Chapter 24
Practice Test 3

Reading Test

65 MINUTES, 52 QUESTIONS

Turn to Section 1 of your answer sheet to answer the questions in this section.

DIRECTIONS

Each passage or pair of passages below is followed by a number of questions. After reading each passage or pair, choose the best answer to each question based on what is stated or implied in the passage or passages and in any accompanying graphics (such as a table or graph).

Questions 1-10 are based on the following passage.

The passage that follows is adapted from a 1907 novel that follows the actions of an English baronet who, using a secret identity, leads a group of wealthy Englishmen in daring rescues of members of the French aristocracy during the Reign of Terror.

Sir Andrew's face had become almost transfigured. His eyes shone with enthusiasm; hero-worship, love, admiration for his leader seemed literally to glow upon his face. "The Scarlet Pimpernel, Mademoiselle," he said at last "is the name of a humble English wayside flower; but it is also the name chosen to hide the identity of the best and bravest man in all the world, so that he may better succeed in accomplishing the noble task he has set himself to do."

"Ah, yes," here interposed Comtesse's son, "I have heard speak of this Scarlet Pimpernel. They say in Paris that every time a royalist escapes to England that devil, the Public Prosecutor, receives a paper with that little flower designated in red upon it. . . . Yes?"

"Yes, that is so," assented Lord Antony.

"Then he will have received one such paper to-day?"

"Undoubtedly."

"Oh! I wonder what he will say!" said Suzanne, merrily. "I have heard that the picture of that little red flower is the only thing that frightens him."

"Ah, monsieur," sighed the Comtesse, "it all sounds like a romance, and I cannot understand it all."

"Why should you try, Madame?"

"But, tell me, why should you and your leader spend your money and risk your lives when you set foot in France, all for us French men and women, who are nothing to you?"

"Sport, Madame la Comtesse, sport," asserted Lord Antony, with his jovial, loud and pleasant voice; "we are a nation of sportsmen, you know, and just now it is the fashion to pull the hare from between the teeth of the hound."

"Ah, no, no, not sport only, Monsieur . . . you have a more noble motive, I am sure, for the good work you do."

"Faith, Madame, I would like you to find it then . . . as for me, I vow, I love the game, for this is the finest sport I have yet encountered.—Hair-breadth escapes . . . the devil's own risks!—Tally ho!—and away we go!"

But the Comtesse shook her head, still incredulously. To her it seemed preposterous that these young men and their great leader, all of them rich, probably wellborn, and young, should for no other motive than sport, run the terrible risks, which she knew they were constantly doing. Their nationality, once they had set foot in France, would be no safeguard to them. Anyone found harboring or assisting suspected royalists would be ruthlessly condemned and summarily executed, whatever his nationality. And this band of young Englishmen had, to her own knowledge, bearded the implacable and bloodthirsty tribunal of the Revolution, within the very walls of Paris itself, and had snatched away condemned victims, almost from the very foot of the guillotine. With a shudder, she recalled the events of the last few

CONTINUE

days, her escape from Paris with her two children, all three of them hidden beneath the hood of a rickety cart, and lying amidst a heap of turnips and cabbages, not daring to breathe, whilst the mob howled outside.

It had all occurred in such a miraculous way; she and her husband had been placed on the list of "suspected persons," which meant that their trial and death were but a matter of days—of hours, perhaps.

Then came the hope of salvation; the mysterious epistle, signed with the enigmatical scarlet device; the clear, peremptory directions; the parting from the Comte de Tournay, which had torn the poor wife's heart in two; the hope of reunion; the flight with her two children; the covered cart; that awful hag driving it, who looked like some horrible demon, with the ghastly trophy on her whip handle!

The Comtesse looked round at the quaint, old-fashioned English inn, the peace of this land of civil and religious liberty. She closed her eyes to shut out the haunting vision of that West Barricade, and of the mob retreating panic-stricken when the old hag spoke of the plague.

Every moment under that cart she expected recognition, arrest, herself and her children tried and condemned, and these young Englishmen, under the guidance of their brave and mysterious leader, had risked their lives to save them all.

And all only for sport? The Comtesse's eyes as she sought those of Sir Andrew plainly told him that she thought that *he* at any rate rescued his fellowmen from terrible and unmerited death, through a higher and nobler motive than his friend would have her believe.

1

The passage as a whole is primarily concerned with

A) considering the reasons behind a set of exploits.

B) examining the causes of a revolution.

C) comparing the self-confidence of two different men.

D) questioning the ruthlessness of a government.

2

Based on the information in the passage, it can be inferred that the when the Comtesse escaped, the people in the nearby crowd did not approach her cart because

A) the cart was moving too quickly.

B) they feared arrest and death by guillotine.

C) the woman driving the cart was known to be violent.

D) they were afraid of contracting a disease.

3

Which choice provides the best evidence for the answer to the previous question?

A) Lines 51-55 ("And this . . . guillotine")

B) Lines 65-70 ("Then came . . . children")

C) Lines 70-72 ("the covered . . . handle")

D) Lines 75-78 ("She . . . plague")

4

As used in line 14, "designated" most nearly means

A) budgeted.

B) chosen.

C) classed.

D) illustrated.

5

In context, the phrase "pull the hare from between the teeth of the hound" (lines 32-33) refers chiefly to

A) dangerous English hunting customs.

B) plans to avenge the deaths of innocent Englishmen.

C) delivering members of the French aristocracy from harm.

D) the cruelty of French nobles toward revolutionaries.

CONTINUE

6

Which choice provides the best evidence for the answer to the previous question?

A) Lines 37-40 ("Faith . . . go")

B) Lines 46-48 ("Their nationality . . . them")

C) Lines 48-51 ("Anyone . . . nationality")

D) Lines 61-64 ("It had . . . perhaps")

7

In lines 41-46, the Comtesse is best described as

A) critical.

B) anxious.

C) relieved.

D) perplexed.

8

As used in line 52, "bearded" most nearly means

A) camouflaged.

B) braved.

C) embellished.

D) masked.

9

Lines 73-78 provide a contrast between

A) tranquility and turmoil.

B) traditionalism and modernity.

C) freedom and ignorance.

D) austerity and hysteria.

10

The use of italics in line 86 primarily serves to emphasize a perceived distinction between

A) the reasons behind one man's actions and those behind his companions' actions.

B) the effectiveness of two different methods of carrying out the same plan.

C) honest, noble motivations for rescue and rescue for monetary gain.

D) a desire for adventure and a desire for public admiration and praise.

CONTINUE

Questions 11-21 are based on the following passage and supplementary material.

This passage is adapted from Daniel J. Boorstin, *The Creators: A History of Heroes of the Imagination.* © 1992 by Daniel J. Boorstin.

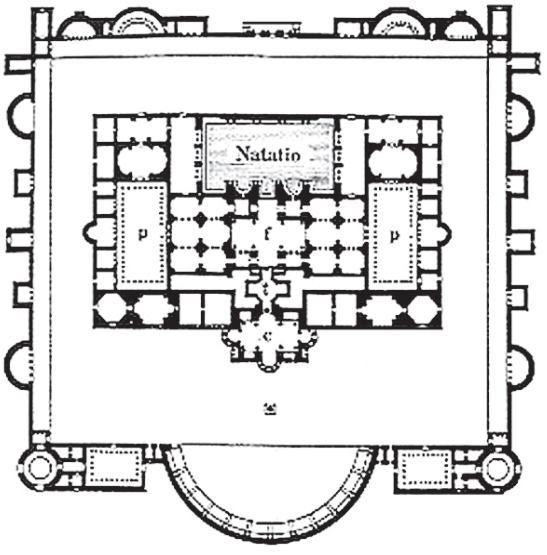
The great works of Greek temple architecture were made to be viewed from the outside, not to be experienced from within. In one of the grand revisions of the creative imagination, the Romans would change all this. They built an architecture of interiors, of vast enclosed spaces. And this was a new kind of space—within arches, vaults, and domes, in omnipresent dominating curves, where walls became ceilings, and ceilings reached up to the heavens. The artificial world, the world of interiors that architects would make for man, was transformed into a new curvesomeness. The classic Greeks had gathered out in the open air. Roman architecture brought people indoors to share their public and exchange their private concerns.

This grand Roman innovation in architecture would be accomplished in two centuries as the essential ingredient, concrete, was perfected gradually by trial and error.

The Roman Empire had brought cities into being and created a far-flung urban culture with common needs. And the new architectural creations arose from the needs of these Roman cities. While the glory of classic Greek architecture was in its temples to gods and civic deities, the grandeur of Roman architecture began in the public baths. How and why Romans acquired their mania for public baths remains a mystery. But its signs were everywhere.

Some of the earliest were the grand Stabian baths of the second century B.C. at Pompeii, with elegant arches and a soaring conical dome topped by a central opening that anticipated one of the most appealing features of the Pantheon three centuries later. Grand public bath buildings sanitized and enriched urban life all across the Roman provinces. Besides the *balneum,* or private bath, found in the town houses and country villas of wealthy Romans, there were the *thermae*, or public baths. Some historians count these among "the fairest creations of the Roman Empire." During the second century B.C. they multiplied at a great rate in Rome. It became common for a public-spirited citizen to make a gift of a public bath building to his neighborhood. Others were built commercially by contractors who hoped to make a profit from admission fees. Agrippa's census (33 B.C.) counted 170 such establishments in Rome, and a century later Pliny the Elder (23 A.D.–79 A.D.) had to give up counting. Soon there were nearly a thousand. When Pliny the Younger arrived for a brief stay at his country villa near Ostia, and did not want to fuel his own furnaces, he found "a great convenience" in the three public baths in the neighboring village.

The essentials of a public bath were quite the same everywhere—a changing room, a sweating room heated by hot-air passages under the floor or in the walls, a large vaulted hall gently heated with intermediate temperatures, an unheated frigidarium partly open to the sky with a cold plunge, and a rotunda heated by circulating vapor, open at the top to admit sunlight at noon and in the afternoon. In addition, there were swimming pools. Nearby areas provided for strolling, for conversation, for sunning, for exercise, for various kinds of handball, hoop-rolling, and wrestling. Attached were concert halls, libraries, and gardens. The baths at their best were public art museums and museums of contemporary art. To them we owe the preservation of some of our best copies of Greek sculpture and our great treasures of Roman sculpture.



p Palestra f Frigidarium t Tepidarium c Caldarium

Rome, Baths of Diocletian

CONTINUE

11

Which of the following best expresses the main idea of the passage?

A) Public baths in Roman society provided not only sanitary facilities but also social and cultural gathering places.

B) Roman architecture rejected the exterior-based Greek traditions in favor of large, public, interior spaces.

C) The large curved spaces that concrete made possible in Roman architecture were more appropriate for civic than for religious functions.

D) A combination of civic need and innovation in building materials led Romans to great architectural innovation.

12

In the first paragraph (lines 1-14), what is the most likely reason the author mentions Greek temple architecture?

A) To show how Roman architectural innovations improved upon the earlier Greek traditions

B) To locate the new trends in architecture developed by the Romans within architectural history

C) To prove that Roman architects were more creative in their imagining of interior space than Greek architects

D) To argue that the new interior spaces created by Romans were better suited to religious architecture than Greek temples were

13

As used in line 7, "omnipresent" most nearly means

A) large.

B) pervasive.

C) eternal.

D) imposing.

14

The author implies that which of the following was critical to Roman architectural developments?

A) The need for large, interior spaces where urban culture could be expressed

B) The convenience of public baths to people of all social strata

C) The development over time of construction techniques using concrete

D) The rapid expansion of baths into community and cultural centers

15

Which choice provides the best evidence for the answer to the previous question?

A) Lines 5-6 ("They . . . spaces")

B) Lines 15-18 ("This . . . error")

C) Lines 22-27 ("While . . . mystery")

D) Lines 42-47 ("Others . . . thousand")

16

What is the primary purpose of the third paragraph (lines 19-27) in relation to the structure of the passage as a whole?

