Sample Test, Form A
Part 1 — English Language Arts

57 Questions

Revising/Editing

Questions 1–9

IMPORTANT NOTE

The Revising/Editing section (Questions 1-9) is in two parts: Part A and Part B.

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 re-read relevant parts of the sentences or paragraphs, while being mindful of time, before marking the best answer for each question.

1. Read this paragraph.

> (1) Danielle spent several hours preparing for an upcoming audition for a play at the community theater. (2) First she did vocal exercises to practice her diction and projection so that her words would carry clearly throughout the large auditorium. (3) Then she studies the text of the monologue to better understand the emotions, and motivations of the character she plans to portray. (4) Finally she recited her monologue in front of a mirror many times, making slight adjustments and improvements to her performance each time.

How should the paragraph be revised?

A. Sentence 1: Change ***spent*** to **had spent**, AND insert a comma after ***play***.

B. Sentence 2: Change ***did*** to **does**, AND insert a comma after ***projection***.

C. Sentence 3: Change ***studies*** to **studied**, AND delete the comma after ***emotions***.

D. Sentence 4: Change ***recited*** to **recites**, AND delete the comma after ***times***.

2. Read this paragraph.

> The land on Earth has not always been separated into the seven continents, at one time a massive supercontinent, known as Pangaea, covered one-third of Earth's surface. Additionally, the supercontinent was surrounded by ocean waters called Panthalassa, much of which were in Earth's Southern Hemisphere. Geologists believe that the supercontinent split apart over millions of years because of the movement of the tectonic plates that form Earth's crust. In fact, experts predict that over the next 250 million years the movement of the plates will cause the seven continents to merge into a supercontinent again.

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

E. continents. At

F. surface; additionally,

G. Panthalassa. Much

H. crust, in fact,

3. Read this paragraph.

> (1) In 1976 the National Basketball Association (NBA) absorbed several teams of the American Basketball Association (ABA), including the New York Nets, who played in the Long Island area at the time. (2) The owner of the Nets decided to take the team to New Jersey after the team had financial troubles, where the Nets played for thirty-five seasons. (3) The New Jersey Nets had sixteen playoff appearances, including two appearances in the NBA finals. (4) Then in 2012, after a change in ownership, the team returned to New York and began playing under the name the Brooklyn Nets.

Which sentence contains an error in its construction and should be revised?

A. sentence 1

B. sentence 2

C. sentence 3

D. sentence 4

4. Read these sentences.

> (1) Flyby missions near Jupiter have been happening since 1973.
>
> (2) Flyby missions allow scientists to collect data about Jupiter and its moons.

What is the best way to combine the sentences to clarify the relationship between the ideas?

E. While flyby missions near Jupiter have been happening since 1973, scientists collect data about the planet and its moons.

F. Although there have been flyby missions near Jupiter since 1973, they have allowed scientists to collect data about the planet and its moons.

G. Flyby missions near Jupiter, which allow scientists to collect data about the planet and its moons, have been happening since 1973.

H. Flyby missions have been happening near Jupiter, but scientists have been collecting data about the planet and its moons since 1973.

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REVISING/EDITING Part B

DIRECTIONS: Read the text below and answer the questions following it. You will be asked to improve the writing quality of the text and to correct errors so that the text follows the conventions of standard written English. You should re-read relevant parts of the text, while being mindful of time, before marking the best answer for each question.

Cracking the Code

(1) Computer code is part of every electronic interaction, from video games to home thermostats to vehicle GPS systems. (2) Code is a language that computers can interpret, and programmers use it to instruct computers to perform different tasks, such as finding, sorting, or calculating data. (3) People who code have to learn this language. (4) They can construct programs that will perform detailed tasks. (5) The programs can also perform complex tasks.

(6) A coding language uses letters, numbers, and symbols that are arranged in a way that makes sense to a computer. (7) The code that makes up a program tells a computer how to process information. (8) Studying a coding language involves learning the rules for combining phrases and instructions so that they are recognizable to the computer. (9) Once a person understands coding rules, the possibilities for applying them are infinite.

(10) Coding skills are becoming important in many occupational fields. (11) For example, code can be used to create programs to track, analyze, and predict changes in the stock market. (12) Code can also be designed to help doctors track and monitor a patient's health. (13) Jobs that require coding skills are typically higher paying, offering salaries that are up to as much as $22,000 a year more than jobs that do not require coding knowledge.

(14) People have a variety of opportunities to learn how to code. (15) In some schools, young people can study computer science and coding just as they study foreign languages. (16) Computer science teachers can use websites and apps that employ games designed to help everyone understand how code works. (17) Even high school students who do not take computer science can learn coding by attending coding workshops and online classes or by watching tutorials online. (18) After studying the basics of coding, some students may become interested in learning how to create programs, such as games and apps.

(19) The late Steve Jobs, a pioneer in computer technology, once said, "Everybody in this country should learn how to program a computer . . . because it teaches you how to think." (20) Learning to code can seem challenging, but one does not need to become an expert programmer to reap the benefits of understanding this language.

5. What is the best way to combine sentences 3 through 5 to clarify the relationship between ideas?

A. People who code have to learn this language because they can construct programs that will perform detailed and complex tasks.

B. People who code have to learn this language so they can construct programs that will perform detailed or complex tasks.

C. When people who code have to learn this language, it is so they can construct programs that will perform detailed and complex tasks.

D. If people who code have to learn this language, then they can construct programs that will perform detailed as well as complex tasks.

6. Which sentence should follow sentence 5 to best state the main claim in the passage?

E. People should take advantage of opportunities to study and learn basic coding because of its many valuable benefits.

F. People should attempt to understand how code can be used to design programs that are beneficial for a variety of industries and businesses.

G. Schools should offer coding classes because knowing how to code will help students succeed in many types of businesses.

H. Students should prepare for the future job market by studying code and learning how to code programs.

7. Which revision of sentence 10 provides the best transition to the argument in the third paragraph (sentences 10–13)?

A. Learning a coding language may be difficult, but coding skills are becoming important in many occupational fields.

B. Learning a coding language is useful because coding skills are becoming important in many occupational fields.

C. Employers in most industries realize that coding skills are becoming important in many occupational fields.

D. Even though programming is its own unique field, coding skills are becoming important in many occupational fields.

8. Which sentence would best follow sentence 13 and support the ideas in the third paragraph (sentences 10–13)?

E. Experienced programmers, software engineers, and system administrators at large companies can earn well over $100,000 a year.

F. Hospitals, physicians' offices, and pharmaceutical companies are frequently looking to hire people who code to help with a variety of tasks.

G. Many companies are eager to hire employees who have experience in a specific industry as well as knowledge of basic coding.

H. According to a report from a job market analytics firm, almost half of today's jobs paying more than $58,000 a year call for some level of coding ability.

9. Which concluding sentence would best follow sentence 20 and support the argument presented in the passage?

A. People should understand that knowing how to code is becoming an essential requirement for most high-paying jobs.

B. By understanding basic coding concepts, people can participate in an increasingly digital marketplace.

C. Students who want to secure a high-paying job in the technology industry should become proficient in coding.

D. Since coding is a valuable marketplace skill, today's students should begin to write their own computer programs.

READING COMPREHENSION

QUESTIONS 10–57

DIRECTIONS: Read each of the following six texts, and answer the related questions. You may write in your test booklet as needed to take notes. You should re-read 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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A Miracle Mile

1 In the 1950s people compared running one mile in four minutes to scaling Mount Everest and nicknamed the feat a "dream mile." Although such an accomplishment was considered humanly impossible, several elite runners aimed to break that supposedly impenetrable barrier. One of them was a twenty-five-year-old medical student named Roger Bannister.

2 Roger Bannister had tasted failure during the 1952 Olympics. There, he was favored to win the 1,500-meter competition, a distance slightly shorter than a mile, but he finished in a dismal fourth place instead. Bannister's performance was a disappointment for him and his country, Great Britain. Determined to redeem himself, Bannister postponed his plans to retire from racing and focused on the ultimate prize—breaking the four-minute-mile barrier.

3 Bannister attacked the elusive milestone with a positive attitude and logical planning. The amateur athlete decided to use intensive interval training to develop endurance and speed. For these workouts, Bannister ran an interval of ten consecutive laps on a quarter-mile track, aiming for sixty seconds each lap. In between intervals, he let his body recover for two minutes.

4 By early 1954, Bannister had succeeded in lowering his quarter-mile pace to sixty-one seconds, but he had to shave off at least one more second in order to reach his target. Frustrated by the plateau he had reached, Bannister took a break from training and went mountain climbing for three days. The rest from running permitted his muscles to recuperate and left him feeling refreshed. When Bannister returned to the track, he completed ten quarter-mile-long intervals at fifty-nine seconds each. He finally felt prepared to attempt to break the world record.

