does describe the strength and permanence of the mountains, the line does not suggest that these traits attract the clouds.
  - C.** Incorrect. While the line states that the highest peaks are “at rest,” the mountains mentioned in the poem have already been harmed by human influence and do not remain untamed or untouched.
  - D.** Incorrect. While pillars are strong and may indicate shelter, there is no suggestion in the line that the mountains are protecting the people. Additionally, this concept is not a theme of the poem.
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- 34.** The question asks how the isolation of the word “Uprise” in line 7 affects the meaning of the poem.
- E.** Incorrect. The word “Uprise” describes the mountains and, therefore, does not create a contrast between the plateau and the city buildings but rather between the mountains and the plateau.
  - F.** Incorrect. The word “Uprise” contrasts the mountains with the plateau; it does not compare the mountains to the buildings in the city.
  - G.** Incorrect. The word “Uprise” does not create a vision of the region before people developed the land because the first stanza, which line 7 concludes, reveals that the land has already been developed. Line 3 establishes that the mountains rise “above the dingy city-roofs.”
  - H. CORRECT.** The isolation of the word “Uprise” powerfully emphasizes the first stanza’s description of the magnificent mountains standing tall above the land below.
- 

- 35.** The question asks how the poet develops the speaker’s point of view in the second stanza.
- A.** Incorrect. The speaker’s descriptions of the mountains’ awe-inspiring size and strength mainly occur in the first and third stanzas, while in the second stanza, the speaker focuses on humanity and its negative effect on the mountains.
  - B.** Incorrect. The wording of the second stanza—“makes war” (line 10), “Splits down their shining sides” (line 12), and “Destroys the lonely fragments” (line 14)—communicates the speaker’s position that people’s main impact on the mountains is destructive; the wording does not illustrate different ways people impact the natural environment.
  - C. CORRECT.** In the second stanza, the speaker criticizes the destructive actions of “the world” (lines 8 and 10) against the mountains—actions such as tunneling “their granite cliffs” (line 11) and destroying “the lonely fragments of their peace” (line 14).
  - D.** Incorrect. In the second stanza, the speaker does not describe a positive relationship between the mountains and the people.

- 36.** The question asks for the line from the poem that best supports the idea that people have sacrificed natural beauty for profit.
- E.** Incorrect. While city roofs may spoil the natural beauty, they do not directly symbolize financial gain or profit in line 3.
  - F.** Incorrect. Although making a profit might have been the root cause of the damage that was done to the mountains, making war on the mountains is not a direct message about profit or financial gain in line 10.
  - G.** Incorrect. Although tunneling through the mountains affects the natural beauty of the mountains, it does not directly symbolize financial gain or profit in line 11.
  - H. CORRECT.** Advertisements are often used as a means to gain a profit, as implied by the soap advertisements in line 13. Additionally, the word "Plasters," in line 13, communicates a negative connotation for the use of advertisements on the priceless natural beauty of the mountains.
- 
- 37.** The question asks for the detail from the poem that reflects the speaker's view that people often fail to appreciate that which is familiar.
- A.** Incorrect. Line 6 describes the mountains' location, rather than their long existence or their familiarity.
  - B. CORRECT.** Line 9 most directly supports this idea by implying that the mountains have been there for so long that people are accustomed to seeing them and no longer appreciate their beauty and value.
  - C.** Incorrect. In line 12, the mention of harm that has been done to the mountains does not connect to a sense of familiarity.
  - D.** Incorrect. Although line 18 alludes to the long existence of the mountains, it does not connect this long existence with a sense of familiarity or the failure of people to appreciate the mountains' worth.
- 
- 38.** The question asks how the details in the third stanza most contribute to the development of a theme of the poem.
- E. CORRECT.** In the third stanza, phrases such as "Wilderness still untamed" (line 17), "time-resisting storm-worn stone" (line 22), and "The mountains swing along" (line 23) convey the message that in spite of the destruction described in the second stanza, the mountains manage to maintain their wild magnificence.
  - F.** Incorrect. While the phrase "Barrier broken down" (line 21) conveys the idea that people can have some effect on the natural landscape, it does not convey how nature affects people.
  - G.** Incorrect. The phrase "those who do not need" (line 21) implies a choice to damage nature and not a lack of awareness or understanding.
  - H.** Incorrect. The third stanza is not a call to humanity to respect the mountains but a description of the untamed, welcoming mountains and the joy they provide for those who appreciate them.

- 39.** The question asks how lines 21–22 help convey the speaker’s point of view.
- A.** Incorrect. The word “barrier” (line 21) refers to the speaker’s opinion that the mountains were “spread by Gods” (line 19) and not to an obstacle that the speaker thinks should be removed.
  - B.** Incorrect. While the lines indicate that people have lost the need to connect with nature, they do not reveal that the speaker thinks that the cause of this loss is busyness.
  - C. CORRECT.** The words “those who do not need / The joy” in lines 21–22 suggest the speaker’s sadness that people do not realize that they are destroying something wonderful and irreplaceable.
  - D.** Incorrect. Although the speaker does say that the stone is “time-resisting” (line 22), this belief is only a small detail of the speaker’s point of view.
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- 40.** The question asks what the personification in the concluding lines of the poem suggests about the mountains.
- E. CORRECT.** Line 25’s use of the word “Welcoming” suggests that the mountains are kind hosts. Lines 23 and 26, with language such as “The mountains swing along” and “The mists that dance and drive before the sun,” imply the carefree nature of the mountains as they resist the destructive work of humanity.
  - F.** Incorrect. The personification in the lines conveys a sense of optimism and endurance, with no language to suggest coming destruction.
  - G.** Incorrect. Although the lines mention that “the mountains swing along” (line 23) and “the mists . . . dance” (line 26), the personification is used to describe the mountains’ perseverance, rather than to suggest that the mountains are amused by the concerns of others.
  - H.** Incorrect. Although the second stanza develops the idea that the mountains have been mistreated by humans, which might be a source of pain, the concluding lines emphasize the joy and perseverance of the mountains as they “swing along” (line 23) despite significant adversity.