A) To introduce a need that gave rise to innovations described elsewhere in the passage

B) To reinforce a contrast mentioned in the first paragraph and provide additional detail

C) To emphasize the mysterious nature of the innovations discussed in the passage

D) To dismiss an earlier thesis in favor of the one described in the following paragraphs

CONTINUE

17

As used in line 31, "anticipated" most nearly means

A) foreshadowed.

B) expected.

C) prevented.

D) enjoyed.

18

It can be inferred from the description of public baths in the last paragraph that

A) a visit to the bath might be quite different from a visit to a modern bath.

B) they were much like modern gyms; patrons would first exercise, then bathe.

C) Romans believed in the benefits of exposing oneself to a variety of temperatures.

D) the convenience of having so many activities in one location is unparalleled in history.

19

The author believes that the most exemplary Roman baths provided

A) a venue for architectural experimentation.

B) important sanitary facilities for citizens.

C) fine arts enrichment to the public.

D) community gathering spaces.

20

Which choice provides the best evidence for the answer to the previous question?

A) Lines 15-18 ("This grand . . . error")

B) Lines 21-22 ("And the new . . . cities")

C) Lines 32-34 ("Grand public . . . provinces")

D) Lines 64-66 ("The baths . . . art")

21

Which of the following is supported by information in both the passage and the diagram?

A) Roman baths usually included frigidariums.

B) The palestrae were located on opposite sides of the building.

C) Commercial contractors always built public baths in a rectangular shape.

D) The natatio was often used for wrestling and hoop-rolling.

CONTINUE

Questions 22-31 are based on the following passage.

This passage is adapted from a speech delivered by Rafael Palma of the Philippines on November 22, 1919, as a senator for the country's fourth district. In the passage, Palma discusses the reasons that women should be allowed to vote. Palma's speech was delivered in the context of the first session of the fifth Filipino legislature, which was preparing to vote on the question of female suffrage.

I have seldom felt so proud of being a representative of the people as now, when it gives me an opportunity to advocate a cause which cannot be represented or defended in this chamber by those directly and particularly affected by it, owing to the leaven of prejudice that the beliefs and ideas of the past have left in the mind of modern man. The cause of female suffrage is one sure to strike a sympathetic chord in every unprejudiced man, because it represents the cause of the weak who, deprived of the means to defend themselves, are compelled to throw themselves upon the mercy of the strong.

But it is not on this account alone that this cause has my sympathy and appeals to me. It has, besides, the irresistible attraction of truth and justice, which no open and liberal mind can deny. If our action as legislators must be inspired by the eternal sources of right, if the laws passed here must comply with the divine precept to give everybody his due, then we cannot deny woman the right to vote, because to do otherwise would be to prove false to all the precepts and achievements of democracy and liberty which have made this century what may be properly called the century of vindication.

Female suffrage is a reform demanded by the social conditions of our times, by the high culture of woman, and by the aspiration of all classes of society to organize and work for the interests they have in common. We cannot detain the celestial bodies in their course; neither can we check any of those moral movements that gravitate with irresistible force towards their center of attraction: Justice. The moral world is governed by the same laws as the physical world, and all the power of man being impotent to suppress a single molecule of the spaces required for the gravitation of the universe, it is still less able to prevent the generation of the ideas that take shape in the mind and strive to attain to fruition in the field of life and reality.

It is an interesting phenomenon that whenever an attempt is made to introduce a social reform, in accordance with modern ideas and tendencies and in contradiction with old beliefs and prejudices, there is never a lack of opposition, based on the maintenance of the *statu quo*, which it is desired to preserve at any cost. As was to be expected, the eternal calamity howlers and false prophets of evil raise their voices on this present occasion, in protest against female suffrage, invoking the sanctity of the home and the necessity of perpetuating customs that have been observed for many years.

Frankly speaking, I have no patience with people who voice such objections. If this country had not been one of the few privileged places on our planet where the experiment of a sudden change of institutions and ideals has been carried on most successfully, without paralyzation, retrogression, disorganization or destruction, I would say that the apprehension and fears of those who oppose this innovation might be justified.

However, in less than a generation our country, shaken to its very foundations by the great social upheavals known as revolutions, has seen its old institutions crumble to pieces and other, entirely new institutions rise in their place; it has seen theories, beliefs, and codes of ethics, theretofore looked upon as immovable, give way to different principles and methods based upon democracy and liberty, and despite all those upheavals and changes which have brought about a radical modification in its social and political structure, or rather in consequence of the same, our people has become a people with modern thoughts and modern ideals, with a constitution sufficiently robust and strong to withstand the ravages of the struggle for existence, instead of remaining a sickly and atrophied organism, afraid of everything new and opposed to material struggles from fear of the wrath of Heaven and from a passive desire to live in an ideal state of peace and well-being.

In view of the fruitful results which those institutions of liberty and democracy have brought to our country; and considering the marked progress made by us, thanks to these same institutions, in all the orders of national life, in spite of a few reactionists and ultra-conservatives, who hold opinions to the contrary

CONTINUE

and regret the past, I do not and cannot, understand how there still are serious people who seriously object to the granting of female suffrage, one of the most vivid aspirations now agitating modern society.

22

In this speech, the role that Palma plays can best be described as that of

A) an analyst discussing the advantages of each side of an issue.

B) a traditionalist cautioning against the dangers of reform.

C) an idealist arguing for a social change.

D) a politician rousing support for his party.

23

Based on the information in lines 1-7, it can be inferred that at the time that Palma gave his speech women were

A) Palma's primary supporters.

B) not allowed to speak before the Filipino legislature.

C) not represented by any other Filipino leaders.

D) not viewed with sympathy by the members of the Filipino legislature.

24

As used in line 30, "check" most nearly means

A) certify.

B) inspect.

C) advise.

D) stop.

25

Based on the information presented in Palma's speech, it can be inferred that some of those who oppose the bill to give women the right to vote

A) believe that trying to give women the right to vote would be equivalent to trying to check the sun and moon in their course.

B) are prejudiced against the causes of modern men and women and do not support liberal democracy.

C) claim that doing so will be damaging to home life and may disrupt long-established traditions.

D) assert that any sudden changes to the country's civic institutions might permanently paralyze the country.

26

Which choice provides the best evidence for the answer to the previous question?

A) Lines 25-29 ("Female suffrage . . . common")

B) Lines 46-51 ("As was to . . . years")

C) Lines 64-67 ("It has seen . . . liberty")

D) Lines 79-88 ("In view . . . society")

27

The principal rhetorical effect of the phrase "paralyzation, retrogression, disorganization, or destruction" in lines 57-58 is to

A) highlight with increasing force how changes in ideals and institutions can damage a society.

B) emphasize the number of ways in which past changes have not negatively affected the Philippines.

C) show that the Philippines became disabled, after which it reversed its social progress, became disorganized, and was nearly destroyed.

D) suggest four methods by which the legislature could halt the progress of radical social upheavals.

CONTINUE

28

Palma refers to "great social upheavals" in order to

A) use an analogy to show that allowing women to vote would not permanently weaken the nation.

B) argue that giving women more rights would cause the nation to crumble in less than a generation.

C) demonstrate that the theories, beliefs, and codes of ethics of the peoples of the Philippines are unchangeable.

D) contrast the old institutions of the country, which upheld liberal democracy, with the new institutions, which support more radical ideas.

29

Which choice provides the best evidence for the answer to the previous question?

A) Lines 7-12 ("The cause . . . strong")

B) Lines 40-46 ("It is an . . . cost")

C) Lines 67-74 ("Despite all . . . existence")

D) Lines 85-88 ("I do not . . . society")

30

As used in the passage, "marked" in line 81 most nearly means

A) fixed.

B) targeted.

C) significant.

D) underlined.

31

In the final paragraph of the passage (lines 79-88), Palma's attitude toward those who oppose female suffrage can best be described as

A) perplexed and mournful.

B) academic and unbiased.

C) deferential and hopeful.

D) bewildered and dissenting.

CONTINUE

Questions 32-41 are based on the following passage and supplementary material.

This passage is adapted from "Yellowstone Wolf Project: Annual Report, 2012."

Although wolf packs once roamed from the Arctic tundra to Mexico, they were regarded as dangerous predators, and gradual loss of habitat and deliberate extermination programs led to their demise throughout most of the United States. By 1926, when the National Park Service (NPS) ended its predator control efforts, there were no gray wolf (*Canis lupus*) packs left in Yellowstone National Park (YNP).

In the decades that followed, the importance of the wolf as part of a naturally functioning ecosystem came to be better understood, and the gray wolf was eventually listed as an endangered species in all of its traditional range except Alaska. Where possible, NPS policy calls for restoring native species that have been eliminated as a result of human activity. Because of its large size and abundant prey, the greater Yellowstone area was identified in the recovery plan as one of three areas where the recovery of wolves had a good chance of succeeding.

At the end of 2012, at least 83 wolves in 10 packs (6 breeding pairs) occupied YNP. This is approximately a 15% decline from the previous three years when numbers had stabilized at around 100 wolves. Breeding pairs declined slightly from eight the previous year. Wolf numbers in YNP have declined by about 50% since 2007, mostly because of a smaller elk population, the main food of wolves in YNP. State-managed wolf hunts harvested 12 wolves that lived primarily in YNP when these animals moved into Montana and Wyoming. The number of wolves living in the park interior has declined less, probably because they supplement their diet with bison. The severity of mange continued to decline in 2012, although some packs still showed signs of the mite. There was no evidence that distemper was a mortality factor in 2012 as it was in 1999, 2005, and 2008. Pack size ranged from 4 (Blacktail and Snake River) to 11 (Lamar Canyon, Cougar, and Yellowstone Delta) and averaged 10, which is the long-term average. Seven of 11 (64%) packs had pups.

The number of wolves observed spending most of their time in the park was significantly fewer than the parkwide peak of 174 in 2003, a decline that was brought about by disease and food stress, and suggests a long-term lower equilibrium for wolves living in YNP, especially on the northern range. Northern range wolves have declined 60% since 2007 compared to only 23% for interior wolves during the same period. Northern range wolves are more dependent on elk as a food source, and elk have declined 60% since 2007. Wolf packs in the interior also prey on bison, which were still widely available in 2012. Disease impacts have also likely played a larger role in the wolf decline on the northern range because of higher canid density (wolves, coyotes, and foxes) than in the interior where density was lower.

Wolf–prey relationships were documented by observing wolf predation directly and by recording the characteristics of prey at kill sites. Wolf packs were monitored for two winter-study sessions in 2012 during which wolves were intensively radio-tracked and observed for 30-day periods in March and from mid-November to mid-December. The Blacktail, Agate Creek, and Lamar Canyon packs were the main study packs monitored by three-person ground teams and aircraft during the March session, with the Junction Butte pack replacing the Agate Creek pack for the November–December session. Additionally, other park packs (Canyon, Cougar Creek, Mary Mountain, Mollie's, Quadrant, 8-mile) were monitored from only aircraft. The Delta pack was monitored less intensively because of logistical constraints and the Bechler pack (no radio collars) was unable to be located. Data from downloadable GPS collars was also utilized to detect predation events for wolves from the Agate Creek, Blacktail, Lamar Canyon, and Junction Butte packs during winter studies and also during a spring–summer (May–July) monitoring period. During these established predation studies, and opportunistically throughout the year, project staff recorded behavioral interactions between wolves and prey, kill rates, total time wolves fed on carcasses, percent consumption of kills by scavengers, characteristics of wolf prey (e.g., sex, species, nutritional condition), and characteristics of kill sites.