5 As a member of the Amateur Athletic Association (AAA), Bannister joined the AAA team for a track meet against Oxford University. The event took place on a cinder track in Oxford on May 6, 1954. Bannister and his two AAA teammates, Chris Chataway and Chris Brasher, were close friends and frequent running partners. Chataway and Brasher agreed to help Bannister accomplish his goal by being his "rabbits."

6 In track and field, rabbits are runners who enter the race solely to pace a teammate for a segment of the course. Typically, a runner settles in behind the rabbit and allows the rabbit to set an appropriate tempo. Additionally, by running behind the rabbit, the runner conserves about 15 percent of his or her effort. When the starting pistol fired, Brasher pounced into the lead, and Bannister followed behind his first rabbit.

7 Propelled by the excitement, Bannister lost his instinctive feel for his pace and shouted "Faster!" at Brasher. Brasher, however, remained composed and maintained his current steady but grueling pace, completing the first two laps in a desirable one minute and fifty-eight seconds. Then Chataway surged forward, leading Bannister at this same punishing rate for another lap and a half. At the beginning of the back straightaway of the track, Bannister bolted past Chataway. Bannister said, "I felt that the moment of a lifetime had come. There was no pain, only a great unity of movement and aim." Bannister crossed the finish line in 3 minutes 59.4 seconds. The ecstatic crowd erupted the moment the timekeeper announced the word "three."

8 Soon after Bannister's achievement, four other athletes matched his performance. A new mindset had taken root among runners. Over the years, the record continued to fall. However, the current record, 3 minutes 43.13 seconds, has stood unbroken since 1999. Some question whether this record

represents the limits of human ability. But perhaps there is another Bannister, an athlete who, with willpower and dedication, will accomplish the miraculous.

10. The words "feat," "humanly impossible," and "impenetrable barrier" in paragraph 1 affect the tone of the paragraph because they

E. highlight the idea that only the most skilled runners would be able to run a four-minute mile.

F. emphasize the idea that running a mile in less than four minutes was a seemingly unattainable goal.

G. convey the competitiveness among elite runners to consistently set and break speed records.

H. show the intensity of the training programs athletes endure in order to achieve their goals.

11. How did interval training affect Bannister's performance?

A. It helped him learn how to moderate his pace while running.

B. It helped him understand the importance of running with a team.

C. It helped him improve his pace and stamina while running.

D. It helped him decrease his recovery time after an intense run.

12. Which sentence best supports the idea that Bannister needed an alternative to "logical planning" in order to accomplish his goal?

E. "Bannister's performance was a disappointment for him and his country, Great Britain." (paragraph 2)

F. "The amateur athlete decided to use intensive interval training to develop endurance and speed." (paragraph 3)

G. "For these workouts, Bannister ran an interval of ten consecutive laps on a quarter-mile track, aiming for sixty seconds each lap." (paragraph 3)

H. "Frustrated by the plateau he had reached, Bannister took a break from training and went mountain climbing for three days." (paragraph 4)

13. Which sentence from the passage indicates that Bannister nearly made a mistake that would have cost him the world record?

A. "By early 1954, Bannister had succeeded in lowering his quarter-mile pace to sixty-one seconds, but he had to shave off at least one more second in order to reach his target." (paragraph 4)

B. "When the starting pistol fired, Brasher pounced into the lead, and Bannister followed behind his first rabbit." (paragraph 6)

C. "Propelled by the excitement, Bannister lost his instinctive feel for his pace and shouted 'Faster!' at Brasher." (paragraph 7)

D. "At the beginning of the back straightaway of the track, Bannister bolted past Chataway." (paragraph 7)

14. The phrase "a new mindset had taken root" in paragraph 8 conveys the idea that

E. runners recognized that running a mile in under four minutes was physically possible.

F. breaking the four-minute-mile barrier was no longer considered an impressive feat for elite runners.

G. runners understood how hard they would have to train in order to run a mile in under four minutes.

H. entering races in an attempt to break the four-minute-mile barrier became commonplace for elite runners.

15. Bannister's loss in the 1952 Olympics influenced his decision to pursue breaking the four-minute-mile barrier by

A. allowing him to recognize his weaknesses and improve his running ability.

B. prompting him to take a different approach to his regular training.

C. motivating him to prove to himself that he could set and achieve a goal.

D. giving him the opportunity to reach a goal no runner had ever accomplished.

16. How does the author's use of chronological structure contribute to the development of ideas in the passage?

E. It presents the increasing physical effects of Bannister's intense training methods as he prepared to break the four-minute-mile barrier.

F. It shows the increase in Bannister's confidence in his ability to break the four-minute-mile barrier.

G. It emphasizes the key events in Bannister's life that inspired him to break the four-minute-mile barrier.

H. It highlights the progression of Bannister's training and details about his successful attempt to break the four-minute-mile barrier.

17. Read these sentences from paragraph 7.

> **Bannister said, "I felt that the moment of a lifetime had come. There was no pain, only a great unity of movement and aim."**

The sentences contribute to the development of ideas in the passage by showing that Bannister

A. knew that he was about to achieve the goal he had worked toward.

B. was no longer experiencing personal disappointment from his past failure in the Olympics.

C. felt grateful to his teammates for helping him take the lead.

D. was satisfied that his training had helped him perfect his running technique.

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Ode to Fireworks

In autumn my mother drove us to the edge of the field
where the fair was set up year after year:
the carousel, the bumper cars, the long, low sheds
filled with prizewinning animals.
We—my sister, my cousin, and I—were ready for bed,
already in our pajamas. This was a treat we waited
all year for. We waited in the darkness
for the first low, dull *thwumps*, like someone
beating an old, filthy rug hung on a wash line.
Then we counted the seconds between the lightning
and thunder, as we also used to do, until the sky
lit up: red, blue, green, gold. In my mind's eye
I can still see the straggly, ancient oak whose branches
reached up past the exhibition halls, silhouetted
against the spectrum of stars that cascaded behind it.

It was one thing to look up into the sky
and imagine yourself in it or to make out pictures
among the clouds, which my sister liked to do.
No, I would tell her, that cloud
does *not* look like an elephant, a hat, an umbrella.
But it was another thing to see
the sky at night written upon
with those jewels. (We lived in the country:
night was *night*.) All around us, crickets
stridulated in the stubble of what had been
somebody's cornfield, their song rising and falling.
You could smell winter on the air's edge.

Now, in the city, when the sky dips into shadow
at New Year's or on the Fourth of July, I find myself
craning my neck upward at odd moments.
The city sky is always lit up. This is where we live now,
and it is how we live now, awash in light
of every hue. Everything is a constant celebration:
picking up washing at the cleaner's or stopping by
the corner market for a loaf of heavy bread.
And the music around me is the music of people,
their voices rising and falling in a hundred languages.
But beneath the yellowish glow deep in the sky
of all our city lights pelting out into the universe,
I remember the feel of the pickup truck bumping
across the ridged field, as I kept waiting for those
childhood bursts, watching as they escorted us home.

18. The fireworks in the poem represent the speaker's

E. wish to return to a simpler way of living.
F. bittersweet feelings about leaving the past behind.
G. high expectations for everyday life.
H. reflections on past interactions with relatives.

19. The comparison in lines 8–9 of the poem is used to convey

A. the muffled pounding of explosions in the distance.
B. the way lightning streaks through the clouds.
C. the echoes of thunder on an autumn night.
D. the glow of sparks falling from the sky.

20. Read lines 22–23 from the poem.

> **the sky at night written upon**
> **with those jewels.**

What does the word choice in these lines convey about the speaker?

E. The speaker values material possessions.
F. The speaker imagines that the fireworks are magical.
G. The speaker believes that the country setting is distinctive.
H. The speaker cherishes the memory of seeing fireworks as a child.

21. The use of italics on the word "*night*" in line 24 is most likely intended to emphasize the

A. sense of mystery in the darkness.
B. sense of absolute darkness.
C. speaker's fear of night.
D. speaker's certainty about that night.

22. What is the purpose of the repeated words "rising and falling" in lines 26 and 37?

E. to create a distinction between solitude and meaningful interaction
F. to demonstrate a connection between the speaker's past and present
G. to emphasize the speaker's attention to the surrounding sounds
H. to compare the fireworks to common sights and sounds

23. What impact does the phrase "Everything is a constant celebration" (line 33) have in the poem?

A. It reveals that the speaker finds the city more pleasurable than the country.

B. It suggests that the persistent brightness of the city can be overwhelming to the speaker.

C. It implies that what is normal in the city was unusual in the country.

D. It emphasizes the hectic pace of daily life in the city.

24. Read lines 41–42 from the poem.

> **I kept waiting for those**
> **childhood bursts, watching as they escorted us home.**

How does this memory affect the speaker?