**Excerpt from *A Voice in the Wilderness***

- 41.** The question asks how the phrase from paragraph 2 affects the tone in the first part of the excerpt.
- A.** Incorrect. When Margaret recalls the interaction, there is no indication that she blames the men for her current problem.
  - B.** Incorrect. While the description of how Margaret “hastily [gathers] up her belongings” and “[hurries] down the aisle” (paragraph 1) may give the appearance of being defiant, there is no evidence that she intentionally put herself in this vulnerable position just to make a point.
  - C. CORRECT.** The phrase includes the words “all three” and “taken the trouble,” emphasizing Margaret’s early frustration as she recalls with some confused irritation that the men thought she needed an abundance of help earlier, but none of them is around to help when the train stops.
  - D.** Incorrect. While the conductor, brakeman, and porter have all looked after Margaret by alerting her that her station was next, it is unclear whether Margaret appreciates this excess of attention. The phrase instead conveys Margaret’s annoyance about a situation in which assistance from the railroad employees would have been welcome but is not provided.
- 
- 42.** The question asks for evidence from the excerpt that best supports the idea that Margaret is unfamiliar with traveling to new places by train.
- E.** Incorrect. Margaret’s actions in the sentence from paragraph 1 are decisive as she gathers her belongings to exit the train; she is familiar with rail travel.
  - F.** Incorrect. In the sentence from paragraph 2, Margaret is using her knowledge about trains to attempt to interpret the actions of others; she is familiar with trains, even if a particular destination has not been mentioned.
  - G. CORRECT.** If Margaret has never traveled to this region by train before, she must guess or attempt to interpret what she sees. This idea is best represented in the sentence in paragraph 3 where she questions whether the stations in the West have platforms.
  - H.** Incorrect. While the sentence from paragraph 4 shows that Margaret is trying to better understand her situation in the darkness, her ability to identify the train’s engine and the figures carrying lanterns indicates some familiarity with her mode of travel.
- 
- 43.** The question asks how the simile in the sentence from paragraph 4 affects the tone of the paragraph.
- A.** Incorrect. Margaret is confused and indecisive, showing her discomfort with her situation.
  - B. CORRECT.** The image of two or three fireflies creating small specks of light in the darkness creates a sense of isolation or loneliness in Margaret, as shown in the sentence “A sudden feeling of isolation took possession of her” (paragraph 4).
  - C.** Incorrect. Margaret is not tranquil; rather, she expresses distress, questions her decisions, and worries about being labeled a “fool” (paragraph 4).
  - D.** Incorrect. Margaret experiences feelings of isolation and begins to question her decision in paragraph 4, but these feelings do not become extreme until paragraph 9, where she feels “a sickening sense of terror and failure” as the train pulls away.

- 44.** The question asks how Margaret’s earlier interactions with the conductor, brakeman, and porter affect the plot.
- E. CORRECT.** Because the conductor, brakeman, and porter have all “taken the trouble to tell her that hers was the next station” (paragraph 2), Margaret assumes that the next time the train stops, she will have reached her station. This assumption causes Margaret to get off the train at the next stop without waiting for help or confirmation, but the stop turns out to be just “a pause to water the engine” (paragraph 15). This mistaken assumption creates the main problem that Margaret confronts in the passage.
  - F.** Incorrect. Although Margaret’s earlier interactions with the three railroad employees cause her to think that she knows when to get off the train, it is clear from paragraph 4 that Margaret is deeply confused and does not know what to do once she has exited the train car. She muses uneasily, “Perhaps she ought not to have got out until some one came to help her. Perhaps the train had not pulled into the station yet and she ought to get back on it and wait” (paragraph 4).
  - G.** Incorrect. Margaret wonders in paragraph 3 whether the train is “so long that her car had stopped before reaching [the station]” and speculates in paragraph 4 that “the train had not pulled into the station yet.” These thoughts reflect her assumption (based on her interactions with the three railroad employees) that the next stop is her station. However, Margaret’s speculation that the train has not fully pulled into the station does not significantly affect the plot.
  - H.** Incorrect. Margaret wonders in paragraph 3 whether they “have platforms in this wild Western land” and is expecting to see a platform because her interactions with the three railroad employees have led her to believe that she has reached a station. However, it is unclear whether Margaret really believes that rural stations all lack platforms, and her speculation on this point is not further developed in the passage and does not affect the plot.
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- 45.** The question asks for an explanation of what the imagery in the sentence from paragraph 9 conveys.
- A.** Incorrect. Margaret’s “sickening sense of terror” indicates that she is extremely afraid of being left behind rather than increasingly irritated with the other passengers.
  - B.** Incorrect. Although Margaret is “screaming, running, trying to attract some one’s attention” in an effort to be noticed so that the train will stop, she is not attempting to keep up with the train. This option omits consideration of the “mocking clatter” of the train, which emphasizes Margaret’s helplessness rather than her physical efforts.
  - C.** Incorrect. While Margaret’s screaming and running could easily suggest feelings of anger, the description of her “sickening sense of terror and failure” indicates otherwise.
  - D. CORRECT.** The words “useless” and “failure” in the sentence indicate that Margaret’s best efforts do not help her. The phrase “the last car slatted itself past” shows that Margaret is helpless to stop the train from departing, which leaves her completely vulnerable.

- 46.** The question asks about the relationship between the theme and paragraph 9, where Margaret desperately tries to get someone on the train to notice her.
- E. CORRECT.** One important theme of this excerpt concerns Margaret’s willingness to take action to ensure that she reaches her destination. This determination, described in Option A, is why she gathers her belongings together without help, gets off the train without being assisted by employees, and then attempts to climb back on while the train employees are busy examining the engine.
  - F.** Incorrect. While the narrator describes her screaming as useless, she does not feel that her efforts overall are useless, and she does not give up until paragraph 10.
  - G.** Incorrect. While Margaret is feeling a sense of “failure” in paragraph 9, she does not condemn herself as the train moves away.
  - H.** Incorrect. Margaret expresses “terror” in paragraph 9 over being unable to catch someone’s attention, not frustration about her lack of control over her surroundings.
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- 47.** The question asks what the figurative language emphasizes in the sentence from paragraph 10.
- A.** Incorrect. While the image of Margaret’s hands dropping at her sides could suggest a sense of doubt, the figurative language in the sentence emphasizes a different feeling about her situation and does not indicate her intentions.
  - B.** Incorrect. While the figurative language suggests that the train is mocking Margaret, this language is not referring to the people onboard, who are described in paragraph 8 as “comfortable and safe inside, unconscious of her need.”
  - C.** Incorrect. While Margaret is worried in paragraph 4 about embarrassing herself, she now feels “dazed” because she is overwhelmed with the seriousness of what has just happened.
  - D. CORRECT.** As Margaret stands and reaches out “helpless hands,” the language used to describe the train as “swinging tauntingly” and having “a leer in its eye” underscores Margaret’s fears of being left alone and being vulnerable; there is nothing she can do to change the situation at this point.