Given the controversy surrounding wolf impacts on ungulate populations, wolf and elk interactions continue to be a primary focus of predation studies in YNP. The northern Yellowstone elk population has declined since wolf reintroduction. In addition

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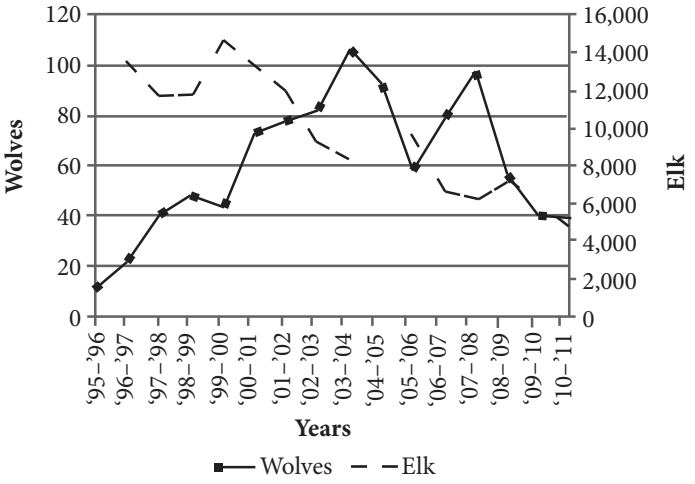
to wolves, factors affecting elk population dynamics include other predators, management of elk outside the park, and weather patterns (e.g. drought, weather severity). Weather patterns influence forage quality and availability, ultimately impacting elk nutritional condition. Consequently, changes in prey selection and kill rates through time result from complex interactions among these factors.



Yellowstone National Park northern range elk-wolf populations, 1995–2010.

32

The passage suggests that which of the following previous beliefs about wolf packs may be inaccurate?

A) The sizes of elk populations and wolf populations are related to one another.

B) Wolves are part of the naturally functioning ecosystem.

C) Predator control efforts can be extremely effective.

D) Wolf packs are too dangerous to be left alive.

33

As used in line 14, "native" most nearly means

A) inborn.

B) constitutional.

C) indigenous.

D) canine.

34

As used in line 28, "harvested" most nearly means

A) gathered.

B) killed.

C) acquired.

D) grown.

35

Which of the following, if true, would most weaken the author's argument in lines 30-32?

A) Predation studies on Delta and Bechler packs done by a separate research group show their diet to consist almost entirely of elk.

B) Northern packs that occasionally roam into the park's interior have more stable populations than other northern packs.

C) In 2013 a pack of coyotes infected with mange migrated into the park and wolf populations soon declined.

D) Studies of bison populations are incomplete and are known to over-estimate the number of bison living in YNP.

36

The fifth paragraph (lines 57-85) most strongly suggests which of the following about the predation data gathered in 2012?

A) The wolves are primarily responsible for the drops in the elk population.

B) The predation data is incomplete.

C) Most of the packs were observed by ground teams.

D) Researchers documented characteristics of only wolf prey.

CONTINUE

37

Which choice provides the best evidence for the answer to the previous question?

A) Lines 59-63 ("Wolf packs . . . mid-December")

B) Lines 63-68 ("The Blacktail . . . session")

C) Lines 71-73 ("The Delta . . . located")

D) Lines 78-85 ("During . . . sites")

38

The passage suggests that the relationship between elk and wolf populations is best characterized as which of the following?

A) The size of the northern wolf packs is the major limiting factor on elk populations.

B) The superior hunting tactics that wolves possess are one of many factors that affect elk populations.

C) The sizes of wolf and elk populations affect one another.

D) The size of the elk population is the major limiting factor on the wolf packs.

39

Which choice provides the best evidence for the answer to the previous question?

A) Lines 25-27 ("Wolf numbers . . . YNP")

B) Lines 51-52 ("Wolf packs . . . 2012")

C) Lines 57-59 ("Wolf-prey . . . sites")

D) Lines 90-94 ("In addition . . . severity")

40

The author references weather (lines 94-96) primarily in order to

A) illustrate one possible logistical difficulty in tracking wolves in YNP.

B) provide a reason for the improved quality of elk food.

C) argue for the design of a new predation study in YNP.

D) provide additional information relevant to the decline of elk.

41

Which claim about wolf and elk populations studied by the National Park Service is supported by the graph?

A) Currently, elk populations out-number wolf populations in YNP.

B) Since wolf reintroduction in YNP, elk populations have only decreased.

C) Wolf populations are highest when elk populations are lowest.

D) Currently, elk populations and wolf populations are about the same.

CONTINUE

Questions 42-52 are based on the following passage.

This first passage is adapted from an article from Imperial College London published in 2010, and the second is adapted from an article from Reuters published in 2013. Both discuss the different factors that may have contributed to the extinction of the dinosaurs.

Passage 1: Asteroid killed off the dinosaurs, says international scientific panel

A panel of 41 international experts reviewed 20 years' worth of research to determine the cause of the Cretaceous-Tertiary (KT) extinction, which happened around 65 million years ago. The extinction wiped out more than half of all species on the planet, including the dinosaurs, bird-like pterosaurs and large marine reptiles, clearing the way for mammals to become the dominant species on Earth.

The new review of the evidence shows that the extinction was caused by a massive asteroid slamming into Earth at Chicxulub (pronounced chick-shoo-loob) in Mexico. The asteroid, which was around 15 kilometers wide, is believed to have hit Earth with a force one billion times more powerful than the atomic bomb at Hiroshima. It would have blasted material at high velocity into the atmosphere, triggering a chain of events that caused a global winter, wiping out much of life on Earth in a matter of days.

Scientists have previously argued about whether the extinction was caused by the asteroid or by volcanic activity in the Deccan Traps in India, where there were a series of super volcanic eruptions that lasted approximately 1.5 million years. These eruptions spewed 1,100,000 km^3 of basalt lava across the Deccan Traps, which would have been enough to fill the Black Sea twice, and were thought to have caused a cooling of the atmosphere and acid rain on a global scale.

In the new study, scientists analyzed the work of paleontologists, geochemists, climate modelers, geophysicists and sedimentologists who have been collecting evidence about the KT extinction over the last 20 years. Geological records show that the event that triggered the extinction destroyed marine and land ecosystems rapidly, according to the researchers, who conclude that the Chicxulub asteroid impact is the only plausible explanation for this.

Dr. Joanna Morgan, co-author of the review from the Department of Earth Science and Engineering at Imperial College London, said: "We now have great confidence that an asteroid was the cause of the KT extinction. This triggered large-scale fires, earthquakes measuring more than 10 on the Richter scale, and continental landslides, which created tsunamis. However, the final nail in the coffin for the dinosaurs happened when blasted material was ejected at high velocity into the atmosphere. This shrouded the planet in darkness and caused a global winter, killing off many species that couldn't adapt to this hellish environment."

Ironically, while this hellish day signaled the end of the 160-million-year reign of the dinosaurs, it turned out to be a great day for mammals, who had lived in the shadow of the dinosaurs prior to this event. The KT extinction was a pivotal moment in Earth's history, which ultimately paved the way for humans to become the dominant species on Earth.

Passage 2: Asteroid may have killed dinosaurs more quickly than scientists thought

Dinosaurs died off about 33,000 years after an asteroid hit the Earth, much sooner than scientists had believed, and the asteroid may not have been the sole cause of extinction, according to a study released Thursday. Earth's climate may have been at a tipping point when a massive asteroid smashed into what is now Mexico's Yucatan Peninsula and triggered cooling temperatures that wiped out the dinosaurs, researchers said. The time between the asteroid's arrival, marked by a 110-mile-(180-km-) wide crater near Chicxulub, Mexico, and the dinosaurs' demise was believed to be as long as 300,000 years. The study, based on high-precision radiometric dating techniques, said the events occurred within 33,000 years of each other.

Other scientists had questioned whether dinosaurs died before the asteroid impact. "Our work basically puts a nail in that coffin," geologist Paul Renne of the University of California Berkeley said. The theory that the dinosaurs' extinction about 66 million years ago was linked to an asteroid impact was first proposed in 1980. The biggest piece of evidence was the so-called Chicxulub crater off the Yucatan coast in Mexico.

It is believed to have been formed by a six-mile-(9.6-km-) wide object that melted rock as it slammed into the ground, filling the atmosphere with debris that eventually rained down on the planet. Glassy spheres known as tektites, shocked quartz and a layer of iridium-rich dust are still found around the world today.

CONTINUE

Renne and colleagues reanalyzed both the dinosaur extinction date and the crater formation event and found they occurred within a much tighter window in time than previously known. The study looked at tektites from Haiti, tied to the asteroid impact site, and volcanic ash from the Hell Creek Formation in Montana, a source of many dinosaur fossils. "The previous data that we had ... actually said that they (the tektites and the ash) were different in age, that they differed by about 180,000 years and that the extinction happened before the impact, which would totally preclude there being a causal relationship," said Renne, who studies ties between mass extinctions and volcanism.

The study, published in *Science,* resolves existing uncertainty about the relative timing of the events, notes Heiko Pälike of the Center for Marine Environmental Sciences at the University of Bremen, Germany. Renne, for one, does not believe the asteroid impact was the sole reason for the dinosaurs' demise. He says ecosystems already were in a state of deterioration due to a major volcanic eruption in India when the asteroid struck. "The Chicxulub impact then provided a decisive blow to ecosystems," Renne and his co-authors wrote in *Science.*

42

In the first paragraph of Passage 1, the author suggests that mammals

A) were the only species that survived the KT extinction.

B) were very rare until 65 million years ago.

C) were not the dominant species on earth before the asteroid hit.

D) were wiped out after an asteroid hit the earth.

43

Which choice provides the best evidence for the answer to the previous question?

A) Lines 1-4 ("A panel . . . ago")

B) Lines 4-8 ("The extinction . . . Earth")

C) Lines 9-12 ("The new . . . Mexico")

D) Lines 53-56 ("The KT . . . Earth")

44

As used in line 24, "spewed" most nearly means

A) conflagrated.

B) disgorged.

C) exhumed.

D) siphoned.

45

Based on the information in Passage 1, it can be reasonably inferred that

A) fires, earthquakes, and tsunamis killed most of the dinosaurs.

B) lowered temperatures decimated many species.

C) the impact of the asteroid caused volcanoes to erupt.

D) there is no consensus on what caused the KT extinction.

46

As used in line 44 and line 73, the phrases "final nail in the coffin," and "nail in that coffin" in both passages refer to

A) a profound deduction.

B) a deadly result.

C) a gruesome metaphor.

D) a terminating event.

47

The author's reference to the "high-precision radiometric dating techniques" in lines 68-69 primarily serves to

A) propose a new theory.

B) validate the study's data.

C) prove the conclusion right.

D) counter the assumption.

CONTINUE

48

As used in line 97, "preclude" most nearly means

A) cause.

B) limit.

C) bar.

D) tap.

49

The author of Passage 2 mentions tektites (line 83) primarily in order to

A) explore another cause for the KT extinction.

B) diminish the role of the asteroid in the demise of the dinosaurs.

C) substantiate that the volcanoes caused the most damage.

D) contrast with volcanic ash in order to support the new theory.

50

Which choice provides the best evidence for the answer to the previous question?

A) Lines 19-23 ("Scientists have previously . . . years")

B) Lines 61-65 ("Earth's climate may . . . said")

C) Lines 92-97 ("The previous data . . . relationship")

D) Lines 106-108 ("He says ecosystems . . . struck")

51

The passages differ in that Passage 1

A) describes the size of the asteroid, while Passage 2 only mentions its impact.

B) concludes that the extinction happened before the asteroid hit, while Passage 2 says the extinction happened after the asteroid hit.

C) explains how mammals were affected by the KT extinction, while Passage 2 does not.

D) contradicts the previous theory concerning the KT extinction, while Passage 2 supports it.

52

Is the main conclusion of the study described in Passage 2 consistent with the panel's conclusion, as described in Passage 1?

A) Yes, since the asteroid caused earthquakes and volcano eruptions that shrouded the earth in debris.

B) Yes, since the asteroid is considered the primary cause of the KT extinction by both parties.

C) No, since the study in Passage 2 conveys doubt about the timing of the asteroid impact.

D) No, since Passage 1 concludes that the asteroid impact led to the growth of mammal populations.

STOP

If you finish before time is called, you may check your work on this section only.
Do not turn to any other section in the test.

Writing and Language Test

35 MINUTES, 44 QUESTIONS

Turn to Section 2 of your answer sheet to answer the questions in this section.