E. The speaker believes it is impossible to ever return to a place in the past.

F. The speaker is still amused by the impatience felt during fireworks displays.

G. The speaker now regrets abandoning the rural way of life.

H. The speaker feels a sense of comfort when reflecting on the past.

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For centuries, scientists were confounded by an animal that seemed to look and act like a combination of a bird, a reptile, and a mammal. It has a bill like a duck and lays eggs but produces milk for its young. It lives in a burrow, has fur, and can make venom. We now know that this animal is called a duck-billed platypus. A platypus is a monotreme, a type of egg-laying mammal.

Excerpt from "Research Riddle Resolved"

1 Hundreds of years after the first sightings of the platypus, the animal still captures our imagination anew and irresistibly attracts the attention of science writers everywhere. The May 2008 *Nature* report detailing the DNA insides of the duck-billed platypus invited colorful tales from just about every mainstream media outlet.

2 But cuteness and weirdness aside, the platypus research results are a gold mine for medical researchers. The findings cement what may have seemed totally obvious but turned out to be a bit of a scientific surprise: platypus DNA is a patchwork of genes from reptiles, birds, and mammals.

Evolution Fusion

3 In other words, the platypus heritage is laid out in an evolutionary DNA tapestry that marks the time, hundreds of millions of years ago, when reptiles and mammals branched off the evolutionary tree.

4 So what? The platypus is nothing like a human, so what can its DNA tell us about people and the diseases we get?

5 Plenty, says an international team of scientists who did this work.

6 The platypus genome results are far more than confirmation of a scientific oddity. They provide researchers a window into a time in history when mammals became unique—gaining the ability to bear live young, produce milk for them, and grow a warm, furry coat.

7 That's important because our own, modern-day genomes are still a big mystery and researchers need much more information to be able to translate our genetic language into useful health knowledge.

8 One of the ways scientists can decipher meaning from within our 3 billion DNA "letters," or nucleotides, is to compare human genes with those from animals, to see what has been kept the same and what has evolved to be different. . . .

Same and Different

9 In an approach called comparative genomics, scientists compare the genome sequences of several species: human, mouse, and a wide variety of other organisms from single-celled fungi to elephants and, now, the platypus.

10 The goal of this research is to find regions of similarity and difference in order to better understand the structure and function of human genes.

11 Comparative genomics is directly related to evolution because all living things share a common ancestor. By using computer tools to examine genes that have been kept the same in many organisms over millions of years, researchers can locate signals that control how genes work. This information may translate into ways to understand, treat, and prevent human diseases. . . .

Chicken or Egg?

12 When researchers analyzed platypus DNA and compared it to that of chickens, snakes, and lizards, the findings traced the evolutionary path from birds and reptiles to mammals. They learned that the platypus lost most of its genetic ability to produce egg yolk—as compared to chicken genes. This suggests its departure from "chicken-ness."

13 But, through evolutionary change, the platypus gained the ability to make milk that is rich in nutrients. Platypuses have genes that make the milk protein casein: just like we do.

14 A male platypus can, like its ancestral snake and lizard cousins, produce venom. The platypus ejects this venom through special glands in its back legs. The evolutionary reason for maintaining such molecular weaponry isn't yet clear, but what is fascinating is that it appears nature mixed and matched together DNA pieces separately to create the venom genes in reptiles and monotremes like the platypus.

15 The scientific value of pinning genetics to physiological function—like milk production—is high. Such investigations may help medical researchers understand health issues related to reproduction and lactation. Although lactation is an ancient reproductive trait, mammals—including the platypus—are unique in their ability to produce milk that is extraordinarily nutritious, containing a rich blend of sugars, fats, and proteins.

16 More generally, though, studying how nature cuts and pastes gene modules gives scientists an inside scoop on how genetic changes relate to health and disease risk.

17 One thing is clear—the stunning blend of reptile, bird, and mammal puts the platypus in a class of its own, and it gives researchers much more: information about how mammals like us came about.

18 [Scientists'] genetic sleuthing of platypuses, chimps, fish, sunflowers—you name it—continues to teach scientists how millions of years of evolution progressed. This provides vital information to understanding the role of genes in the health and disease of mammals like us and our pets, and can also help preserve our rich and diverse planet.

From "Research Riddle Resolved"—Public Domain/National Institutes of Health

25. Read this sentence from paragraph 2.

> **But cuteness and weirdness aside, the platypus research results are a gold mine for medical researchers.**

The sentence contributes to the overall structure of the excerpt by

A. shifting the focus of the excerpt from the platypus's unique appearance to its physiology.

B. highlighting how the platypus's unusual appearance has attracted scientists' attention.

C. revealing current ideas about the genetic background of the platypus.

D. introducing the platypus's scientific significance that the rest of the excerpt develops.

26. The phrase "evolutionary DNA tapestry" in paragraph 3 conveys the idea that the platypus

E. has a rich and diverse genetic history linked to reptiles, birds, and other mammals.

F. was able to develop its mammalian and reptilian traits at different points in time.

G. continues to be the best resource for studying the evolution of animal genomes.

H. is especially useful to researchers because its genes have never been altered.

27. How does paragraph 8 fit into the overall structure of the excerpt?

A. It provides a transition from the discussion of the platypus genome to a discussion on comparative genomics.

B. It introduces the way that scientists solved the problem of how to study complex human genomes through comparative genomics.

C. It contrasts the efforts made to study the different parts of the human genome with the efforts made to study certain animal genomes.

D. It elaborates on the idea that deciphering genetic signals is a rigorous research challenge.

28. Which sentence gives the best summary of the section "Same and Different" (paragraphs 9–11)?

E. The platypus is the most recent of several species whose genomes have been compared with the human genome.

F. Comparative genomics is an effective way to examine a variety of different species, from single-celled organisms to large mammals.

G. Comparing human genes with the genes of other animals and studying which genes are the same across species yield valuable information that may lead to a greater understanding of human disease.

H. Scientists are able to use computers in order to compare and examine evolutionary changes in genes across a number of species, including humans.

29. The details in paragraphs 12–14 about the platypus's different abilities convey a central idea of the excerpt by

A. showing that the platypus has a gene that allows it to produce nutrient-rich milk, as humans do.

B. proving that the platypus, whose DNA is made up of DNA from several other species, has developed venom to defend itself.

C. suggesting that the platypus, while gaining traits in common with mammals and reptiles, has lost some bird-like traits.

D. demonstrating that the platypus has a rare evolutionary background that includes bird, reptile, and mammal DNA.

30. The author elaborates on the idea that creating a full analysis of platypus DNA was an important scientific endeavor mainly through

E. a description of the type of information about human genetics that specialized research can yield.

F. a comparison of the platypus with its closest bird and reptile relatives on the evolutionary tree.

G. the discussion of how unusual the platypus genome is in the animal kingdom.

H. the explanation of how genetics can be aligned to physiological function.

31. How can researching the genomes of other animals inform scientists' understanding of human health and disease?

A. Tracking how other animals evolved over millions of years helps researchers preserve and sustain nature.

B. Finding ways that animal genomes are similar to the human genome helps researchers find signals that control genes.

C. Observing that all living things evolved from a common ancestor helps researchers pinpoint certain genetic traits.

D. Understanding how other animals are similar to one another helps researchers find new ways to understand the human genome.

32. Which sentence from the excerpt best supports the idea that the same DNA material results in the same traits even in different classes of animals?

E. "The findings cement what may have seemed totally obvious but turned out to be a bit of a scientific surprise: platypus DNA is a patchwork of genes from reptiles, birds, and mammals." (paragraph 2)

F. "In other words, the platypus heritage is laid out in an evolutionary DNA tapestry that marks the time, hundreds of millions of years ago, when reptiles and mammals branched off the evolutionary tree." (paragraph 3)

G. "The platypus is nothing like a human, so what can its DNA tell us about people and the diseases we get?" (paragraph 4)

H. "The evolutionary reason for maintaining such molecular weaponry isn't yet clear, but what is fascinating is that it appears nature mixed and matched together DNA pieces separately to create the venom genes in reptiles and monotremes like the platypus." (paragraph 14)

In 1903 brothers Wilbur and Orville Wright conducted various experiments related to flying machines. These experiments would eventually lead to air travel becoming a reliable form of transportation.