48. The question asks how paragraph 11 contributes to the plot of the excerpt.

- E. **CORRECT.** In paragraph 5, Margaret assumes there is a station (“It was probably on the other [side], but she was standing too near the cars to see”), but in paragraph 11, the station that had been “so real” in Margaret’s mind actually does not exist.
- F. Incorrect. Margaret’s main problem is not that her imagination has led her astray but rather that her inexperience with this train route has caused her to misinterpret the events that have occurred. Paragraph 11 reveals that she has been acting on faulty assumptions; however, her assumptions are somewhat justified by the events that have occurred.
- G. Incorrect. While Margaret seems somewhat in awe of her surroundings in paragraph 12 and she “gasped” in paragraph 11, her exclamation is one of shock at the discovery, not surprise over an unexpected adventure.
- H. Incorrect. While paragraph 11 describes how Margaret responds to the distressing situation that her actions and decisions have created, the paragraph does not offer insight into how Margaret generally responds to problems or conflicts.

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### Invention of the Telegraph

49. The question asks how the use of problem-solution in paragraph 2 contributes to the development of ideas in the passage.

- A. Incorrect. While the discussion “aboard ship” in 1832 reminded Morse of the lectures he had attended at Yale College and made him consider how a coded message could be sent “over a wire” (paragraph 2), it was Morse’s failed attempts with electricity that caused him to reach out to Gale for help.
- B. Incorrect. While “Morse found when he began to develop his idea that he had little real understanding of the nature of electricity” (paragraph 2), the paragraph does not state that he was discouraged; it was his failed experimentation that resulted in him first realizing that he needed help.
- C. Incorrect. Paragraph 2 states that “Morse came to understand how [Faraday’s electromagnet] worked,” and this understanding is what caused him to think about sending messages over a wire. Also, Morse’s difficulty was in understanding the properties of electricity in general once he began his experimentation.
- D. **CORRECT.** The author’s use of problem-solution in paragraph 2 contributes to the development of ideas in the passage because the author states that “Morse found when he began to develop his idea that he had little real understanding of the nature of electricity, and . . . he finally turned for help to . . . Leonard D. Gale.” Thus, Morse’s longtime fascination was not enough to make up for his lack of knowledge about electricity.

**50.** The question asks how the use of sequencing, or arranging in chronological order, in paragraph 3 contributes to the overall structure of the passage.

**E.** Incorrect. Although the inventions and advancements of others assisted in the development of the telegraph, the passage does not suggest that the other men were attempting to create their own telegraph systems.

**F. CORRECT.** The use of sequencing in paragraph 3 emphasizes that Morse’s telegraph was created through a process of building upon earlier scientific ideas and breakthroughs. Paragraph 3 shows that when Morse approached Leonard D. Gale for help, Gale was able to inform Morse about Joseph Henry’s earlier experiments and research concerning electricity. Further, Gale built upon Henry’s work by showing Morse how to “regularly boost the strength of a signal and overcome the distance problems he had encountered by using a relay system Henry had invented.”

**G.** Incorrect. The only other long-distance communication system mentioned in the passage is the outdated semaphore system discussed in paragraph 1.

**H.** Incorrect. The telegraph system was in development for more than ten years because of the lack of funding and the need for further experimentation.

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**51.** The question asks how the details of the section “The Growth of an Idea” help convey a central idea of the passage.

**A.** Incorrect. Although paragraph 2 in this section states that Morse “speculated that it might be possible to send a coded message over a wire,” this section does not describe Morse and his colleagues’ ultimate success at sending such a message.

**B. CORRECT.** The section helps convey a central idea because it mainly focuses on what inspired Morse to begin his work and explains how others were just as interested in working to achieve this goal. Paragraph 3 states that “Henry’s experiments, Gale’s assistance, and, soon after, hiring the young technician Alfred Vail were keys to Morse’s success.” Their shared interest in the possibilities of electricity inspired them to work together to find a way to use electricity to send long-distance messages.

**C.** Incorrect. Paragraph 2 of the section explains how Morse came to understand how Faraday’s electromagnet worked and states that this invention prompted Morse to wonder whether it might be possible to send a coded message over a wire. However, that early idea of Morse’s only evolved into the telegraph after much more research and experimentation.

**D.** Incorrect. Although paragraph 2 establishes that Morse was interested in lectures at Yale on electricity, the influence of what Morse learned at Yale was only a minor factor in his development of the telegraph.

- 52.** The question asks what the words “dramatic” and “spectacularly” convey in the sentence from paragraph 7.
- E.** Incorrect. While there may have been some feelings of relief and fulfillment when the lines were finished, the passage instead focuses on the wonder and joy that Morse and Cornell felt after overcoming setbacks and completing the construction of the telegraph system.
  - F. CORRECT.** Morse and Cornell rushed to post the wires overhead, and the “rigid deadline” (paragraph 7) was successfully met. The words have a positive and victorious tone that is consistent with the feeling of wonder that it worked and of celebration that the construction was completed.
  - G.** Incorrect. The passage does not share whether Morse or Cornell considered the future possibilities of the telegraph; it shares only that the finished product was “dramatic,” implying it was amazing to see.
  - H.** Incorrect. While the passage later discusses the expansion of overhead wires “up and down the Atlantic coast” and how they “connected the continents of Europe and America” (paragraph 8), there is no evidence shared in the passage that Morse planned to continue his work with electricity.
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- 53.** The question asks for the best summary of how Morse obtained the funding necessary to build his telegraph system.
- A.** Incorrect. This summary focuses mostly on what Morse did while his application for funding was delayed in the United States rather than on how Morse acquired the patent, because during this period, Morse tried “not only to secure patent protection overseas but to examine competing telegraph systems in England” (paragraph 5). Therefore, it is not the best summary of how Morse obtained the funding necessary to build his telegraph system.
  - B.** Incorrect. Although this summary mentions how Morse applied for the “federal government’s appropriation” (paragraph 5), it primarily focuses on the actions of the House of Representatives and the Senate, not on Morse’s efforts to obtain funding. Therefore, it is not the best summary of how Morse obtained the funding necessary to build his telegraph system.
  - C. CORRECT.** This summary best describes how Morse obtained the funding that he needed for his telegraph system because it explains that Morse applied “for the federal government’s appropriation, and during the next year he conducted demonstrations of his telegraph” (paragraph 4). In paragraph 5, the author explains the impact that the Panic of 1837 had on Morse’s request. In paragraph 6, the author describes how by 1843, economic times had improved, so Morse again “asked Congress for the \$30,000” and was awarded the funds after “the Senate approved it.”
  - D.** Incorrect. This summary is not the best summary of how Morse obtained the funding necessary to build his telegraph system, because it relates how Morse worked with others to develop his ideas about the telegraph and how Gale and Vail were the “keys to Morse’s success” (paragraph 3) before he applied for funding.