DIRECTIONS

Each passage below is accompanied by a number of questions. For some questions, you will consider how the passage might be revised to improve the expression of ideas. For other questions, you will consider how the passage might be edited to correct errors in sentence structure, usage, or punctuation. A passage or a question may be accompanied by one or more graphics (such as a table or graph) that you will consider as you make revising and editing decisions.

Some questions will direct you to an underlined portion of a passage. Other questions will direct you to a location in a passage or ask you to think about the passage as a whole.

After reading each passage, choose the answer to each question that most effectively improves the quality of writing in the passage or that makes the passage conform to the conventions of standard written English. Many questions include a "NO CHANGE" option. Choose that option if you think the best choice is to leave the relevant portion of the passage as it is.

Questions 1–11 are based on the following passage and supplementary material.

SLP, OMG!

1 While a large number of people believe that social media are fads that will soon die out, a new trend shows that such a belief may be false. It's true that most younger people write to one another (via Twitter, Facebook, or text) more than 2 speaking to one another (who uses a phone to talk anymore?), but the spoken word is as important as ever. This importance is nowhere clearer than in the rise of speech-language pathologists (SLPs).

1

Which of the following would best introduce the main subject of this paragraph?

A) NO CHANGE
B) Although many believe that society is moving away from the spoken word altogether,
C) Even though some believe that kids today can't write or spell,
D) Because a new batch of research has been performed on the belief,

2

A) NO CHANGE
B) spoken
C) they speak
D) have spoken

CONTINUE

The Bureau of Labor Statistics projects that the SLP profession will grow by 19% between 2012 and 2022. Alongside this growth, the nature of the profession is changing as well: while 3 SLPs overwhelmingly work in hospitals, there has been a notable rise in recent years in private-practice SLPs.

The name "speech-language pathologist" is actually a bit of an understatement. 4 Some SLPs do work with communication disorders, stemming from speech impediments to disabilities relating to oral, written, or graphical language. An SLP who specializes in speech may work on articulation or phonation, though some of these specialists will also work with attention and 5 memory. In particular, they work with the components of those practices that deal with language. Some are more concerned with the mechanical side of speech, addressing 6 their respiratory aspects, particularly as related to volume, breathiness, or rasp.

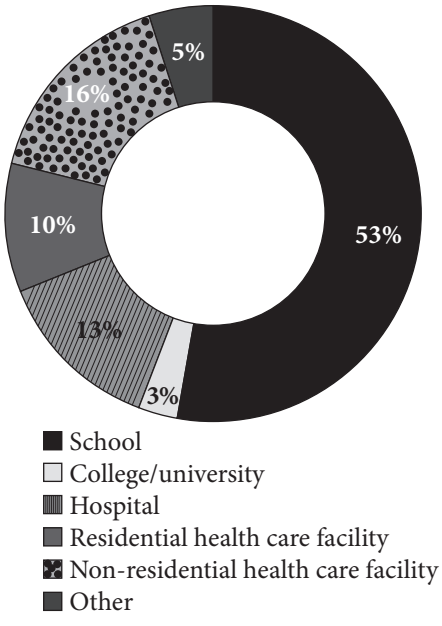


Image modified from *ASHA Leader*.

3

Which choice gives information consistent with the graph?

A) NO CHANGE
B) currently about half of all SLPs work in schools,
C) there are only about 5,300 SLPs at work in schools,
D) colleges and universities devote only about 3% of their budgets to SLPs,

4

The writer is considering replacing the words *an understatement* with the words *a misnomer*. Should the writer make the change or keep the sentence as is?

A) Make the change, because the word *misnomer* is more common in social science.
B) Make the change, because the paragraph goes on to say that "speech-language pathologist" is the wrong name for the profession.
C) Keep the sentence as is, because *understatement* is longer and therefore more formal.
D) Keep the sentence as is, because the name is not incorrect, merely insufficient to represent the range of duties.

5

Which of the following gives the best way to combine these two sentences?

A) NO CHANGE
B) memory; they work in particular with the components
C) memory. Particularly the components
D) memory, particularly the components

6

A) NO CHANGE
B) one's
C) its
D) it's

CONTINUE

Although communication disorders are SLPs' most common targets, some specialists will work more with swallowing disorders. If an infant is struggling to feed, for instance, an SLP might work in tandem with a medical doctor to clear the esophageal function to get it back into 7 good working order. An SLP can 8 lead a regimen of swallowing therapies and advise dietary changes that might make swallowing more comfortable.

7

A) NO CHANGE
B) ship shape.
C) gravy.
D) good times.

8

Which of the following would best maintain this sentence's focus on the actions an SLP might take to address a swallowing disorder?

A) NO CHANGE
B) handle many patients at once
C) work in a school or hospital
D) keep detailed paperwork on a patient's progress

CONTINUE

In most cases, a speech-language pathologist will work interdisciplinarily, often with other SLP specialists or medical doctors. Along with the increased involvement of SLPs, research continues **9** to show that the mechanisms, of the mouth and respiratory system, are central, to an understanding, of the body as a whole. Speech-language pathology also offers an interesting intersection of the social and medical. Speech is after all not merely a biological **10** function, it's also a major means of socialization, and the range of things that might render a patient speechless is vast. Although the digital age has changed many facets of our lives, the rise of the SLP reminds us that there are some basics that no machine can fix or replace for **11** itself.

9

A) NO CHANGE
B) to show that the mechanisms, of the mouth and respiratory, system are central to an understanding
C) to show that the mechanisms of the mouth and respiratory system are central to an understanding
D) to show that the mechanisms of the mouth and respiratory system are central, to an understanding,

10

A) NO CHANGE
B) function; it's
C) function, but it's
D) function it's

11

A) NO CHANGE
B) it.
C) them.
D) us.

Questions 12–22 are based on the following passage.

The Other Steel City

[1]

12 Set on the banks of Monocacy Creek, the area that is now Bethlehem, PA, was inhabited by a rich **13** diversity of indigenous peoples. [A] By the time of that contact, the area was primarily one of the Algonquian-speaking Lenape tribe and its various divisions. **14** They traded with many settlers in the mid-Atlantic region.

12

Which of the following best introduces the historical tone of this essay?

A) NO CHANGE
B) Home to over 700,000 people,
C) Long before European contact,
D) About 50 miles north of Philadelphia,

13

Which of the following alternatives to the underlined portion would be LEAST acceptable?

A) variety
B) arrangement
C) assortment
D) multiplicity

14

A) NO CHANGE
B) It
C) Some
D) These groups

CONTINUE

[2]

While many groups in other regions were systematically exterminated and relegated to smaller plots of land, the Lenape **15** went on to continue to be a contributing factor to the landscape of the early region. Even after the initial European settlement on Christmas **16** Eve in 1741, the Lenape trading continued, though the written history primarily follows the progress of white settlers.

[3]

These settlers, a group of Moravians led by David Nitschman and Count Nicolas von Zinzendorf, called the region Bethlehem, after the birthplace of Jesus Christ. The Moravians set up missions to convert the Lenape and non-English-speaking Christians to the tenets of Moravianism, **17** a practice widely criticized for its ignorance of local traditions. [B] Although the group was relatively small and its religious influence did not reach as far as **18** other groups, the Moravians had a lasting cultural influence on the shape of the early United States. With their strong ties to Germany and musical bent, the annual Moravian Bach festival was one of the first places for people to hear the music from overseas that would become so internationally influential. [C]

15

A) NO CHANGE
B) continued going on
C) went on
D) continued

16

A) NO CHANGE
B) Eve in 1741 the Lenape trading continued
C) Eve in 1741 the Lenape trading continued,
D) Eve, in 1741, the Lenape trading continued,

17

Which of the following true choices helps to maintain the focus on the way the Moravian settlers have been characterized throughout the essay?

A) NO CHANGE
B) using diplomacy rather than force.
C) a cornerstone of European colonizing missions in Africa and Asia.
D) which helped to bring European literacy and economics to many outside of Europe.

18

A) NO CHANGE
B) some other
C) those other
D) that of some other

[4]

In the twentieth century, Bethlehem became known all over for the world for something much different: steel. Bethlehem Steel was founded in 1857 amid the industrial revolution, and by the 1940s, **19** its factory was providing substantial amounts of armor and steel for troops in World War II, in addition to providing the metalwork for bridges and structures all over the country. The plant ceased operations in 1995, but its blast furnaces, those reminders of past industrial glory, **20** remains.

[5]

Some cities might have been laid low by the death of a major industry, but Bethlehem has emerged seemingly unscathed. Although locals know it as the "Christmas City," for the many decorations and activities there in December, Bethlehem is also a significant culture center for the region, and its former steel mill has been repurposed to host all variety of events. [D] The contributions of Bethlehem have changed from century to century, so it should be no surprise that the twenty-first century should bring to the city something **21** no one's ever seen the like of.

19

A) NO CHANGE
B) their
C) they're
D) it's

20

A) NO CHANGE
B) is remaining.
C) remain.
D) are remaining.

21

Which of the following would best conclude the essay by preserving its style and tone?

A) NO CHANGE
B) to *steel* its reputation as a real *blast*!
C) it hasn't seen before.
D) everyone pretty much expects by now.

22

Upon reviewing this essay and concluding that some information has been left out, the writer composes the following sentence:

> After these many years of education, Bethlehem became a Moravian stronghold, with the Moravian Academy and College still a nucleus of intellectual life in the region.

The best placement for this sentence would be at point

A) [A] in paragraph 1.
B) [B] in paragraph 3.
C) [C] in paragraph 3.
D) [D] in paragraph 5.

CONTINUE

Questions 23–33 are based on the following passage.

Look It Up!

[1] Imagine you're texting someone, and the two of you get into a heated debate. [2] They correct our spelling. [3] Finally, to prove your point once and for all, you write a voluminous, paragraph-long text, only to see that your interlocutor has responded, "TL; DR." [4] Now, you might know that this means "too long, didn't read," but what if you don't? **23** [5] Well, Urban Dictionary can save the day. [6] Just type the phrase into Google and see what turns **24** down. [7] Dictionaries have a way of showing up in every facet of our digital lives. [8]They translate pages in foreign languages. [9] They define words that we think we know and those we've never heard of. [10] Dictionaries are everywhere. **25**

23

The writer is considering deleting the phrase *what if you don't?*, and adjusting the punctuation accordingly. Should this phrase be kept or deleted?

A) Kept, because it adds variety to a paragraph full of declarative sentences.

B) Kept, because it poses a question that is answered in the following sentence.

C) Deleted, because it is a rhetorical question to which the answer is already implied.

D) Deleted, because no part of the paragraph goes on to answer it.

24

A) NO CHANGE

B) in.

C) back.

D) up.

25

The best placement for sentence 2 would be

A) where it is now.

B) at the beginning of the paragraph.

C) after sentence 5.

D) after sentence 8.

CONTINUE

In fact, dictionaries are so prevalent that it's easy to forget that they **26** have not always existed. The word "dictionary" was in fact not coined until John of Garland published his *Dictionarius* in 1220 to help readers with their Latin *diction*. **27** Furthermore, **28** numerous dictionaries appeared throughout the Middle Ages and the Early Modern period, the first noteworthy English dictionary came from Samuel Johnson, whose *Dictionary of the English Language* was published first in 1755. Johnson's opus remains the first modern dictionary, containing consistent spellings, variant definitions, textual **29** usages, and alphabetical, arrangements. Johnson's dictionary was the law of the lexicon until 1884, when the Oxford English Dictionary (OED) began its reign, which continues today.

26

A) NO CHANGE
B) were not
C) did not
D) did not have

27

The writer is considering replacing the word *diction* with *pronunciation*. Should the writer make the change or keep the sentence as is?

A) Make the change, because *pronunciation* is the more commonly used word.
B) Make the change, because *diction* has an imprecise meaning in the sentence.
C) Keep the sentence as is, because *diction* helps to explain the term given earlier in the sentence.
D) Keep the sentence as is, because *pronunciation* means something contrary to *diction*.