Excerpt from "How We Made the First Flight"

by Orville Wright

1 During the night of December 16, 1903, a strong cold wind blew from the north. When we arose on the morning of the 17th, the puddles of water, which had been standing about camp since the recent rains, were covered with ice. The wind had a velocity of 10 to 12 meters per second (22 to 27 miles an hour). We thought it would die down before long, and so remained indoors the early part of the morning. But when ten o'clock arrived, and the wind was as brisk as ever, we decided that we had better get the machine out and attempt a flight. We hung out the signal for the men of the Life Saving Station.[1] We thought that by facing the flyer into a strong wind, there ought to be no trouble in launching it from the level ground about camp. We realized the difficulties of flying in so high a wind, but estimated that the added dangers in flight would be partly compensated for by the slower speed in landing.

Final Preparations

2 We laid the track on a smooth stretch of ground about one hundred feet north of the new building. The biting cold wind made work difficult, and we had to warm up frequently in our living room, where we had a good fire in an improvised stove made of a large carbide[2] can. By the time all was ready, J. T. Daniels, W. S. Dough and A. D. Etheridge, members of the Kill Devil[3] Life Saving Station; W. C. Brinkley of Manteo, and Johnny Moore, a boy from Nags Head,[4] had arrived.

3 We had a "Richard" hand anemometer with which we measured the velocity of the wind. Measurements made just before starting the first flight showed velocities of 11 to 12 meters per second, or 24 to 27 miles per hour. . . .

Audacity—and Calculation

4 Wilbur having used his turn in the unsuccessful attempt on the 14th, the right to the first trial now belonged to me. After running the motor a few minutes to heat it up, I released the wire that held the machine to the track, and the machine started forward in the wind. Wilbur ran at the side of the machine, holding the wing to balance it on the track. Unlike the start on the 14th, made in a calm, the machine, facing a 27-mile wind, started very slowly. Wilbur was able to stay with it till it lifted from the track after a forty-foot run. One of the Life Saving men snapped the camera for us, taking a picture just as the machine had reached the end of the track and had risen to a height of about two feet. The slow forward speed of the machine over the ground is clearly shown in the picture by Wilbur's attitude. He stayed along beside the machine without any effort.

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[1]**Life Saving Station:** one of the rescue stations along the Atlantic coastline that provided assistance to mariners in distress

[2]**carbide:** a very hard material composed of carbon and other heavy metals

[3]**Kill Devil:** the town of Kill Devil Hills in eastern North Carolina

[4]**Nags Head:** a town in eastern North Carolina

Flight

The course of the flight up and down was exceedingly erratic, partly due to the irregularity of the air, and partly to lack of experience in handling this machine. The control of the front rudder was difficult on account of its being balanced too near the center. This gave it a tendency to turn itself when started; so that it turned too far on one side and then too far on the other. As a result the machine would rise suddenly to about ten feet, and then as suddenly dart for the ground. A sudden dart when a little over a hundred feet from the end of the track, or a little over 120 feet from the point at which it rose into the air, ended the flight. As the velocity of the wind was over 35 feet per second and the speed of the machine over the ground against this wind ten feet per second, the speed of the machine relative to the air was over 45 feet per second, and the length of the flight was equivalent to a flight of 540 feet made in calm air. This flight lasted only 12 seconds, but it was nevertheless the first in the history of the world in which a machine carrying a man had raised itself by its own power into the air in full flight, had sailed forward without reduction of speed and had finally landed at a point as high as that from which it started.

From "How We Made the First Flight" by Orville Wright—Public Domain/Federal Aviation Administration

33. How does paragraph 1 introduce the idea that the Wright brothers knew that their flight attempt was risky?

A. through the mention of a signal to notify lifesaving experts that the flight attempt was about to begin

B. by providing specific details about the speed of the wind and the Wright brothers' response to the windy conditions

C. by suggesting that a slower landing would be necessary at the end of the flight in order to maintain safety

D. through the indication that the Wright brothers waited indoors for most of the morning because of the poor weather

34. Read this sentence from paragraph 4.

> **Wilbur having used his turn in the unsuccessful attempt on the 14th, the right to the first trial now belonged to me.**

The sentence contributes to the development of ideas in the excerpt by

E. demonstrating the challenge of the extreme winter conditions during the flight.

F. revealing how many tries it took for Wilbur Wright to finally get the machine to take flight.

G. demonstrating that both Orville and Wilbur Wright were eager to pilot what could potentially be the first flight.

H. suggesting a sense that both brothers felt confident they would soon succeed in completing the first flight.

35. Read this sentence from paragraph 5.

> **This flight lasted only 12 seconds, but it was nevertheless the first in the history of the world in which a machine carrying a man had raised itself by its own power into the air in full flight, had sailed forward without reduction of speed and had finally landed at a point as high as that from which it started.**

The words "only," "nevertheless," and "finally" most clearly convey the idea that

A. even a flight of such minor duration had taken a long time to achieve.

B. the short flight gave the Wright brothers hope for longer ones in the future.

C. the flight proved that the machine was, at last, capable of becoming airborne.

D. although it was brief, the flight was a remarkable accomplishment.

36. Read this sentence from paragraph 5.

> **As the velocity of the wind was over 35 feet per second and the speed of the machine over the ground against this wind ten feet per second, the speed of the machine relative to the air was over 45 feet per second, and the length of the flight was equivalent to a flight of 540 feet made in calm air.**

How does the sentence help convey Orville Wright's perspective about this first flight?

E. It provides evidence that he maintained a scientific approach when attempting flight.

F. It emphasizes that he believed the flight was successful despite its short distance.

G. It provides a comparison between flight distances under calm and high wind conditions.

H. It highlights the importance of such calculations in the success of future flights.

37. How do the details in paragraph 5 about the uneven nature of the flight convey a central idea of the excerpt?

A. by explaining how the flawed design of the machine caused it to turn unpredictably in the air and brought the first flight by a person to an abrupt end

B. by indicating that the difficulty in controlling the flight was caused by the rudimentary instruments of the machine and the inexperience of the pilot

C. by explaining how the pilot and the plane overcame adverse conditions in order to complete the first piloted flight

D. by indicating that the gradual change in wind velocity created an extreme environment in which to maneuver the plane and maintain its flight

38. Which sentence from the excerpt best supports the idea that the Wright brothers had to adapt their flight plans to accommodate the weather conditions?

E. "When we arose on the morning of the 17th, the puddles of water, which had been standing about camp since the recent rains, were covered with ice." (paragraph 1)

F. "We realized the difficulties of flying in so high a wind, but estimated that the added dangers in flight would be partly compensated for by the slower speed in landing." (paragraph 1)

G. "After running the motor a few minutes to heat it up, I released the wire that held the machine to the track, and the machine started forward in the wind." (paragraph 4)

H. "The course of the flight up and down was exceedingly erratic, partly due to the irregularity of the air, and partly to lack of experience in handling this machine." (paragraph 5)

39. The use of chronological structure contributes to the development of ideas in the excerpt by

A. outlining the actions that the Wright brothers took to prepare for and successfully complete the first flight.

B. identifying the primary factors that allowed the Wright brothers to overcome obstacles and achieve the first flight.

C. showing how the Wright brothers applied lessons learned from their previous flight attempts to accomplish the first flight.

D. demonstrating how the Wright brothers analyzed the impact of wind velocity to identify the ideal conditions for the first flight.

Excerpt from *In Search of the Unknown*

by Robert W. Chambers

1 It was at that time the policy of the trustees and officers of the Zoological Gardens neither to employ collectors nor to send out expeditions in search of specimens. The society decided to depend upon voluntary contributions, and I was always busy, part of the day, in dictating answers to correspondents who wrote offering their services as hunters of big game, collectors of all sorts of fauna, trappers, snarers, and also to those who offered specimens for sale, usually at exorbitant rates.

2 To the proprietors of . . . mangy lynxes, moth-eaten coyotes, and dancing bears I returned courteous but uncompromising refusals—of course, first submitting all such letters, together with my replies, to Professor Farrago.

3 One day towards the end of May, however, just as I was leaving Bronx Park to return to town, Professor Lesard, of the reptilian department, called out to me that Professor Farrago wanted to see me a moment; so I . . . retraced my steps to the temporary, wooden building occupied by Professor Farrago, general superintendent of the Zoological Gardens. The professor, who was sitting at his desk before a pile of letters and replies submitted for approval by me, pushed his glasses down and looked over them at me with a whimsical smile that suggested amusement, impatience, annoyance, and perhaps a faint trace of apology.