- 54.** The question asks how the passage mainly illustrates the idea that the United States was mostly unaware of the possibilities of electricity in the mid-nineteenth century.
- E. CORRECT.** Paragraph 1 states that most signaling systems at the time were “visual or ‘semaphore’ systems using flags or lights” and that the United States government was looking for “just such a system along its entire Atlantic coast.” This option is correct because it shows that the government wanted to continue to use a limited system instead of finding ways to improve the system. Had the government been aware of the possibilities of electricity, a more sophisticated system might have been imagined.
  - F.** Incorrect. The delay in funding had to do with the Panic of 1837 and the “long depression” (paragraph 5), not because the House of Representatives was not aware of or ready for innovation in the use of electricity.
  - G.** Incorrect. The information in this option focuses on what prompted Morse to consider an electric wire-based communications system. While this option suggests that electrical devices were just beginning to be invented, it does not support the idea that the nation was unaware of the possibilities of electricity.
  - H.** Incorrect. While this option describes an early electrical innovation that may seem quite basic and limited to modern audiences, paragraph 3 states that this innovation was the work of a “pioneer in the new field,” implying that it was quite significant for its time. This option is incorrect because it focuses on those people in the United States who were aware of the possibilities of electricity.
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- 55.** The question asks which statement best represents a viewpoint held by the author of the passage.
- A.** Incorrect. The author explains that the aboveground wiring was used only because “Cornell suggested that [it was] the fastest and cheapest way” (paragraph 7), not because it would be more successful.
  - B.** Incorrect. The author conveys the importance of this advancement in communication without providing detailed information about electrical systems.
  - C.** Incorrect. While the Panic of 1837 caused a delay in Morse’s funding, the author shows that Morse received the appropriation in 1843 and was able to overcome the financial setback he faced.
  - D. CORRECT.** Paragraph 8 states that “Telegraph lines soon extended westward, and within Morse’s own lifetime they connected the continents of Europe and America.” Therefore, this option is correct because the author presents Morse’s telegraph as a great leap in the ability to quickly communicate messages over distances never before imagined.

- 56.** The question asks how the map provides additional support for a central idea of the passage.
- E. CORRECT.** The map shows the telegraph line crossing continents in 1902, just forty-four years after the first message was sent in 1858. This is a much greater distance than the first line Morse built between “the Supreme Court chamber of the Capitol building and the railroad station in Baltimore” (paragraph 7).
  - F.** Incorrect. The map shows the distance the line covers; it does not indicate Morse’s lack of foresight in seeking patents only in North America.
  - G.** Incorrect. While Gale’s advice was crucial to Morse’s success, the map shows the physical line stretching across continents many years later, after their initial work.
  - H.** Incorrect. While it can be inferred that the telegraph had influence across the world, the amount of influence cannot be determined.
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- 57.** The question asks how the graph supports the ideas in paragraph 8.
- A.** Incorrect. While it can be implied from the expansion shown on the graph that people possibly welcomed the improvement in long-distance communication, the graph does not state this explicitly.
  - B. CORRECT.** The graph shows the number of messages transmitted from 1870 to 1920. In 1920 almost 160 million messages were transmitted, showing a “dramatic”—almost double— increase from 1910.
  - C.** Incorrect. The graph does not show how many people used the telegraph, but rather it shows the number of messages sent. Additionally, paragraph 8 provides no details about hesitation on the part of individual people.
  - D.** Incorrect. While improvements in recording and interpreting code were made, the graph does not show the effect of this advancement on the speed or number of messages being transmitted.

**58. (-0.4)**  $-3.8 + 2.3 - (-1.1)$

Two negatives become a positive. Rewrite the expression to show how  $-(-1)$  becomes a positive number:

$$-3.8 + 2.3 + 1.1$$

$$-3.8 + 3.4$$

$$-0.4$$

**59. (150)** Angle M and angle R are supplementary, so the sum of the angles is  $180^\circ$ .

Let  $m$  equal the measure of angle M, and let  $r$  equal the measure of angle R.

$$r + m = 180$$

The measure of angle R is 5 times the measure of angle M.

$$r = 5m$$

$$5m + m = 180$$

$$6m = 180$$

$$m = \frac{180}{6} = 30$$

$$r = 5m = 5(30) = 150$$

Therefore, the measure of angle R is

**60. (2.5)** Set up a proportion to solve:

$$\frac{\frac{3}{16} \text{ apple}}{\frac{3}{40} \text{ cranberry}} = \frac{x \text{ apple}}{1 \text{ cranberry}}$$

$$\frac{3}{16} \times \frac{40}{3} = x$$

$$\frac{40}{16} = \frac{5}{2} = x$$

$$2.5 = x$$

- 61. (5.5)** The lawn grows  $2\frac{1}{8}$  inches every 2 weeks. Find the total number of inches it grows in 8 weeks.

$$8 \div 2 = 4$$

$$4 \times 2\frac{1}{8}$$

$$4 \times 2.125 = 8.5$$

The lawn was 4 inches tall at the beginning of the season.

$$8.5 + 4 = 12.5$$

Mr. Chen mows his lawn every 2 weeks and cuts off the top  $1\frac{3}{4}$  inches. Find the total number of inches that are cut off in 8 weeks.

$$8 \div 2 = 4$$

$$4 \times 1\frac{3}{4}$$

$$4 \times 1.75 = 7$$

The height after 8 weeks is the total number of inches grown minus the total number of inches cut off.

$$12.5 - 7 = 5.5$$

- 62. (1)** Since 110 families were surveyed, the median will have 55 values less than or equal to it, and 55 values greater than or equal to it.