28

A) NO CHANGE
B) indeed, numerous dictionaries
C) a number of dictionaries
D) while numerous dictionaries

29

A) NO CHANGE
B) usages, and, alphabetical
C) usages, and alphabetical
D) usages and alphabetical,

CONTINUE

Johnson's American counterpart was Noah Webster, who published his first dictionary in 1806. Webster's best-known **30** work *An American Dictionary of the English Language*, was published in 1828. The text was based in large part on Johnson's dictionary, though it included 12,000 **31** words that had not appeared in previous dictionaries. In addition, Webster was a spelling reformer who thought English spellings were overly ornate and complex. As a result, when Americans write "color" and "gray" where the English write **32** other things, Americans have Noah Webster to thank.

33 What is interesting about these two dictionaries, and about the history of dictionaries in general, is how clearly they show the different directions that language can be pulled. On the one hand, a new dictionary should solidify the language in a new way—it should settle old disputes and give definitive definitions. On the other hand, each dictionary update shows that language is fluid and that no printed word can contain the varieties of language as it is actually used. After all, the OED may have told the world that "selfie" was the word of the year in 2013, but didn't the world know that already?

30

A) NO CHANGE
B) work, *An American Dictionary of the English Language*
C) work, *An American Dictionary of the English Language*,
D) work *An American Dictionary of the English Language*

31

Which of the following true statements would best emphasize the unique achievement of Webster's dictionary?

A) NO CHANGE
B) words that drew from languages varying from Old English to Sanskrit.
C) words, which is a heck of a lot of words.
D) words from many sources, including books and speeches.

32

A) NO CHANGE
B) "colour" and "grey,"
C) differently,
D) DELETE the underlined portion, placing the comma after the word *write*.

33

A) NO CHANGE
B) Both what is interesting about these two dictionaries and what is interesting about dictionaries in general,
C) About the history of dictionaries in general, but in particular about these two,
D) These two dictionaries are interesting, but so is the history of dictionaries in general,

CONTINUE

Questions 34–44 are based on the following passage.

Goodnight, sleep tight…

[1]

They are the horror of every city-dweller and international traveler. You can't see them. You only see their aftermath, usually in the form that becomes more uncomfortable as the day 34 of an itchy welt goes on. Bed bugs are the silent feeders: they come out at night and disappear with the light of morning. They hide in the unseen places in the mattress or in the cracks of the floor. Like the most annoying vampires in the world, 35 human blood is the food of bed bugs.

[2]

Interest in bed bugs seems to be nearly as old as written history itself. 36 They were not the nuisance then that they have since become. Remember, previous ages believed in the medicinal value of leeches and blood-letting, and bed bugs were seen as helping to extract the toxins that came from snake bites or ear infections 37 by removing them.

34

The best placement for the underlined portion would be

A) where it is now.

B) after the word *aftermath* (and before the comma).

C) after the word *form*.

D) after the word *uncomfortable*.

35

A) NO CHANGE

B) bed bugs feed on human blood.

C) a typical meal for bed bugs is one of human blood.

D) human blood is what bed bugs need to live.

36

The writer wants to insert a piece of evidence that will support the previous sentence ("Bed bugs . . . itself"). Which of the following true statements would offer that support?

A) Some Greek writers mention them as early as 400 BC.

B) Written history is thought to have begun around the 4th century BCE.

C) Bed bugs typically live for approximately 6-12 months.

D) In the United States, bed bugs are typically associated with the East Coast.

37

A) NO CHANGE

B) by assisting in their removal.

C) getting them out of there.

D) DELETE the underlined portion.

CONTINUE

[3]

By the twentieth century, however, bed bugs were seen to be the nuisance that **38** they are. This was in part due to **39** there prevalence: in 1933, the UK Ministry of Health reported that *all* the houses in many areas of the country had some bed-bug infestation. Military bases during World War II had significant problems with bed-bug infestation as the bugs appeared all over Europe.

[4]

With increased public awareness and some advances in pesticides, bed bugs were nearly eradicated from the United States in the 1940s, though they reemerged as an urban menace in the 1980s. **40** No one is entirely clear on the reason, though scientists hypothesize that the resurgence of bed bugs is due to increased pesticide **41** resistants and international travel. The nuisance is now treated **42** locally. Though the lifespan and long dormancy of the bed bugs have led many to believe that the problem may be a permanent one.

38

A) NO CHANGE
B) it is.
C) some can be.
D) they are known to be.

39

A) NO CHANGE
B) they're
C) their
D) the

40

With the preceding sentence, the writer intended to introduce this paragraph in a way that established continuity with the previous paragraph. Has the writer achieved this goal?

A) Yes, because the previous paragraph addresses the resurgence of bed bugs in the later part of the century.
B) Yes, because the previous paragraph suggests an earlier moment chronologically.
C) No, because there is no mention of the 1940s or the 1980s in the previous paragraph.
D) No, because this paragraph doesn't mention anything about military bases or wartime incidences.

41

A) NO CHANGE
B) resistance
C) resistivity
D) resisting

42

A) NO CHANGE
B) locally; though
C) locally, and
D) locally, though

CONTINUE

[5]

Today, bed bugs are still mainly considered a nuisance. They cost renters and owners millions of dollars each year in exterminator fees and infested furniture replacement. But a recent study has shown that we may have a new reason to worry about the bugs. Now, some research has shown that bed bugs can transmit disease, a practice of which they were long believed incapable. A study documented in the *American Journal of Tropical Medicine and Hygiene* showed that bed bugs could transmit Chagas disease between mice, **43** which many objected to as being inhumane.

[6]

If these findings are true, then bed bugs may be a more significant public health threat than was previously believed. Like mosquitoes in malaria-ridden countries, bed bugs may be redefined as a true menace, rather than just an itchy nuisance. **44**

43

Which of the following true choices would best maintain the focus of this sentence and paragraph?

A) NO CHANGE
B) which are often used in laboratory tests.
C) though not in rats, whom they haven't tested.
D) which is really startling.

44

The best placement for paragraph 6 would be

A) where it is now.
B) after paragraph 2.
C) after paragraph 3.
D) after paragraph 4.

STOP

If you finish before time is called, you may check your work on this section only.
Do not turn to any other section in the test.

Math Test – No Calculator

25 MINUTES, 20 QUESTIONS

Turn to Section 3 of your answer sheet to answer the questions in this section.

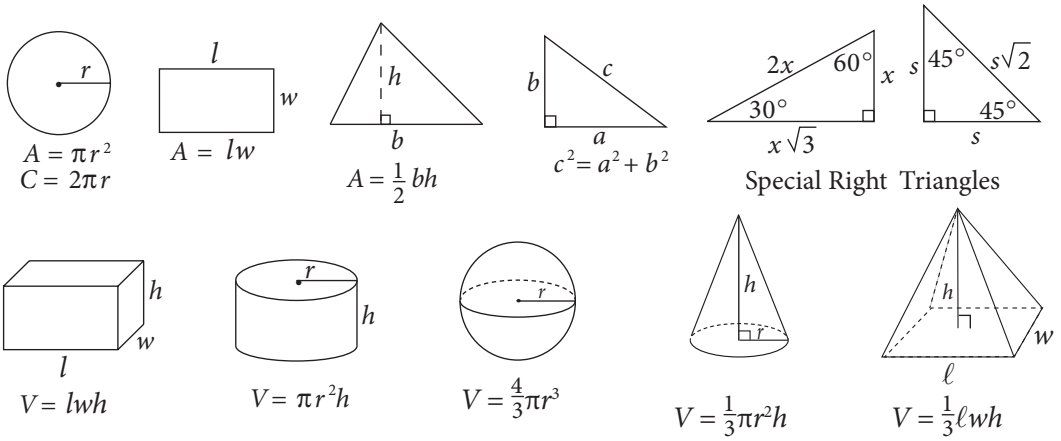
DIRECTIONS

For questions **1-15**, solve each problem, choose the best answer from the choices provided, and fill in the corresponding circle on your answer sheet. For questions **16-20**, solve the problem and enter your answer in the grid on the answer sheet. Please refer to the directions before question 16 on how to enter your answers in the grid. You may use any available space in your test booklet for scratch work.

NOTES

1. The use of a calculator **is not permitted**.
2. All variables and expressions used represent real numbers unless otherwise indicated.
3. Figures provided in this test are drawn to scale unless otherwise indicated.
4. All figures lie in a plane unless otherwise indicated.
5. Unless otherwise indicated, the domain of a given function f is the set of all real numbers x for which $f(x)$ is a real number.

REFERENCE



The number of degrees of arc in a circle is 360.
The number of radians of arc in a circle is 2π.
The sum of the measures in degrees of the angles of a triangle is 180.

CONTINUE

1

Marco is ordering salt, which is only sold in 30-pound bags. He currently has 75 pounds of salt, and he needs to have a minimum of 200 pounds. Which of the following inequalities shows all possible values for the number of bags, b, that Marco needs to order to meet his minimum requirement?

A) $b \geq 4$

B) $b \geq 5$

C) $b \geq 6$

D) $b \geq 7$

2

A website hopes to sign up 100,000 subscribers. So far, the website has signed up an average of 500 subscribers per day for d days. Which of the following represents the number of additional subscribers, W, the website must sign up to reach its goal?

A) $W = 500d$

B) $W = 99{,}500d$

C) $W = 100{,}000 - 500d$

D) $W = 100{,}000 + 500d$

3

If f is a function and $f(4) = 5$, which of the following CANNOT be the definition of f?

A) $f(x) = x + 1$

B) $f(x) = 2x - 3$

C) $f(x) = 3x - 2$

D) $f(x) = 4x - 11$

4

Which of the following is equivalent to the expression $\frac{x^3 + x^2}{x^4 + x^3}$?

A) $\frac{x^5}{x^7}$

B) $\frac{2}{x}$

C) $\frac{5x}{7x}$

D) x^{-1}

5

Régine is measuring how many solutions from Batch x and Batch y are acidic. She measured a total of 100 solutions from both batches. 40% of the solutions from Batch x and 70% of the solutions from Batch y were acidic, for a total of 48 acidic solutions. Solving which of the following systems of equations yields the number of solutions in Batch x and Batch y ?

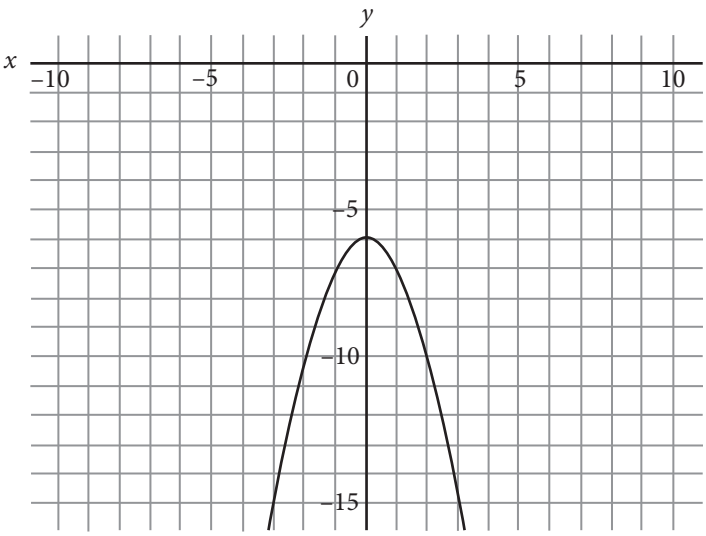
A) $x + y = 100$
$0.4x + 0.7y = 48$

B) $x + y = 48$
$0.4x + 0.7y = 100$

C) $x + y = 100 \times 2$
$0.4x + 0.7y = 48$

D) $x + y = 100$
$40x + 70y = 48$

6



Which of the following equations best describes the figure above?

A) $y = -x^4 + 6$

B) $y = -(x^2 + 6)$

C) $y = -x^2 + 6$

D) $y = x^4 + 6$

CONTINUE

7

The price of an item that cost \$43 in 2010 always increases by \$3 per year. The current price in dollars, P, of the item can be represented by the equation $P = 3t + 10$, where t is the number of years since the item was first manufactured. Which of the following best explains the meaning of the number 10 in the equation?