4 "Now, here's a letter," he said, with a deliberate gesture towards a sheet of paper impaled on a file—"a letter that I suppose you remember." He disengaged the sheet of paper and handed it to me.

5 "Oh yes," I replied, with a shrug; "of course the man is mistaken—or—"

6 "Or what?" demanded Professor Farrago, tranquilly, wiping his glasses.

7 "—Or a liar," I replied.

8 After a silence he leaned back in his chair and bade me read the letter to him again, and I did so with a contemptuous tolerance for the writer, who must have been either a very innocent victim or a very stupid swindler. I said as much to Professor Farrago, but, to my surprise, he appeared to waver.

9 "I suppose," he said, with his near-sighted, embarrassed smile, "that nine hundred and ninety-nine men in a thousand would throw that letter aside and condemn the writer as a liar or a fool?"

10 "In my opinion," said I, "he's one or the other."

11 "He isn't—in mine," said the professor, placidly.

12 "What!" I exclaimed. "Here is a man living all alone on a strip of rock and sand between the wilderness and the sea, who wants you to send somebody to take charge of a bird that doesn't exist!"

13 "How do you know," asked Professor Farrago, "that the bird in question does not exist?"

14 "It is generally accepted," I replied, sarcastically, "that the great auk has been extinct for years. Therefore I may be pardoned for doubting that our correspondent possesses a pair of them alive."

15 "Oh, you young fellows," said the professor, smiling wearily, "you embark on a theory for destinations that don't exist."

16 He leaned back in his chair, his amused eyes searching space for the imagery that made him smile.

17 "Like swimming squirrels, you navigate with the help of Heaven and a stiff breeze, but you never land where you hope to—do you?"

18 Rather red in the face, I said: "Don't you believe the great auk to be extinct?"

19 "Audubon[1] saw the great auk."

20 "Who has seen a single specimen since?"

21 "Nobody—except our correspondent here," he replied, laughing.

22 I laughed, too, considering the interview at an end, but the professor went on, coolly:

23 "Whatever it is that our correspondent has—and I am daring to believe that it *is* the great auk itself—I want you to secure it for the society."

24 When my astonishment subsided my first conscious sentiment was one of pity. Clearly, Professor Farrago was on the verge of dotage[2]—ah, what a loss to the world!

25 I believe now that Professor Farrago perfectly interpreted my thoughts, but he betrayed neither resentment nor impatience. I drew a chair up beside his desk—there was nothing to do but to obey, and this fool's errand was none of my conceiving.

26 Together we made out a list of articles necessary for me and itemized the expenses I might incur, and I set a date for my return, allowing no margin for a successful termination to the expedition.

27 "Never mind that," said the professor. "What I want you to do is to get those birds here safely. Now, how many men will you take?"

28 "None," I replied, bluntly; "it's a useless expense, unless there is something to bring back. If there is I'll wire you, you may be sure."

29 "Very well," said Professor Farrago, good-humoredly, "you shall have all the assistance you may require. Can you leave to-night?"

30 The old gentleman was certainly prompt. I nodded, half-sulkily, aware of his amusement.

31 "So," I said, picking up my hat, "I am to start north to find a place called Black Harbor, where there is a man named Halyard who possesses, among other household utensils, two extinct great auks—"

32 We were both laughing by this time. I asked him why on earth he credited the assertion of a man he had never before heard of.

---

[1]**Audubon:** John James Audubon, an ornithologist and artist who created scientific illustrations of birds

[2]**dotage:** a loss of reasoning brought about by old age

33 "I suppose," he replied, with the same half-apologetic, half-humorous smile, "it is instinct. I feel, somehow, that this man Halyard *has* got an auk—perhaps two. I can't get away from the idea that we are on the eve of acquiring the rarest of living creatures. It's odd for a scientist to talk as I do; doubtless you're shocked—admit it, now!"

34 But I was not shocked; on the contrary, I was conscious that the same strange hope that Professor Farrago cherished was beginning, in spite of me, to stir my pulses, too.

35 "If he has—" I began, then stopped.

36 The professor and I looked hard at each other in silence.

37 "Go on," he said, encouragingly.

38 But I had nothing more to say, for the prospect of beholding with my own eyes a living specimen of the great auk produced a series of conflicting emotions within me which rendered speech profanely superfluous.

From IN SEARCH OF THE UNKNOWN by Robert W. Chambers—Public Domain

40. Read paragraph 2 from the excerpt.

> **To the proprietors of . . . mangy lynxes, moth-eaten coyotes, and dancing bears I returned courteous but uncompromising refusals—of course, first submitting all such letters, together with my replies, to Professor Farrago.**

This paragraph helps develop the plot by establishing that the narrator

E. thinks that writing refusal letters for the animals offered to the zoological society is not necessary.

F. attempts to predict what the professor would say in the refusal letters.

G. believes that many of the animals offered are not acceptable for the zoological society.

H. resents the professor's insistence on reviewing the refusal letters.

41. Read this sentence from paragraph 3.

> **The professor, who was sitting at his desk before a pile of letters and replies submitted for approval by me, pushed his glasses down and looked over them at me with a whimsical smile that suggested amusement, impatience, annoyance, and perhaps a faint trace of apology.**

What does the phrase "a faint trace of apology" convey about the professor?

A. It indicates that the professor feels bad that he has to call the narrator to his office after work.

B. It shows that the professor is hesitant to share his opinions with the narrator.

C. It implies that the professor is uncomfortable criticizing the narrator's work.

D. It suggests that the professor knows that the conversation will be frustrating for the narrator.

42. How does the exchange between the professor and the narrator in paragraphs 8–11 contribute to the development of the excerpt?

E. It establishes the conflict between the professor and the narrator concerning the validity of the letter.

F. It suggests a theme of collaboration because the narrator and the professor regularly work together.

G. It reveals the characters' traits by contrasting the narrator's distrust of the content of the letter with how easily the professor is deceived by what he reads.

H. It hints that the resolution will involve the narrator accepting the professor's opinion about the content of the letter.

43. The professor's observations in paragraphs 15–17 create tension in the excerpt by causing the narrator to feel

A. flustered by the professor's criticism of his logic.

B. annoyed by the professor's sarcasm about his inexperience.

C. confused by the professor's lack of respect for his opinion.

D. frustrated by the professor's lack of interest in his theory.

44. How does the interaction between the narrator and the professor in paragraphs 26–28 contribute to the development of the theme?

E. It illustrates the professor's patience as the narrator argues against making the expedition.

F. It reveals the narrator's frustration with his limited role in making decisions for the zoological society.

G. It emphasizes the professor's desire to acquire new specimens for the zoological society at any cost.

H. It shows the narrator's acceptance of his assignment despite his personal objections.

45. How does the author develop the contrast between the narrator's point of view and the professor's point of view?

A. by providing both the narrator's and professor's thoughts on how age and experience influence each other's reasoning

B. by using the conversation between the narrator and the professor to emphasize their reactions to the letter

C. by describing the professor's persistent efforts to change the narrator's mind about the letter

D. by including dialogue that explains why the professor is the supervisor and the narrator is his subordinate

46. How does paragraph 34 help develop the plot of the excerpt?

E. It shows that the narrator is beginning to consider the possibility of finding the great auks.

F. It demonstrates that the narrator is struggling to understand why the professor thinks the great auks exist.

G. It establishes that the narrator is willing to let the professor overrule him about the great auks.

H. It emphasizes that the narrator feels a sense of urgency to begin an expedition to locate the great auks.

47. Which sentence best demonstrates the professional relationship between the narrator and the professor?

A. "I said as much to Professor Farrago, but, to my surprise, he appeared to waver." (paragraph 8)

B. "Clearly, Professor Farrago was on the verge of dotage—ah, what a loss to the world!" (paragraph 24)

C. "I drew a chair up beside his desk—there was nothing to do but to obey, and this fool's errand was none of my conceiving." (paragraph 25)

D. " 'Very well,' said Professor Farrago, good-humoredly, 'you shall have all the assistance you may require.' " (paragraph 29)

48. Which sentence from the excerpt best explains why the professor is eager to send the narrator on an expedition?

E. " 'Whatever it is that our correspondent has—and I am daring to believe that it *is* the great auk itself—I want you to secure it for the society.' " (paragraph 23)

F. " 'What I want you to do is to get those birds here safely.' " (paragraph 27)

G. " 'I suppose,' he replied, with the same half-apologetic, half-humorous smile, 'it is instinct.' " (paragraph 33)

H. " 'I can't get away from the idea that we are on the eve of acquiring the rarest of living creatures.' " (paragraph 33)

CONTINUE ON TO THE NEXT PAGE ►

Is It Time for Term Limits?