If the values in the table were listed in order, they would look like this:

$$\overbrace{0,0,\dots,0}^{45}, \overbrace{1,1,\dots,1}^{32}, \overbrace{2,2,\dots,2}^{19}, \overbrace{3,3,\dots,3}^8, \overbrace{4,4,\dots,4}^6$$

The first row of the table indicates that 45 families had 0 children.

The second row of the table indicates that 32 families had 1 child.

So 77 families had either 0 children or 1 child, and 45 families had 0 children.

Since 55 is between 45 and 77, the median must be a value in the second row of the table.

So the median is 1.

- 63. (A)** First, set up a proportion to determine  $x$ , the number of goats Mr. King has.

$$\frac{\text{King}}{\text{Jones}} = \frac{x}{550}$$

$$\frac{x}{550} = \frac{100\%}{100\% + 10\%}$$

Then solve the proportion for  $x$ .

$$\frac{x}{550} = \frac{100\%}{100\% + 10\%}$$

$$550(100\%) = x(100\% + 10\%)$$

$$550(100\%) = x(110\%)$$

$$550(1) = x(1.10)$$

$$550 = 1.10x$$

$$550 \div 1.10 = (1.10 \div 1.10)x$$

$$500 = x$$

Finally, determine the difference between the number of goats Mr. Jones has, 550, and the number of goats Mr. King has, 500.

$$550 - 500 = 50$$

Mr. Jones has 50 more goats than Mr. King.

- 64. (G)** Use properties of equations to determine the missing expression.

$$\frac{2y}{x} - \frac{y}{2x} = \frac{\square}{2x}$$

$$\frac{2}{2} \cdot \frac{2y}{x} - \frac{y}{2x} = \frac{\square}{2x}$$

$$\frac{4y}{2x} - \frac{y}{2x} = \frac{\square}{2x}$$

$$\frac{4y - y}{2x} = \frac{\square}{2x}$$

$$\frac{3y}{2x} = \frac{\square}{2x}$$

The missing expression is  $3y$ .

- 65. (B)** The area of square PQRS is 4 square centimeters. So

$$s^2 = 4$$

$$\sqrt{s^2} = \sqrt{4}$$

$$s = 2 \text{ cm}$$

Sides PS and RS are each a radius of the circle. So the radius of the circle is 2 cm.

The shaded region is  $\frac{1}{4}$  of the circle. The area of a circle is  $A = \pi r^2$ . So the area of the shaded region, in square centimeters, is

$$\frac{1}{4}A = \frac{1}{4}\pi r^2 = \frac{1}{4}\pi(2^2) = \frac{1}{4}\pi(4) = \pi$$

- 66. (H)** Consider the case where  $m = 1$ .

$$n - m = 66$$

$$n - 1 = 66$$

$$n - 1 + 1 = 66 + 1$$

$$n = 67$$

The list of integers from 1 to 67 contains 67 numbers.

**67. (A)** 
$$\frac{\left(\frac{39(x-3)}{3}\right) + 39}{13}$$

Divide the first 39 by 3.

$$\frac{13(x-3) + 39}{13}$$

Distribute 13 through the parentheses

$$(x-3).$$

$$\frac{13x - 39 + 39}{13}$$

In the numerator, the terms  $-39$  and  $39$  cancel out.

$$\frac{13x}{13}$$

Finally, divide by 13 to get  $x$ .

- 68. (G)** Jar 1 starts with  $\frac{1}{2}$  cup of water. If  $\frac{1}{4}$  of its water is poured into Jar 2, then the amount of water added to Jar 2 is  $\frac{1}{2} \times \frac{1}{4} = \frac{1}{8}$  cup.

Jar 2 starts with  $\frac{1}{2}$  cup of water. If  $\frac{1}{8}$  cup of water is added to it, then the amount of water now in Jar 2 is

$$\frac{1}{2} + \frac{1}{8} = \frac{4}{8} + \frac{1}{8} = \frac{5}{8} \text{ cup.}$$

- 69. (D)**  $0.01 = \frac{1}{100}$ , which is between  $\frac{1}{101}$  and  $\frac{1}{99}$ .  
Therefore,  $n + 2 = 101$  and  $n = 99$ .

- 70. (H)** 72% of the people polled answered yes, so 28% of the people did not answer yes.

Therefore, 56 people is 28% of the total,  $x$ .

$$\frac{56}{x} = \frac{28}{100}$$

$$\frac{56}{x} = \frac{7}{25}$$

$$56(25) = 7x$$

$$\frac{56(25)}{7} = x$$

$$8(25) = x$$

$$200 = x$$

- 71. (A)** The scale is 1 inch = 20 feet and the length in the scale drawing is 2 inches, so the actual length is 40 feet.

$$960 \div 40 = 24$$

The actual width is 24 feet.

Let  $x$  equal the width of the scale drawing.

$$\frac{1 \text{ in.}}{20 \text{ ft}} = \frac{x \text{ in.}}{24 \text{ ft}}$$

$$x = \frac{24}{20} = 1\frac{1}{5}$$

- 
- 72. (H)** There are five odd numbers in the range 1 through 9: 1, 3, 5, 7, and 9.

So the proportion of odd numbers in the range 1 through 9 is  $\frac{5}{9}$ .

The expected number of odd values in the sequence from the computer program is  $300 \cdot \frac{5}{9} = 166.\overline{66}$ .

So the best prediction for the number of odd numbers in the sequence is 167.

- 73. (D)** Let  $m$  equal the miles driven during Dalia's rental. The total cost,  $c$ , can be expressed as an equation.

$$c = 40 + m$$

Dalia spent a total of \$60, which included a 20% off coupon. Find the cost before the coupon by dividing the final cost (\$60) by the percentage paid (80%):

$$\frac{60}{80\%} = \frac{60}{0.80} = 75$$

Use \$75 as the total cost to find  $m$ .

$$40 + m = 75$$

$$m = 35$$

Dalia drove 35 miles.

74. (H) Start with a proportion to determine the total number of red candies in the bag.

$$\frac{2}{5} = \frac{r}{25}$$

$$\frac{2}{5}(25) = r$$

$$10 = r$$

There are currently 10 red candies out of 25 candies in the bag. After 5 red candies are removed, there would be 5 red candies left in the bag and 20 total candies.

The probability of randomly drawing a red candy would then be  $\frac{5}{20} = \frac{1}{4}$ .