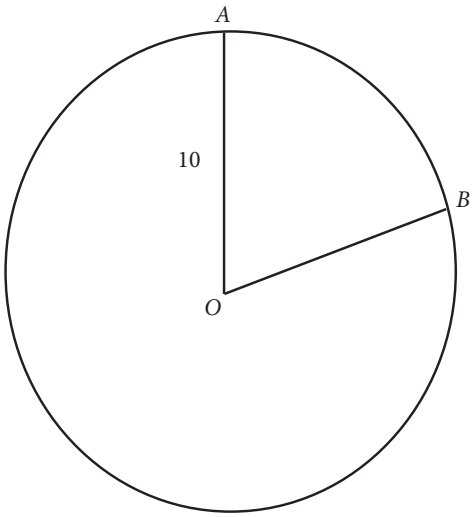
A) It is the price of the item in 1999.

B) It is the price of the item in 2000.

C) It is the price of the item in 2001.

D) It is the annual increase in the price of the item.

8



In the circle with center O and radius 10 shown above, $\angle AOB = \frac{2\pi}{5}$. What is the length of minor arc AB ?

A) π

B) 2π

C) 4π

D) 20π

9

Clark's Rule is a formula used to determine the correct dosage of adult over-the-counter medicine a child can receive. The child's weight, in pounds, is divided by 150, and the result is multiplied by the adult dose of the medicine. A mother needs to give her daughter acetaminophen, which has an adult dose of 1,000 milligrams. She does not know her daughter's exact weight, but she knows the weight is between 75 and 90 pounds. Which of the following gives the range of correct dosage, d, in milligrams of acetaminophen the daughter could receive?

A) $50 < d < 60$

B) $500 < d < 600$

C) $1{,}000 < d < 1{,}200$

D) $1{,}600 < d < 2{,}000$

10

Ohm's Law, which can be written as $IR = V$, relates the current I in amperes that flows through a conductive material with resistance R ohms to the voltage V between the two ends. The power P in watts can be related to I and R by the equation $I = \sqrt{\frac{P}{R}}$. Which of the following gives P in terms of V and R ?

A) $P = \frac{R}{V^2}$

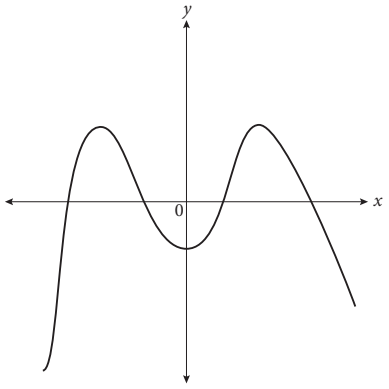
B) $P = \frac{V}{R}$

C) $P = \frac{V^2}{R}$

D) $P = V^2R^3$

CONTINUE

11



The figure above shows the graph in the *xy*-plane of the function *g*. How many distinct real roots does *g* have?

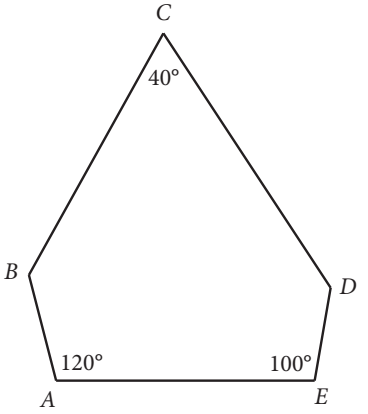
A) 1

B) 2

C) 3

D) 4

12



Note: Figure not drawn to scale.

In the figure above, $\angle ABC \cong \angle CDE$. Which of the following is true?

A) $\overline{AB} \,||\, \overline{CD}$

B) $\overline{BC} \,||\, \overline{AE}$

C) $\overline{CD} \,||\, \overline{AE}$

D) $\overline{BC} \cong \overline{AE}$

CONTINUE

13

For which of the following values of w does

$\sqrt[4]{16w^3x^{\frac{9}{w}}} = (2)\left(3^{\frac{3}{4}}\right)\left(x^{\frac{3}{4}}\right)$?

A) 2

B) 3

C) 4

D) 6

14

If $r = (\frac{1}{2}a + b)^2$ and $s = -4ab + 3b$, what is $r - 2s$ in terms of a and b ?

A) $\frac{1}{4}a^2 + b^2 - 7ab - 6b$

B) $\frac{1}{4}a^2 + b^2 - 7ab + 6b$

C) $\frac{1}{4}a^2 + b^2 + 9ab - 6b$

D) $\frac{1}{2}a^2 + b^2 + 9ab - 6b$

15

Which of the following lines contains all points equidistant from the points (0, 4) and (8, 0) in the xy-plane?

A) $2y = -x + 8$

B) $2y = x$

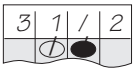
C) $y = 2x - 6$

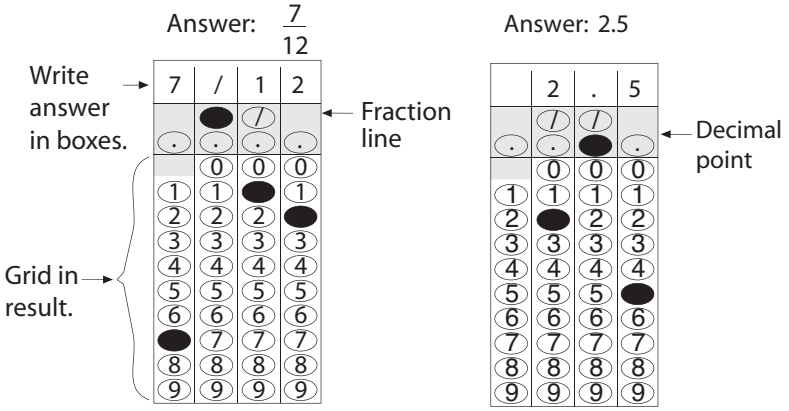
D) $y = -2x$

CONTINUE

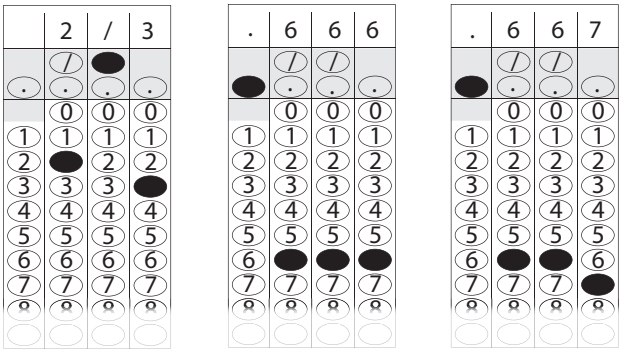
DIRECTIONS

For questions 16-20, solve the problem and enter your answer in the grid, as described below, on the answer sheet.

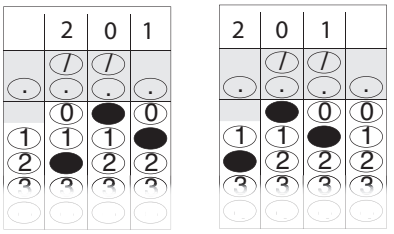
1. Although not required, it is suggested that you write your answer in the boxes at the top of the columns to help you fill in the circles accurately. You will receive credit only if the circles are filled in correctly.
2. Mark no more than one circle in any column.
3. No question has a negative answer.
4. Some problems may have more than one correct answer. In such cases, grid only one answer.
5. **Mixed numbers** such as $3\frac{1}{2}$ must be gridded as 3.5 or 7/2. (If  is entered into the grid, it will be interpreted as $\frac{31}{2}$, not as $3\frac{1}{2}$.)
6. **Decimal Answers:** If you obtain a decimal answer with more digits than the grid can accommodate, it may be either rounded or truncated, but it must fill the entire grid.



Acceptable ways to grid $\frac{2}{3}$ are:



Answer: 201 – either position is correct



NOTE: You may start your answers in any column, space permitting. Columns you don't need to use should be left blank.

CONTINUE

16

$$\frac{p}{3}+\frac{q}{2}=1$$

$$p-3q=1$$

Based on the system of equations above, what is the value of p ?

17

$$y=x$$
$$(y-2)^2-4=-x$$

The system of equations above intersects at two points. What is the sum of the coordinates of the point of intersection in quadrant I?

18

$$1<(c-1)^2<36$$

What is the greatest integer solution to the inequality above?

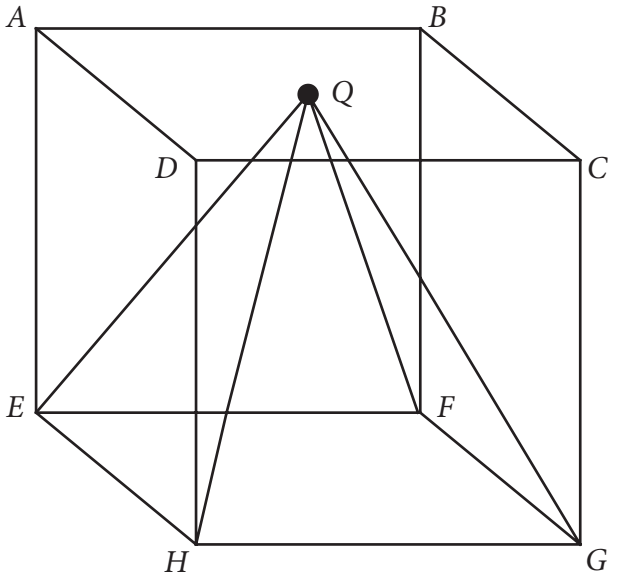
19

$$2y-x\le 4$$
$$-2x+y\ge -4$$

If s is the sum of the x- and y-coordinates of any point in the solution to the system of inequalities above as graphed in the xy-plane, what is the greatest possible value of s ?

CONTINUE

20



A cube with side length 6 is shown in the figure above. If point *Q* lies on square *ABCD* and is equidistant from points *A*, *B*, *C*, and *D*, what is the volume of pyramid *EFGHQ* ?

STOP

If you finish before time is called, you may check your work on this section only.
Do not turn to any other section in the test.

Math Test – Calculator

55 MINUTES, 38 QUESTIONS

Turn to Section 4 of your answer sheet to answer the questions in this section.

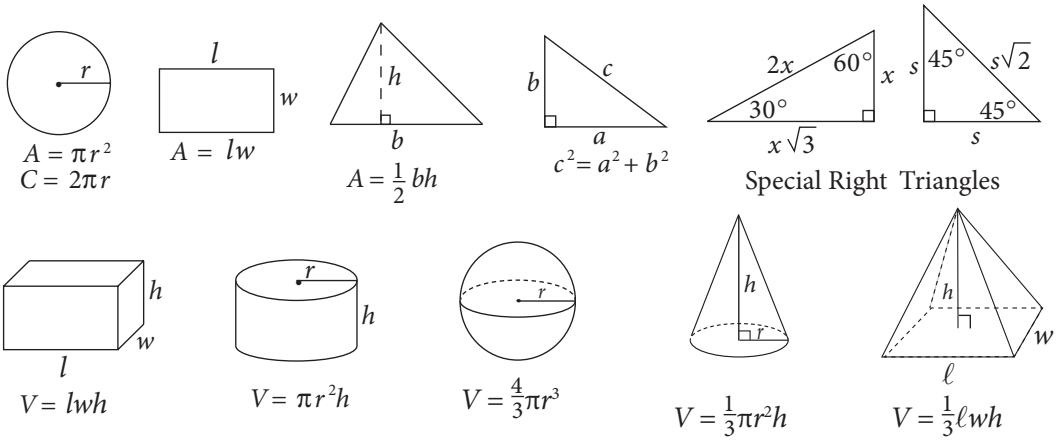
DIRECTIONS

For questions **1-30**, solve each problem, choose the best answer from the choices provided, and fill in the corresponding circle on your answer sheet. For questions **31-38**, solve the problem and enter your answer in the grid on the answer sheet. Please refer to the directions before question 31 on how to enter your answers in the grid. You may use any available space in your test booklet for scratch work.