1 In 1799, when George Washington's supporters asked him to consider serving a third term as president of the United States, he declared, "Prudence on my part must arrest any attempt at the well meant, but mistaken views of my friends, to introduce me again into the Chair of Government." Even though some of his contemporaries advocated for a lifetime appointment for presidents, Washington thought that government officials should not seek to gain unfair power. Only one president has been elected to four terms: Franklin Delano Roosevelt. He was elected to a third term in 1940 and a fourth in 1944 due to the challenges of the Great Depression and World War II. This departure from the rule worried some, and on March 21, 1947, Congress passed the Twenty-Second Amendment to the Constitution, legally limiting the office of president to two four-year terms.

2 Presidential terms are clearly limited in the Constitution, but for people serving in Congress, this is not the case. Currently, members of the House of Representatives, who serve two-year terms, and Senators, who serve six-year terms, can run for reelection an unlimited number of times. Because of the possibility of unlimited reelections, many people are beginning to believe that limiting congressional terms would benefit our government. Modern surveys conducted by multiple firms consistently show that American citizens of a variety of backgrounds and political leanings approve of the idea of setting term limits for members of Congress.

3 American citizens are not the only supporters of term limits for Congress. Even some members of Congress themselves have spoken out in support of this change. Former Senator Joe Lieberman, upon his retirement, suggested that Congress "might be healthier and less partisan[1] and less rigid if it turned over more often, and term limits are one way to do that." Michael Olson and Jon Rogowski state in their article "Legislative Term Limits and Polarization" that "proponents of term limits argue that limiting the number of terms legislators can serve in office would reduce the level of partisan conflict, encourage compromise and cooperation, and improve the quality of representation."

4 Experienced politicians certainly can build on years of knowledge, but term limit supporters point out that career politicians may base key decisions on their own personal long-term goals. In the article "'Term Limitations and the Myth of the Citizen-Legislator," author Elizabeth Garrett states that "under term limits, a careerist needs to move up the political opportunity structure to remain in elected office, but the probability of unimpeded upward movement decreases as the number of available positions that are perceived as advancements decline."

5 While challenging the career politician's path is seen as a benefit to term limit supporters, there is a possibility that a Congress mostly composed of newcomers could severely affect policy making. Experienced politicians have a deep knowledge of congressional processes, and in addition, politicians who have served together for extended periods have a chance to develop trusting relationships, even across party lines. Molly Reynolds, a congressional expert for the Brookings Institution, says that members who are restricted by term limits "have neither the time nor the incentive to develop the relevant expertise they need to be good at their jobs. If members don't have that expertise themselves, they're more likely to rely on outsiders, including lobbyists, to replace that expertise."

6 In fact, first-time politicians' susceptibilities to lobbyists, or groups seeking to influence legislators, have actually been put to the test on the state level. In 2006, the National Conference of State Legislators Study revealed that term limits may increase the influence of lobbyists. In the 1990s, more

[1] **partisan:** showing a strong and sometimes blind adherence to a particular political party

than twenty states implemented term limits within their state governments. The inexperienced state lawmakers began depending on special-interest groups for their expertise on issues. In the end, many people believed that implementing term limits in the state legislature caused problems, and since then, six states have repealed the limits.

7 Additionally, those who oppose term limits maintain that the turnover rate in Congress is sufficient. Thomas E. Mann, Senior Fellow in governance studies at the Brookings Institution, notes that every decade, new members replace at least half the members of the House and the Senate, due to retirement or elections. Still, the average length of time in office has mushroomed. For example, the 65th Congress (1917–1919) had an average service time of 5.3 years for members of the House of Representatives and 5.7 years for Senate members. The 114th Congress (2015–2017) had an average of 8.8 years for members of the House and 9.7 years for senators.

8 Should Congress pass a constitutional amendment to institute congressional term limits? Perhaps one day people will have a chance to vote on the issue.

PERCENTAGE OF REPRESENTATIVES AND SENATORS REELECTED

	Year	Percentage Reelected
House of Representatives Total seats: 435	1950	83.2
	1978	82.3
	1998	90.8
	2016	87.4

	Year	Percentage Reelected
Senate Total seats: 100	1950	68.8
	1978	60.0
	1998	89.7
	2016	93.1

49. What is the best summary of the discussion of congressional term policy outlined in paragraph 2?

A. While all members of Congress can be reelected an unlimited number of times, members of the House of Representatives and of the Senate serve different term lengths; this inequity has become troubling to many American citizens in recent years.

B. The discrepancy between the president having term limits and members of Congress having unlimited terms has come to seem like a governmental flaw to many American citizens, and this flaw could be remedied by imposing congressional term limits.

C. Support for congressional term limits is increasing, as shown by recent surveys indicating that American citizens of different backgrounds and political beliefs are beginning to favor implementation of term limits for members of Congress.

D. While the Constitution sets a term limit for the office of president, no such limit exists for members of Congress; however, recent surveys show that many American citizens are now in favor of term limits for members of Congress.

50. Which sentence from the passage supports the idea that congressional term limits would "benefit our government" (paragraph 2)?

E. "Currently, members of the House of Representatives, who serve two-year terms, and Senators, who serve six-year terms, can run for reelection an unlimited number of times." (paragraph 2)

F. "Modern surveys conducted by multiple firms consistently show that American citizens of a variety of backgrounds and political leanings approve of the idea of setting term limits for members of Congress." (paragraph 2)

G. "Former Senator Joe Lieberman, upon his retirement, suggested that Congress 'might be healthier and less partisan and less rigid if it turned over more often, and term limits are one way to do that.' " (paragraph 3)

H. "Thomas E. Mann, Senior Fellow in governance studies at the Brookings Institution, notes that every decade, new members replace at least half the members of the House and the Senate, due to retirement or elections." (paragraph 7)

51. The quotations in paragraph 3 convey a central idea of the passage by

A. emphasizing some of the possible effects term limits would have on how Congress functions.

B. showing that both politicians and law experts have strong opinions about congressional term limits.

C. suggesting that citizens defer to career politicians and law experts on issues such as congressional term limits.

D. implying that term limits would affect the ways that members of Congress campaign and vote.

52. Read this sentence from paragraph 5.

> **While challenging the career politician's path is seen as a benefit to term limit supporters, there is a possibility that a Congress mostly composed of newcomers could severely affect policy making.**

Which statement best describes how the sentence fits into the overall structure of the passage?

E. It provides evidence for the idea that term limits are controversial.

F. It summarizes the consequences of having term limits.

G. It begins to explore the effects of instituting term limits.

H. It shifts from the arguments for to the arguments against term limits.

53. According to paragraph 5, serving more terms improves politicians' effectiveness by

A. motivating them to learn the congressional processes necessary to create legislation.

B. encouraging them to collaborate with politicians of the opposing party in order to pass legislation.

C. allowing them to gain expertise and develop strong political relationships.

D. enabling them to create new policies while fostering their own careers.

54. According to the passage, why would setting term limits for members of Congress potentially increase the influence of special-interest groups?

E. Term limits would lead to a greater number of new representatives who rely on guidance and support from special-interest groups early in their terms.

F. Term limits would create a situation in which special-interest groups have to work more closely with the new representatives who replace experienced representatives.

G. Term limits would force experienced representatives out of their seats and bring in new representatives who focus on the agendas of special-interest groups.

H. Term limits would result in both new and experienced representatives looking to special-interest groups in order to influence decisions made in legislature.

55. The author of the passage develops the idea that congressional term limits might have negative effects mainly by

A. describing the amount of time it takes for new representatives to build connections with experienced representatives.

B. explaining why members of Congress need experience in order to govern well.

C. illustrating the various ways lobbyists seek to influence the decisions of new members of Congress.

D. revealing the statistics on the turnover rates for representatives.

56. With which statement would the author of the passage most likely agree?

E. The expertise of lawmakers should outweigh other considerations when it comes to deciding about term limits.

F. The decision to institute term limits for Congress is the most pressing issue facing American voters today.

G. There are compelling reasons both for and against setting term limits for Congress.

H. Special-interest groups are likely to have a huge influence on whether term limits are set.

57. The tables at the end of the passage contribute to the development of ideas in paragraph 7 by

A. highlighting the idea that the number of members of Congress who are reelected in each election has increased substantially since 1950.

B. demonstrating that the number of times members of Congress are reelected throughout their careers has shifted since 1950.