75. (C) First write an equation based on the rule described in the item. Let  $x$  be the previous number in the sequence and  $y$  be the number in the sequence. The ninth number in the sequence is 63.

$$2x + 1 = y$$

Determine the 10th number in the sequence,  $y$ , by making  $x = 63$ .

$$2(63) + 1 = y$$

$$126 + 1 = y$$

$$127 = y$$

Determine the 8th number in the sequence,  $x$ , by making  $y = 63$ .

$$2x + 1 = 63$$

Subtract one from both sides of the equation.

$$2x + (1 - 1) = 63 - 1$$

$$2x = 62$$

$$\frac{2x}{2} = \frac{62}{2}$$

$$x = 31$$

**Response continued  
on next page**

Determine the 7th number in the sequence,  $x$ , by making  $y = 31$ .

$$2x + 1 = 31$$

$$2x + (1 - 1) = 31 - 1$$

$$2x = 30$$

$$\frac{2x}{2} = \frac{30}{2}$$

$$x = 15$$

Subtract the 7th number in the sequence from the 10th number.

$$127 - 15 = 112$$

The difference is 112.

- 
- 76. (G)** The highest and lowest scores are discarded: 8.2 and 9.0.

To find the mean, add the remaining scores and then divide that sum by the total number of remaining scores.

$$8.9 + 8.5 + 8.4 + 8.6 + 8.8 = 43.2$$

$$43.2 \div 5 = 8.64$$

- 77. (A)** The original piece of wood is  $4\frac{1}{2}$  feet long.

The shorter piece is  $x$  feet long, and it must be less than half the length of the original piece of wood.

Since half of  $4\frac{1}{2}$  is  $2\frac{1}{4}$  it follows that  $x < 2\frac{1}{4}$ .

The shorter piece of wood cannot be 0 feet long, so it follows that  $0 < x$ .

This gives the compound inequality

$$0 < x < 2\frac{1}{4}$$

- 78. (F)** The area of the shaded region, in square units, is the area of the triangle created by the shaded and unshaded regions minus the area of the triangle created by the unshaded region.

The area of the triangle created by the shaded and unshaded regions is 200 square units.

$$\frac{1}{2}bh = \frac{1}{2}(20)(20) = \frac{1}{2}(400) = 200$$

The area of the triangle created by the unshaded region is 75 square units.

$$\frac{1}{2}bh = \frac{1}{2}(10)(15) = \frac{1}{2}(150) = 75$$

Subtract to find the area of the shaded region.

$$200 - 75 = 125$$

- 79. (A)** The highest temperature was 86° F.

$$F = \frac{9}{5}C + 32$$

$$86 = \frac{9}{5}C + 32$$

Subtract 32 from both sides of the equation:

$$86 - 32 = \frac{9}{5}C - 32$$

$$54 = \frac{9}{5}C$$

Multiply both sides of the equation by  $\frac{5}{9}$

$$54\left(\frac{5}{9}\right) = \left(\frac{5}{9}\right)\left(\frac{9}{5}C\right)$$

$$30 = C$$

The lowest temperature was 68° F.

$$F = \frac{9}{5}C + 32$$

$$68 = \frac{9}{5}C + 32$$

**Response continued  
on next page**

$$68 - 32 = \frac{9}{5}C$$

$$36 = \frac{9}{5}C$$

$$\left(\frac{5}{9}\right)(36) = C$$

$$20 = C$$

The difference, in degrees Celsius, is 30 minus 20.

$$30 - 20 = 10$$

- 80. (F)** If  $x$  is odd, then the two even numbers closest to  $x$  are  $(x - 1)$  and  $(x + 1)$ . Find the sum of these two expressions.

$$(x - 1) + (x + 1) = 2x$$

- 81. (B)** The question asks for the amount of the public debt per person, so divide the total public debt by the number of people.

$$\frac{3,600,000,000,000}{250,000,000} =$$

$$\frac{3,600,000,000,000}{250,000,000} =$$

$$\frac{360,000}{25} = 14,400$$

The amount of the public debt per person is about \$14,400.

- 82. (E)** These facts are given:

- $N$  is the midpoint of  $\overline{MQ}$ .
- $\overline{MN}$  has a length of  $x$  centimeters.
- $\overline{MP}$  has a length of  $y$  centimeters.

Use the first two facts to determine that  $\overline{MQ}$  has a length of  $2x$  centimeters  
 $PQ = MQ - MP = 2x - y$ .

- 83. (B)** To find the area of a parallelogram, multiply the length of a side by the altitude for that side.

One property of parallelograms is that opposite sides are the same length.

So the bottom side of the parallelogram is 30 feet long and has an altitude of 20 feet.

Therefore, the area of the parallelogram, in square feet, is  $A = bh = 30 \times 20 = 600$ .

- 84. (H)** Let  $t$  represent the number of loaves of bread produced on Tuesday.

First, determine the number of loaves of bread produced on Tuesday,  $t$ , using the number of loaves produced on Wednesday,  $t + 100$ , the number produced on Thursday,  $t - 50$ , and the total number produced on these three days, 230.

$$t + t + 100 + t - 50 = 230$$

$$t + t + t + 100 - 50 = 230$$

$$3t + 50 = 230$$

$$3t + (50 - 50) = 230 - 50$$

$$3t = 180$$

$$(3 \div 3)t = 180 \div 3$$

$$t = 60$$

Next, determine the number of loaves of bread produced on Wednesday,  $t + 100$ , when  $t = 60$ .

$$t + 100 = 60 + 100 = 160$$

The number of loaves of bread produced on Wednesday is 160.

- 85. (C)** First, find the total number of students who took the quiz.

$$9 + 7 + 4 + 5 + 3 = 28$$

Multiply each quiz score by the number of students who received that score. Add those products together to find the total number of points scored.

$$(60 \times 9) + (70 \times 7) + (80 \times 4) +$$

$$(90 \times 5) + (100 \times 3) = 2,100$$

To find the mean quiz score, divide the total number of points by the number of students who took the quiz.

$$2,100 \div 28 = 75$$

- 86.** (E) Use the properties of equations to solve the inequality for  $x$ .

$$x + 4 \geq 3$$

Subtract 4 from both sides of the inequality.

$$x + 4 - 4 \geq 3 - 4$$

$$x \geq -1$$

The graph of  $x \geq -1$  will have a point at  $-1$  and will include all values that are greater than, to the right of,  $-1$ . The greater than or equal sign is used, which indicates that the solution includes  $-1$ . So the point at  $-1$  will be solid. Option E is the correct answer.