NOTES

1. The use of a calculator **is permitted**.
2. All variables and expressions used represent real numbers unless otherwise indicated.
3. Figures provided in this test are drawn to scale unless otherwise indicated.
4. All figures lie in a plane unless otherwise indicated.
5. Unless otherwise indicated, the domain of a given function f is the set of all real numbers x for which $f(x)$ is a real number.

REFERENCE



The number of degrees of arc in a circle is 360.
The number of radians of arc in a circle is 2π.
The sum of the measures in degrees of the angles of a triangle is 180.

CONTINUE

1

An air pump at a gas station dispenses 90 pounds of air for $0.25. Which of the following expressions gives the number of pounds of air dispensed, P, for d dollars?

A) $P = d + 90$

B) $P = d + 360$

C) $P = 90d$

D) $P = 360d$

2

Taylor is 6 feet tall. If 1 foot is equal to approximately 0.3 meters, then which of the following is closest to Taylor's height in meters?

A) 1.8

B) 2

C) 18

D) 20

3

A developer is creating a plan for a 44-acre park that includes a 4-acre lake that cannot be developed. If 8 to 10 acres, inclusive, must be reserved for soccer fields, which of the following inequalities shows all possible values for p, the amount of land that within the park that is available for development?

A) $26 \leq p \leq 40$

B) $30 \leq p \leq 32$

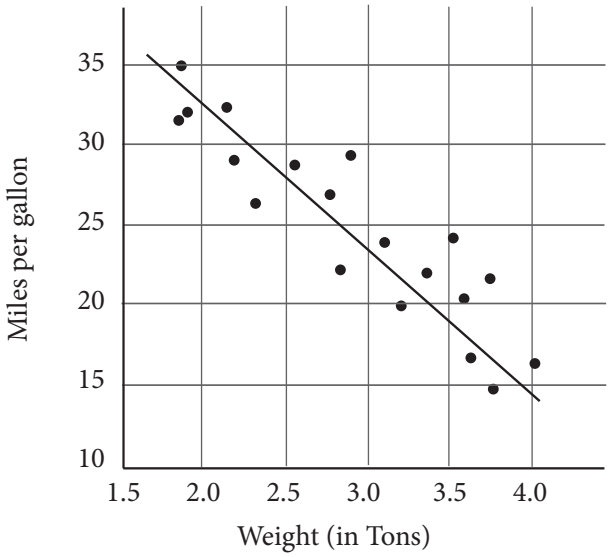
C) $34 \leq p \leq 36$

D) $36 \leq p \leq 40$

CONTINUE

4

Fuel Efficiency by Vehicle Weight



The scatterplot above shows the fuel efficiency, in miles per gallon, of a variety of vehicles weighing between 1.5 and 4 tons. Based on the line of best fit to the data represented, which of the following is the closest to the expected miles per gallon of a vehicle that weighs 3 tons?

A) 20

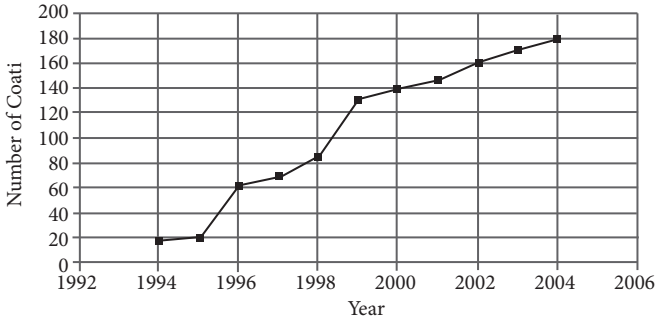
B) 24

C) 27

D) 28

5

White-Nosed Coati Population in Tikal National Park



As part of a recent wildlife conservation effort in Guatemala, park rangers in Tikal National Park have tracked the growing number of white-nosed coati living within a certain protected region over the period 1994-2004.

According to the data above, if the population of coati in the protected region of Tikal National Park increased at the same rate from 2004-2006 as it did from 2000-2004, then what was the number of coati in the park in 2006 ?

A) 180

B) 190

C) 200

D) 210

CONTINUE

6

$$\frac{8d+10-d}{3}=\frac{d(3+4)+a}{3}$$

If the equation above has infinitely many solutions for d, what is the value of a ?

A) –10

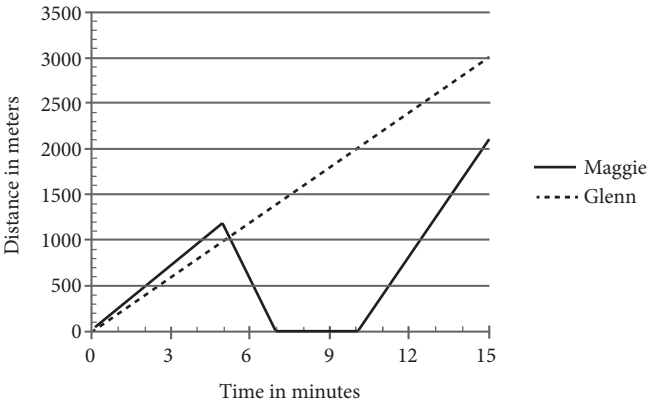
B) 10

C) 15

D) 20

7

Maggie's and Glenn's Distances from Home During Jog



Maggie and Glenn both leave from the same house to go for a jog along a trail. Shortly after leaving, Maggie realizes she forgot her iPod and returns home to find it before heading back out onto the same trail. The graph above shows how far each of them is from home for the first fifteen minutes of their jogs.

What is Glenn's approximate average speed in meters per second for the portion of his jog shown?

A) 3.3

B) 15

C) 200

D) 12,000

CONTINUE

8

Environmentalists have been monitoring the area of a glacier in Canada. The glacier is slowly shrinking. The glacier originally occupied 15,000 square miles, but after two years of monitoring the glacier, the scientists document that the area of the glacier is now 14,910 square miles. If y is the number of years since monitoring began, which equation best describes the glacier's area, $G(y)$, as a function of time?

A) $G(y) = 15{,}000\frac{1}{y}$

B) $G(y) = 15{,}000(0.003)^y$

C) $G(y) = 15{,}000(0.997)^y$

D) $G(y) = 0.997^y$

9

Mike consumes an average of 1,680 calories per day. Each day he has finals, Mike consumes 12% more calories per day than he usually does. During the last day of finals, he celebrates by consuming an additional 900 calories. Which of the following represents the total number of calories Mike consumes during d days of finals?

A) $1.12(1{,}680d + 900)$

B) $1.12(1{,}680d) + 900$

C) $1.12(1{,}680 + 900)d$

D) $(1{,}680 + 0.12d) + 900$

10

The varsity swim team at Northwest High is planning a team trip and needs to choose between Austin, TX, and Pensacola, FL. The team takes a vote and the results of the vote are shown in the table below.

	Juniors	**Seniors**
Austin, TX	14	19
Pensacola, FL	7	23

Given the information shown above, which of the following statements is true?

A) The number of juniors that prefer Pensacola, FL, is twice the number of juniors that prefer Austin, TX.

B) The seniors are more than three times as likely to prefer Pensacola, FL, than are the juniors.

C) The number of seniors that prefer Austin, TX, is 5% more than the number of juniors that prefer Austin.

D) One-third of the juniors prefer Pensacola, FL.

CONTINUE

11

The 2013 U.S. Census recorded the highest educational attainment of all adults aged 25 years or older in county *T*, one of the most educated parts of the country. The results are given in the two-way table below.

	Men	**Women**	**Total**
High School Diploma	7,535	7,234	14,769
Bachelor's Degree	17,170	23,455	40,625
Master's Degree	45,105	41,078	86,183
Professional Degree	23,501	23,405	46,906
Doctoral Degree	16,232	15,817	32,049
Total	109,543	110,989	220,532

According to the data presented in the table above, if you were to choose a person at random out of the entire population aged 25 years or older in county *T*, what is the approximate probability that the person you chose is a man with a doctoral degree (given as a percent)?

A) 2%

B) 7%

C) 28%

D) 51%

12

The cost in dollars, *C*, of producing a custom-made T-shirt with a team logo is given by the formula $C = 110 + \frac{x}{2}$, where x is the number of T-shirts produced. When every T-shirt produced is sold, the revenue from selling the customized T-shirts is given by $R = 15x - \frac{x^2}{10}$. Which one of the following would be the formula for the profit from producing and selling x T-shirts?

(Profit = Revenue – Cost)

A) $-\frac{x^2}{10} - \frac{31}{2}x + 110$

B) $-\frac{x^2}{10} - \frac{29}{2}x + 110$

C) $-\frac{x^2}{10} + \frac{29}{2}x - 110$

D) $-\frac{x^2}{10} + \frac{31}{2}x - 110$

13

While on vacation in Morocco, Erik decided to splurge on a fancy hotel that cost 2,000 Moroccan dirhams per night. If he stayed in that particular hotel for three nights, but his bank only lets him withdraw $200 at a time, how many visits to the ATM must Erik have made in order to cover the cost of his hotel stay?

(Note: 1 Moroccan dirham = $0.11)

A) 1

B) 2

C) 3

D) 4

CONTINUE

14

Peter's Petrol Station is selling regular unleaded gas for $3.49 a gallon and premium gas for $3.79 a gallon. If a car wash is purchased, then a discount of $0.10 per gallon is applied. During one morning, a total of 850 gallons of gas was sold, and 100 gallons were sold at the discounted rate. The total collected in sales was $3,016.50. Solving which of the following systems of equations yields the number of regular unleaded gallons of gas, u, and the number of premium gallons of gas, p, that were sold during that morning?

A) $u + p = 850$
$3.49u + 3.79p = 301.65$

B) $u + p = 850$
$3.49u + 3.79p = 3{,}016.50$

C) $u + p = 850$
$3.49u + 3.79p = 3{,}026.50$

D) $u + p = 3{,}016.50$
$3.49u + 3.79p = 850$

15

Of the 784 juniors and seniors at Abingdon High School, 319 are currently enrolled in one or more Advanced Placement (AP) courses. Of these AP students, 75 are enrolled in AP Biology, 58 are enrolled in AP U.S. History, and 22 are enrolled in both AP Biology and AP U.S. History. Approximately what percent of the juniors and seniors at Abingdon High School are enrolled in AP courses other than Biology and U.S. History?

A) 17%

B) 27%

C) 37%

D) 47%

16

To receive a B in his chemistry class, Mateo needs to earn an average score from 80 to 89, inclusive. His grade is based only on 3 tests. The highest possible score on each of these tests is 100 points. He scored 79 on his first test and 95 on his second test. If y represents his score on the third test, which of the inequalities below shows all values of y that would earn Mateo a B in his chemistry class?

A) $66 \leq y \leq 93$

B) $66 \leq y \leq 100$

C) $80 \leq y \leq 89$

D) $80 \leq y \leq 93$

17

$$Y = \frac{A}{A + W}$$

A gardener prepares a mixture of fertilizer with concentration, by volume, equal to Y. It is prepared by mixing a volume of fertilizer given by A with a volume of water given by W. The expression above represents the mixture described. What physical quantity does the term $A + W$ represent in the equation above?

A) The volume of the mixture

B) The mass of fertilizer added

C) The volume of the fertilizer in the mixture

D) The concentration of the fertilizer

CONTINUE

18

Two groups of subjects are combined in a psychological research experiment. The mode score for group A is 7 and the mode score for group B is 6. Which of the following conclusions can be made?

A) The mode for the whole group is 6.

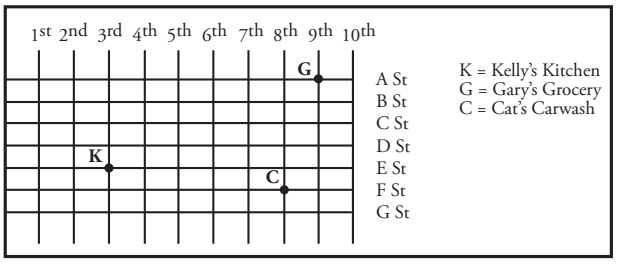
B) The mode for the whole group is between 6 and 7.

C) The mode for the whole group is 7.

D) The mode cannot be determined from the given information.