C. showing that the reelection rate in the Senate differs from the reelection rate in the House.

D. emphasizing the fact that the Senate has fewer seats but a greater reelection rate than the House.

CONTINUE ON TO THE NEXT PAGE ►

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 ON TO THE NEXT PAGE ►

GRID-IN QUESTIONS

QUESTIONS 58–62

DIRECTIONS: Solve each question. 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. Ms. Li opened a retirement account with a deposit of \$2,500. This account earns 4% simple interest annually. How many years will it take her to earn \$500 on her \$2,500 deposit?

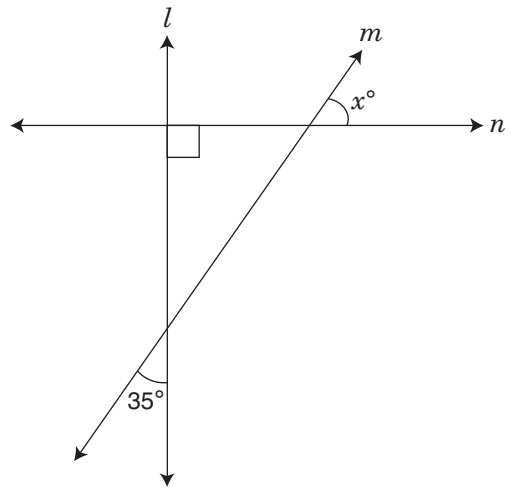
59. $$6 - 9 \div |-3| + (-2)^3 \times 1\frac{1}{2}$$

What is the value of the expression shown above?

60. Solve for x:

$$7x + 3 - 2(2x + 1) = 13$$

61.



In the figure above, line l is perpendicular to line n. What is the value of x?

62. The mean value of 8 numbers is 17. Three of these numbers (9, 11, and 20) are discarded. What is the mean of the 5 remaining numbers?

MULTIPLE CHOICE QUESTIONS

QUESTIONS 63–114

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

63. $3^4 + 7^4 =$

A. 40
B. 370
C. 2,482
D. 10,000

64. In one week, $1\frac{3}{4}$ inches of rain fell on Monday, $2\frac{2}{3}$ inches fell on Tuesday, and $\frac{7}{8}$ inch fell on Wednesday. How many inches of rain fell during those three days?

E. $5\frac{7}{24}$
F. $5\frac{1}{24}$
G. $3\frac{4}{5}$
H. $3\frac{1}{2}$

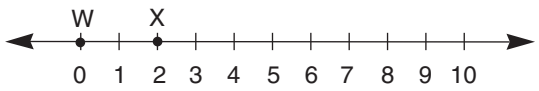
65. An alarm bell will ring when the pressurized gas in a cylinder reaches an internal pressure that is 215% of the maximum allowable pressure. If the maximum allowable pressure is 220 pounds per square inch, at what pressure, in pounds per square inch, will the alarm bell ring?

A. 235
B. 435
C. 473
D. 583

66. A revolving sign makes 1 complete revolution every 90 minutes. If the sign starts moving at 2:30 p.m., at what time will the sign complete 8 revolutions?

E. 1:00 a.m.
F. 2:30 a.m.
G. 4:00 p.m.
H. 12:00 midnight

67.



Points Y and Z are not shown on the number line above. If X is the midpoint of $\overline{WY}$, and Y is the midpoint of $\overline{WZ}$, where on the number line would point Z be located?

A. 2
B. 4
C. 6
D. 8

68. $$\frac{81}{10} = \frac{9}{n}$$

What value of n makes the equation above true?

E. 1

F. $1\frac{1}{9}$

G. 5

H. $10\frac{1}{9}$

69. If n is an integer and $3n + 3$ is an even number, which expression must also represent an even number?

A. $5n + 1$

B. $4n + 5$

C. $2n + 3$

D. $n + 2$

70. The product of two positive integers is 65. Which number could be the sum of the two integers?

E. 5
F. 18
G. 24
H. 52

71. If n is an odd integer that is less than -3.25, what is the **greatest** possible value of n?

A. -1

B. -2

C. -3

D. -5

72. Mikah's history assignment is to read 420 pages. He planned to do the assignment in 6 hours. He read the first 160 pages in 2 hours. What is the mean number of pages he must read per hour during the next 4 hours in order to complete the assignment according to plan?

E. 60
F. 65
G. 70
H. 75

73. Between which two consecutive integers is the fraction $\frac{29}{7}$?

A. 2 and 3
B. 3 and 4
C. 4 and 5
D. 5 and 6

74.

DOWNTOWN BUILDING CONDITIONS

Condition	Number of Buildings	Percentage of Total
Excellent	78	33.6%
Good	69	29.7%
Fair	70	30.2%
Poor	11	6.7%
Dilapidated	4	1.7%
Total	**232**	**99.9%**

One number in the percentage column is incorrect. Which change needs to be made?

E. Change "Excellent" to 36.6%.
F. Change "Good" to 32.7%.
G. Change "Fair" to 33.2%.
H. Change "Poor" to 4.7%.

75. Joseph is 5 feet 9 inches tall, and Roberto is 6 feet 4.5 inches tall. What is the difference in height, in inches, between Roberto and Joseph?

A. 4.5
B. 5.5
C. 6.5
D. 7.5

76. $x{:}35 = 20{:}28$

For what value of x is the proportion shown above true?

E. 27
F. 25
G. 16
H. 13

77. $$\frac{3^2 + (-8)^2 + 2^2}{(3 - 8 + 2)^2} =$$

A. -60
B. $-\frac{17}{3}$
C. $\frac{77}{9}$
D. 68

78. Anya contributed \$1,200 toward the purchase of a \$2,000 computer. Her brother contributed \$240 toward the same computer. Her parents provided the rest of the money for the computer. What percentage of the total cost of the computer did Anya's parents pay?

E. 24%
F. 28%
G. 32%
H. 36%

79. The numbers m, n, p, and q are different, and each is equal to one of the numbers 1, 2, 3, 6, or 12. If $2m = 6q = \frac{1}{2}n = p$, what is the value of p?

A. 2
B. 3
C. 6
D. 12

80. $\{0.1, 0.01, 0.001, 0.0001, 0.00001\}$

If a person chooses a number at random from the set above, what is the probability that the number is less than 0.005?

E. $\frac{1}{5}$

F. $\frac{2}{5}$

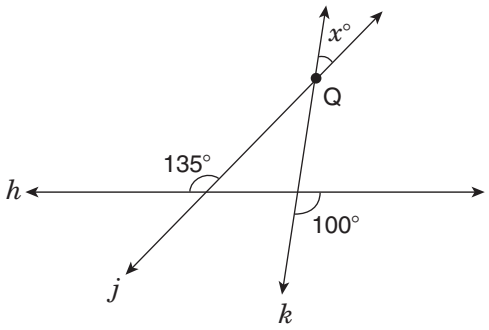
G. $\frac{3}{5}$

H. $\frac{2}{3}$

81. Lemont answered 6 out of 40 questions on a test incorrectly. What percentage of the questions did he answer correctly?

A. 85%
B. 67%
C. 34%
D. 15%

82.



Lines j and k intersect at point Q, and h is a straight line. What is the value of x?

E. 55
F. 45
G. 35
H. 30

83. Which statement **must** be true if x is a whole number greater than or equal to 1?

A. $\frac{1}{x+1} > \frac{1}{x+2}$

B. $\frac{1}{x+1} < \frac{1}{x+2}$

C. $\frac{1}{x+1} - \frac{1}{x+2} > 1$

D. $\frac{1}{x+1} - \frac{1}{x+2} > \frac{1}{x}$

84. A basket contains red balls, green balls, and white balls. There are 12 red balls in the basket. The probability of randomly choosing a red ball is 1 in 3. If the probability of randomly choosing a green ball is 1 in 4, how many green balls are in the basket?

E. 3
F. 8
G. 9
H. 16

85. It took Lars 2 hours to ride his bicycle 48 kilometers. What was his average speed in **miles per hour**? (Use the approximation 1 mile = 1.6 kilometers.)

A. 1.5
B. 15.0
C. 30.0
D. 38.4

86. Integer x is evenly divisible by 3. Which expression below is also evenly divisible by 3?

E. $2x + 1$

F. $3x - 5$

G. $4x - 1$

H. $4x + 6$

87. Lamel has a jar containing 6 red chips, 10 blue chips, and 4 yellow chips. If he removes one chip at random, what is the probability that it will **not** be red?

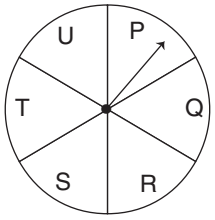
A. $\frac{4}{5}$

B. $\frac{7}{10}$

C. $\frac{3}{10}$

D. $\frac{1}{5}$

88.