- 87.** (A) The reciprocal of  $\frac{1}{4}$  is added to the reciprocal of 3.

$$\frac{4}{1} + \frac{1}{3} = \frac{12}{3} + \frac{1}{3} = \frac{13}{3}$$

The reciprocal of this sum is  $\frac{3}{13}$ .

- 88.** (E) Nura's poster is square, so all the side lengths are 13 inches. The area is

$$A = s^2 = 13^2 = 169$$

Latrice's poster is square, so all the side lengths are 15 inches.

$$A = 15^2 = 225$$

Subtract to determine the difference between the areas.

$$225 - 169 = 56$$

The difference, in square inches, is 56.

- 89. (B)** The unit rate for cups of oats per cup of water can be found by dividing the number of cups of oats by the number of cups of water.

$$\frac{\frac{2}{3}}{3\frac{1}{4}}$$

The denominator can be rewritten as  $\frac{13}{4}$ .

The quotient  $\frac{\frac{2}{3}}{\frac{13}{4}}$  can be rewritten as

$$\frac{2}{3} \times \frac{4}{13} = \frac{8}{39}.$$

Therefore, the unit rate for cups of oats per cup of water is  $\frac{8}{39}$ .

**90. (H)**  $\left(\frac{3}{5} - \frac{1}{2}\right)x = \frac{1}{4} + \frac{2}{2}$

Rewrite with equivalent fractions with like denominators.

$$\left(\frac{3 \times 2}{5 \times 2} - \frac{1 \times 5}{2 \times 5}\right)x = \frac{1 \times 3}{4 \times 3} + \frac{2 \times 4}{3 \times 4}$$

$$\left(\frac{6}{10} - \frac{5}{10}\right)x = \frac{3}{12} + \frac{8}{12}$$

$$\left(\frac{1}{10}\right)x = \frac{11}{12}$$

Multiply both sides of the equation by 10.

$$10\left(\frac{1}{10}\right)x = 10\left(\frac{11}{12}\right)$$

$$x = \frac{110}{12}$$

- 91. (A)** The increase in sales tax percentage is

$$7.5\% - 7.0\% = 0.5\%$$

0.5% of \$200 is

$$(0.5\%)(200) = (0.005)(200) = 1$$

**92. (F)**  $|(-8) - 12 + (-17) - (-31)| - |24|$

Simplify negatives inside the first absolute value brackets.

$$|-8 - 12 - 17 + 31| - |24|$$

Simplify the first absolute value.

$$|-6| - |24|$$

Calculate the absolute values.

$$6 - 24$$

Perform the final subtraction.

$$6 - 24 = -18$$

**93. (B)** First, use the information given in the table and properties of equations to determine the value of  $k$ .

$$8k + 30 + 30 - 2k + k + 5 = 100$$

$$8k - 2k + k + 30 + 30 + 5 = 100$$

$$7k + 65 = 100$$

$$7k + (65 - 65) = 100 - 65$$

$$7k = 35$$

$$k = 5$$

Then determine the percentage of cell phones sold that were blue by finding the value of the expression  $30 - 2k$  (given in the table) when  $k = 5$ .

$$30 - 2k = 30 - 2(5) = 30 - 10 = 20$$

The percentage of cell phones sold that were blue is 20%.

- 94. (E)** First, find the distance between X and Z by adding the distance between X and Y to the distance between Y and Z.

$$1 + 2 = 3$$

Since the distance between X and Z is 3, the midpoint between X and Z is  $1\frac{1}{2}$ .

The midpoint between X and Z is  $1\frac{1}{2}$ , and the distance between X and Y is 1. The distance between Y and the midpoint of X and Z is  $1\frac{1}{2} - 1 = \frac{1}{2}$ .

- 
- 95. (B)** Subtract to determine the amount of the increase.

$$1.35 - 1.25 = 0.10$$

Divide the increase by the original price.

$$0.10 \div 1.25 = 0.08$$

Multiply the quotient by 100 to express the decimal answer as a percent.

$$0.08 \times 100 = 8$$

- 96. (G)** Surface area is found by calculating the area of each side, including the base, and adding them all together.

The base of the pyramid measures 10 inches on each side, so the area of the base is

$$10 \times 10 = 100$$

Each triangular face has a base of 10 inches and a height of 12 inches, so the area of each face is

$$\frac{1}{2} \times 10 \times 12 = 60$$

There are 4 triangular faces (because the square base has 4 edges, each of which will have a triangular face). So the total surface area of the pyramid is the sum of the areas of 4 triangles and 1 square.

$$(4 \times 60) + 100 = 240 + 100 = 340 \text{ square inches}$$

- 
- 97. (B)** Use the percent increase expression to find the answer:

$$\frac{\text{new price} - \text{original price}}{\text{original price}}$$

$$\frac{6.75 - 6.25}{6.25} = \frac{0.50}{6.25} = 0.08 = 8\%$$

- 98. (G)** If the mean number of points for the first four games is 7, the total number of points earned in those games is 28.

$$4 \times 7 = 28$$

If the mean number of points for all five games is 8, the total number of points earned is 40.

$$5 \times 8 = 40$$

To find the number of points in the fifth game, find the difference between 40 and 28.

$$40 - 28 = 12$$

- 
- 99. (B)** First, find the amount, in dollars, that Lian paid for each orange. There are 4 bags with 8 oranges each.

$$4 \times 8 = 32$$

Divide the total cost by the total number of oranges to get the cost per orange.

$$11.52 \div 32 = 0.36$$

Multiply to find the cost of 42 oranges.

$$0.36 \times 42 = 15.12$$

---

**100. (H)**  $\frac{3.6}{0.018} \times \left( \frac{1,000}{1,000} \right) = \frac{3,600}{18} = 200$

- 101. (C)** If 5 gallons are added to the tank per minute for 45 minutes, then  $5 \times 45 = 225$  gallons are added to the tank.

The tank started with 75 gallons of water in it. After the 45 minutes, it contains  $75 + 225 = 300$  gallons, assuming no loss of water.

The tank has a capacity of 500 gallons, and  $\frac{300}{500} = 0.6$ .