The arrow starts on Space P and moves clockwise around the circle. It moves through one space each minute. What space will the arrow point to in 100 minutes?

E. R
F. S
G. T
H. U

89. Mei-Ling is one of 6 members of a committee. If 2 members of that committee are selected to go to a conference, how many of the possible pairs of members would include Mei-Ling?

A. 5
B. 6
C. 10
D. 12

90. If $m = 5$ and $t = -1$, what is the value of $\frac{6 - 8(2 - t)}{2m + 4(3 - m)}$?

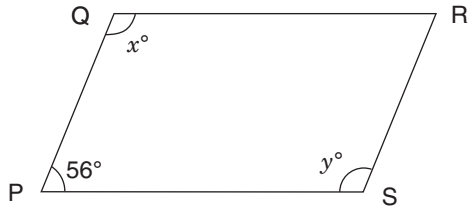
E. -9

F. -1

G. 1

H. 9

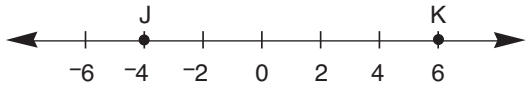
91.



In the parallelogram above, what is the value of $x + y$?

A. 112
B. 124
C. 148
D. 248

92.



On the number line above, point L (not shown) is located on line segment JK so that $JL = \frac{2}{3}LK$. What is the position of point L?

E. -2

F. 0

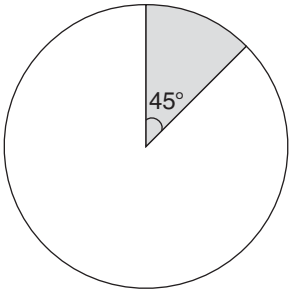
G. 2

H. 4

93. Josef and Mai divided some stamps between themselves. Josef got 60% of the stamps. If Josef received 500 more stamps than Mai, how many stamps did Josef receive?

A. 300
B. 800
C. 1,500
D. 2,500

94.



The shaded sector of the circle shown above has an area of 18π square feet. What is the **circumference** of the circle?

E. 144π ft

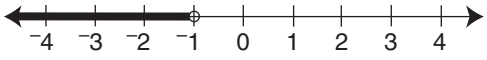
F. 24π ft

G. 18π ft

H. 9π ft

95. Which graph represents the solution to $-3x - 7 > -4$?

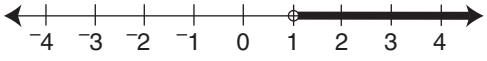
A.



B.

C.

D.



96. A scientist mixed three chemicals, R, S, and T, in a glass container. The amount of R is 3 times the amount of S, and the amount of T is $\frac{1}{6}$ the amount of S. What is the ratio of the amount of R to the amount of T?

E. 1:18
F. 2:1
G. 3:1
H. 18:1

97. Ken has k video games, and Jeff has j video games. If Ken gives 6 video games to Jeff, Ken will have twice as many video games as Jeff. Which equation shows the relationship between k and j?

A. $k - 6 = 2(j + 6)$
B. $k - 6 = 2j + 6$
C. $2(k - 6) = j$
D. $2(k - 6) = j + 6$

98. Yesterday Sarah read 15% of her entire book. Today she read another 17% of the entire book. In lowest terms, what fraction of the book is left for her to read?

E. $\frac{7}{25}$
F. $\frac{3}{10}$
G. $\frac{17}{25}$
H. $\frac{7}{10}$

99. $\{1, 2, 3, 4, 5, \ldots, 198, 199, 200\}$

How many members of the set shown above are multiples of 6 but **not** multiples of 9?

A. 11
B. 13
C. 20
D. 22

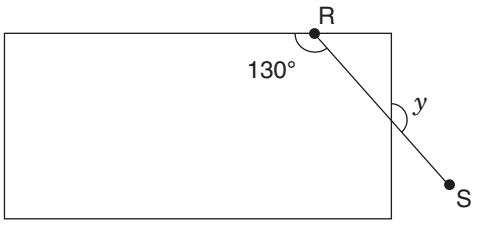
100. Kim jogs 8 kilometers in 1 hour 40 minutes. At that rate, how many **meters** does she jog per minute?

E. 0.08
F. 80
G. 800
H. 8,000

101. For what value of x is the equation $\frac{x}{5} - 4 = 3(4 - 2x) - 1$ true?

A. $\frac{75}{11}$
B. $\frac{75}{31}$
C. $\frac{15}{7}$
D. $\frac{65}{31}$

102.



The diagram above shows line segment RS intersecting a rectangle. What is the measure of angle y?

E. 140°
F. 130°
G. 50°
H. 40°

103.

ESSAY LENGTH

Number of Words	Number of Essays
<100	6
100–250	4
251–500	11
>500	9

All 150 students in Grade 8 at a school are assigned to write an essay on the same topic. A teacher records the number of words in a random sample of the essays, as shown in the table above. Based on this sample, how many students in the entire grade would be expected to write essays with **at least** 100 words?

A. 20
B. 30
C. 100
D. 120

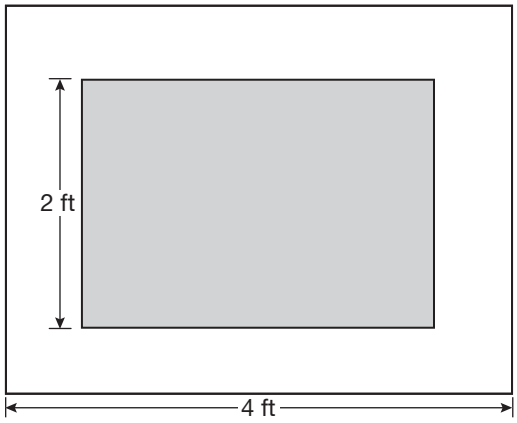
104. Which percentage is closest in value to 0.0099?

E. 0%
F. 0.1%
G. 1%
H. 100%

105. Anita played 3 games and had a mean score of 140. Tariq played 2 games and had a mean score of 90. What was the mean of the scores for all 5 of these games?

A. 100
B. 115
C. 120
D. 230

106.



In the figure above, the shaded rectangle is similar to the outer rectangle. The length of the outer rectangle is 4 feet, and the perimeter of the outer rectangle is 14 feet. If the width of the shaded rectangle is 2 feet, what is the area of the shaded rectangle?

E. $5\frac{1}{3}$ sq ft

F. 6 sq ft

G. $9\frac{1}{3}$ sq ft

H. 12 sq ft

107. A rectangular concrete driveway is 30 feet long, 8 feet wide, and 6 inches thick. What is the volume of the concrete?

A. 44 cu ft
B. 48 cu ft
C. 120 cu ft
D. 240 cu ft

108. The greatest common factor of 24 and x is 8. How many possible values for x are greater than 10 and less than 70?

E. 8
F. 7
G. 6
H. 5

109. Vicente and Carla each ran 8 laps around a track. They started at the same time and place. If Vicente ran 1.5 times as fast as Carla, how many laps did Carla have left to finish when Vicente finished his 8th lap?

A. $2\frac{1}{2}$

B. $2\frac{2}{3}$

C. $3\frac{1}{3}$

D. $5\frac{1}{3}$

110. At West College, students are randomly assigned to one of 20 dormitories and one of 6 dining rooms. Kharleen likes 6 of the dormitories and 2 of the dining rooms. What is the probability that she is assigned to both a dormitory and a dining room that she likes?

E. 10%
F. 12%
G. 19%
H. 38%

111. A train travels 2,200 miles from Phoenix to New York City. The train covers the first 240 miles in 5 hours. If the train continues to travel at this rate, how many **more** hours will it take to reach New York City? Round your answer to the nearest whole hour.

A. 46
B. 45
C. 43
D. 41

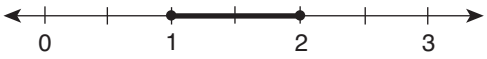
112. What is the **least** of four consecutive integers whose sum is 58?

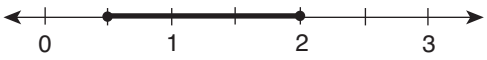
E. 1
F. 2
G. 12
H. 13

113.

If all possible values of x are indicated by the shaded part of the number line above, which number line best shows all possible values of $\frac{1}{x}$?

A.

B.


C.


D.

114. Chanelle selects a marble from a container and then returns it to the container. When she does this 3 times, the probability of choosing a red marble all 3 times is $\frac{1}{216}$. Based on this information, what is the probability of Chanelle choosing a red marble the **first** time she selects a marble?

E. $\frac{1}{72}$
F. $\frac{1}{36}$
G. $\frac{1}{8}$
H. $\frac{1}{6}$