Rewrite decimal 0.6 as a percent.

$$0.6 = \frac{6}{10} = \frac{60}{100} = 60\%$$

- 
- 102. (H)** Each strap requires  $1\frac{1}{4}$  yards of ribbon, and ribbon costs \$5.00 a yard.

$$1\frac{1}{4} \times 5 = \frac{5}{4} \times \frac{5}{1} = \frac{25}{4} = 6.25, \text{ so the}$$

ribbon for each strap costs \$6.25.

Misha wants to make 2 straps.

$6.25 \times 2 = 12.50$ , so the cost of the ribbon for 2 straps is \$12.50.

- 103. (B)** The graph represents a proportional relationship, which means the  $y$ -intercept of the graph is  $(0, 0)$ .

This means that the point  $\left(1, \frac{5}{4}\right)$  represents the unit rate for this situation.

In this situation,  $x$  represents the number of questions answered correctly, and  $y$  represents the number of points received.

Therefore, for each question answered correctly, the student receives  $\frac{5}{4}$ , or  $1\frac{1}{4}$ , points.

- 104. (E)** In the survey, 45 out of 200 adults reported reading the online version of the *Waskegon Bulletin*, and there are 25,000 adults living in Waskegon. Set up a proportion to find the number of adults who read the online version.

$$\frac{45}{200} = \frac{x}{25,000}$$

$$x = \frac{(45)(25,000)}{200} = (45)(125) = 5,625$$

Rounded to the nearest 100, this number is 5,600.

- 105. (C)** There is a proportional relationship between the number of miles hiked,  $y$ , and the number of days,  $x$ .

$$\frac{y}{x} = \frac{17}{3}$$

$$y = \frac{17}{3}x$$

So the equation  $y = \frac{17}{3}x$  describes the relationship.

- 106. (E)** The distance from Carolyn's house to the grocery store is  $3 + 2\frac{1}{2} = 5\frac{1}{2}$  miles.

Carolyn walked  $1\frac{2}{3}$  miles back, so she

still had  $5\frac{1}{2} - 1\frac{2}{3}$  miles left to walk home.

$$5\frac{1}{2} - 1\frac{2}{3} = \frac{11}{2} - \frac{5}{3} =$$

$$\frac{33}{6} - \frac{10}{6} = \frac{23}{6} = 3\frac{5}{6}$$

So Carolyn has  $3\frac{5}{6}$  miles left to walk home.

**107. (C)** Set up a proportion to solve.

$$\frac{1\frac{1}{4} \text{ in.}}{\frac{1}{3} \text{ yr}} = \frac{x \text{ in.}}{1 \text{ yr}}$$

$$1\frac{1}{4} = \frac{1}{3}x$$

$$\frac{5}{4} = \frac{1}{3}x$$

$$\left(\frac{3}{1}\right)\left(\frac{5}{4}\right) = x$$

$$\frac{15}{4} = x$$

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

---

**108. (F)**  $3(0.01) - 3(0.1) = 0.03 - 0.3 = -0.27$

**109. (B)** Rewrite the mixed numbers so that they all have equivalent denominators.

$$10\frac{1}{2} + \left(-5\frac{1}{3}\right) - \left(-2\frac{3}{4}\right)$$

$$10\frac{6}{12} + \left(-5\frac{4}{12}\right) - \left(-2\frac{9}{12}\right)$$

Subtracting a negative is the same as adding.

$$10\frac{6}{12} - 5\frac{4}{12} + 2\frac{9}{12}$$

Group the whole numbers together and the fractions together.

$$10\frac{6}{12} - 5\frac{4}{12} + 2\frac{9}{12}$$

$$(10 - 5 + 2) + \left(\frac{6}{12} - \frac{4}{12} + \frac{9}{12}\right)$$

$$7\frac{11}{12}$$

---

**110. (G)** Find 5% of 350.

$$(5\%)(350) = (0.05)(350) = 17.5$$

$$350 + 17.5 = 367.50$$

**111. (B)** The probability of the event is 0.05, which equals 5%, which is less than 50%.

Option A:

An event that is likely has a probability over 50%.

Option B:

An event that is unlikely has a probability less than 50%.

Option C:

An event that is impossible has a 0% probability.

Option D:

An event that is neither likely nor unlikely has a 50% probability.

---

**112. (G)** Divide the number of cups of blue paint by the number of cups of red paint to find the constant of proportionality.

$$\frac{1.5}{1} = \frac{6}{4} = 1.5$$

Multiply to find the value of  $y$ .

$$11 \times 1.5 = 16.5$$

**113. (C)** To find the midpoint of a segment, subtract the value on the right from the value on the left and then divide by 2. Then add the result to the value on the left of the segment.

Find the midpoint of  $\overline{PQ}$ .

$$1 - (-3) = 4$$

$$4 \div 2 = 2$$

$$2 + (-3) = -1$$

Find the midpoint of  $\overline{QR}$ .

$$7 - 1 = 6$$

$$6 \div 2 = 3$$

$$3 + 1 = 4$$

The distance between  $-1$  and  $4$  on the number line is 5 units.

---

**114. (F)**  $48 \text{ dollars} \div 16 \text{ cups} = 3 \text{ dollars per cup}$

$$12 \text{ dollars} \div 4 \text{ cups} = 3 \text{ dollars per cup}$$

The constant is the cost per cup (3 dollars).

### Answer Key for Sample Form A

1. C	14. H	27. B	40. E	53. C	66. H	79. A	92. F	105. C
2. E	15. C	28. G	41. C	54. E	67. A	80. F	93. B	106. E
3. C	16. H	29. D	42. G	55. D	68. G	81. B	94. E	107. C
4. E	17. A	30. E	43. B	56. E	69. D	82. E	95. B	108. F
5. C	18. G	31. A	44. E	57. B	70. H	83. B	96. G	109. B
6. E	19. D	32. F	45. D	58. -0.4	71. A	84. H	97. B	110. G
7. A	20. G	33. A	46. E	59. 150	72. H	85. C	98. G	111. B
8. F	21. D	34. H	47. D	60. 2.5	73. D	86. E	99. B	112. G
9. D	22. F	35. C	48. E	61. 5.5	74. H	87. A	100. H	113. C
10. H	23. D	36. H	49. D	62. 1	75. C	88. E	101. C	114. F
11. A	24. E	37. B	50. F	63. A	76. G	89. B	102. H	
12. H	25. B	38. E	51. B	64. G	77. A	90. H	103. B	
13. A	26. E	39. C	52. F	65. B	78. F	91. A	104. E	