19

The map below shows the layout of streets in a city and the location of several places. Each horizontal or vertical line between two adjacent streets represents a city block, and each city block represents 0.6 miles.



Josh needs to drive from Kelly's Kitchen to Gary's Grocery. If Josh drives the shortest distance possible on the roads shown above at a constant speed of 30 miles per hour, how long does it take him to make the trip from Kelly's Kitchen to Gary's Grocery?

A) 6 minutes

B) 10 minutes

C) 12 minutes

D) 20 minutes

20

$$2s - \frac{1}{3}t = 10$$

$$5s = t + 12 - s$$

Which of the following is a true statement about the system of equations above?

A) There are infinitely many solutions to the system of equations.

B) When the system is solved for s, the result is 5.

C) When the system is solved for t, the result is 6.

D) There are no solutions to the system of equations.

21

The student council at Shermer High School wants to use student opinion to decide on one of three possible homecoming themes for the year. President Peterson thinks that the best way to determine popular opinion is for each of the 10 members of the student council to poll 10 of their friends and select the theme that receives the most votes. Vice President Vaidya wants to go to the cafeteria during lunch and poll 100 students to determine the winner. Treasurer Thompson says the best method would be to assign numbers to each of the 1,000 students in the school, randomly select 100 of them to poll, and select the winner based on the results. Secretary Stephens argues that they must poll each of the 250 members of the senior class to find the most popular theme. Whose method is most likely to accurately determine overall student opinion regarding the most popular homecoming theme?

A) President Peterson

B) Secretary Stephens

C) Treasurer Thompson

D) Vice-President Vaidya

CONTINUE

22

Is the point (–2, –2) located inside, on, or outside the circle with equation $(x + 3)^2 + (y - 1)^2 = 9$?

A) Inside the circle

B) On the circle

C) Outside the circle

D) It cannot be determined from the given information.

23

If the expression $\frac{x-12}{\sqrt{8}}$ is most nearly equal to $\frac{x\sqrt{2}}{4} - C$, then what is the value of C ?

A) –3

B) $-\sqrt{3}$

C) 2

D) $3\sqrt{2}$

24

A survey was conducted among a randomly chosen sample of full-time salaried workers about satisfaction in their current jobs. The table below shows a summary of the survey results.

Reported Job Satisfaction by Education Level (in thousands)

Highest Level of Education	Satisfied	Not Satisfied	No Response	Total
High School Diploma	17,880	12,053	2,575	32,508
Bachelor's Degree	24,236	8,496	3,442	36,174
Master's Degree	17,605	5,324	1,861	24,790
Doctoral Degree	12,210	2,081	972	15,263
Total	71,931	27,954	8,850	108,735

Of the people whose highest level of education was a bachelor's degree who reported job satisfaction, 1,000 people were randomly selected to complete a follow-up survey in which they were asked about their salary satisfaction. There were 658 people in this follow-up sample who said that they were satisfied with their salaries, and the other 342 people were not satisfied. Using the data from both the initial survey and the follow-up survey, which of the following statements is most likely true?

A) Approximately 16 million people with bachelor's degrees and who are satisfied with their jobs would report salary satisfaction.

B) Approximately 24 million people with bachelor's degrees would report salary satisfaction.

C) Approximately 47 million people with bachelor's degrees would report salary satisfaction.

D) Approximately 72 million people with bachelor's degrees would report salary satisfaction.

CONTINUE

25

Line d has a slope of $\frac{4}{5}$ and passes through the point (1, 1). Line e is parallel to line d and has a y-intercept 3 times that of line d. Which of the following is the equation of line e ?

A) $5y - 4x = 3$

B) $5y - x = 4$

C) $10y - 8x = 30$

D) $20y + 25x = 12$

26

$$\frac{q^2 - q - 42}{q + 6} = \sqrt{q - 5}$$

The equation above can be solved for two solutions, one of which is extraneous. What is the value of the extraneous solution?

A) 5

B) 6

C) 8

D) 9

27

A gaming company conducted a study to find out what age groups preferred which types of games. The table below outlines the survey results.

Age Group	First Person Shooters	Sports Games	Adventure Games	Total
9- to 13-year olds	16,000,000	9,000,000	25,000,000	50,000,000
14- to 18-year olds	48,000,000	13,000,000	31,000,000	82,000,000
19- to 22-year olds	38,000,000	27,000,000	19,000,000	84,000,000
23- to 60-year olds	8,000,000	3,000,000	10,000,000	21,000,000

According to the information provided in the table, the gaming company concludes that if they can double the number of 19- to 22-year olds playing sports games, and increase the number of sports gamers in the 9- to 13-year old age group, they will have equal total numbers of players for each game type if they double the number of players of adventure games in which age group?

A) 23- to 60-year olds

B) 19- to 22-year olds

C) 14- to 18-year olds

D) 9- to 13-year olds

CONTINUE

28

$$V(t) = at + k$$

At a certain manufacturing plant, the total number of vacation days, $V(t)$, an employee has accrued is given by the function above, where t is the number of years the employee has worked at the plant, and a and k are constants. If Martin has accrued 9 more vacation days than Emilio has, how many more years has Martin worked than Emilio?

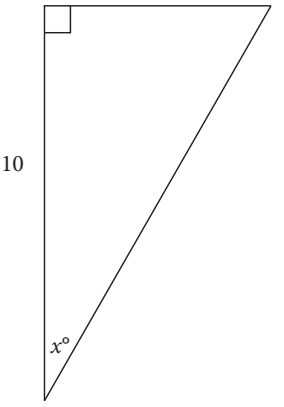
A) $\frac{9}{a}$

B) $9 - a$

C) $9 + a$

D) $9a$

29



In the figure above, $\sin x° = \frac{2\sqrt{29}}{29}$. What is the perimeter of the figure?

A) $10 + \frac{2\sqrt{29}}{29}$

B) $7 + \sqrt{29}$

C) $14 + 2\sqrt{29}$

D) $39 + 2\sqrt{29}$

30

At Santa Monica High School, the ratio of juniors to seniors is 4 to 3, the ratio of seniors to sophomores is 5 to 4, and the ratio of freshmen to sophomores is 7 to 6. What is the ratio of freshmen to seniors?

A) $\frac{7}{3}$

B) $\frac{5}{3}$

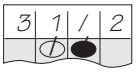
C) $\frac{9}{7}$

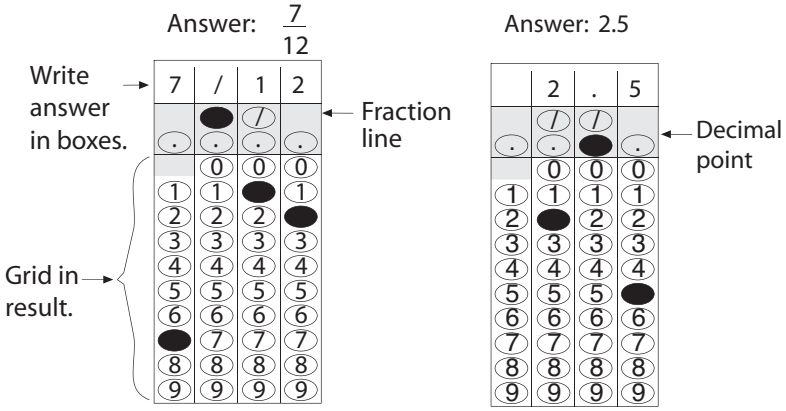
D) $\frac{14}{15}$

CONTINUE

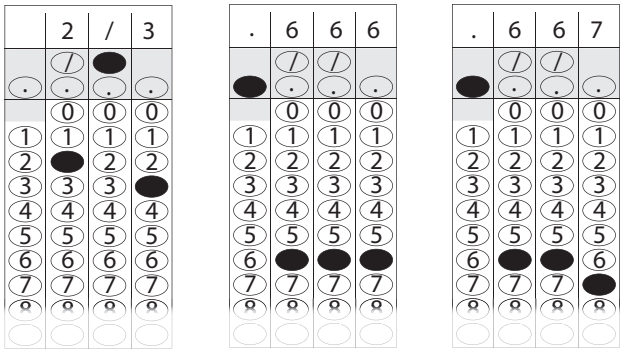
DIRECTIONS

For questions 31-38, solve the problem and enter your answer in the grid, as described below, on the answer sheet.

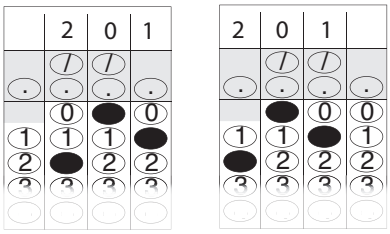
1. Although not required, it is suggested that you write your answer in the boxes at the top of the columns to help you fill in the circles accurately. You will receive credit only if the circles are filled in correctly.
2. Mark no more than one circle in any column.
3. No question has a negative answer.
4. Some problems may have more than one correct answer. In such cases, grid only one answer.
5. **Mixed numbers** such as $3\frac{1}{2}$ must be gridded as 3.5 or 7/2. (If  is entered into the grid, it will be interpreted as $\frac{31}{2}$, not as $3\frac{1}{2}$.)
6. **Decimal Answers:** If you obtain a decimal answer with more digits than the grid can accommodate, it may be either rounded or truncated, but it must fill the entire grid.



Acceptable ways to grid $\frac{2}{3}$ are:



Answer: 201 – either position is correct



NOTE: You may start your answers in any column, space permitting. Columns you don't need to use should be left blank.

31

Hayoung is competing in a triathlon comprised of swimming, running, and biking. She starts by swimming m miles. Next, she runs 11 times the distance that she swims. Finally, she bikes 18 times the distance that she swims. If Hayoung swims 2.5 miles, what is the total distance, in miles, Hayoung travels as she competes?

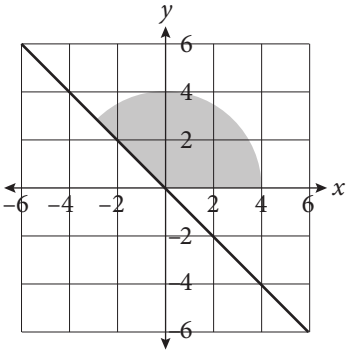
32

At the local mall, Casey's Card Cart sells cards à la carte. Casey's revenue R, in dollars, for x days is given by the function $R(x) = 250x - 20$. If Casey earned \$1,230, how many days has she sold cards?

33

Marty is planning which crops to plant on his farm for the upcoming season. He has enough seed to plant 4 acres of wheat and 7 acres of soybeans, but the total area of farmland he owns is only 9 acres. He earns \$90 per acre for every acre of wheat planted and \$120 for every acre of soybeans planted, and he must pay a 10% tax on all money he earns from selling his crops. What is the maximum profit, in dollars, that Marty can earn from planting wheat and soybeans this season?

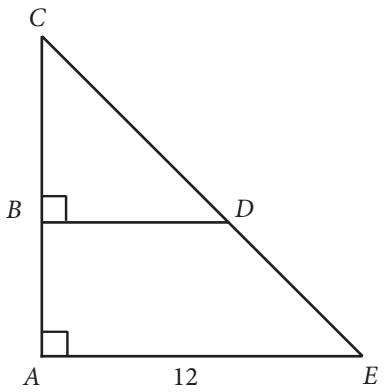
34



What is the area of the shaded region of the circle, bound by the x-axis and the line $y = -x$, rounded to the nearest whole number?

CONTINUE

35



In the figure, $\overline{AC}$ is bisected by $\overline{BD}$. If $\overline{BC}$ is 7, then what is the length of $\overline{BD}$?

36

The daily recommended serving of protein is 50 grams. A nutritional bar contains 32% of the daily recommended serving of protein and 10% of the daily recommended serving of fat. If the nutritional bar contains 700% more grams of protein than grams of fat, what is the daily recommended serving of fat, in grams? (Disregard units when gridding your answer.)

Questions 37 and 38 refer to the following information.

Set R consists of all the one-digit prime numbers. Set S contains all of the elements of Set R, as well as an additional positive integer, x.

37

If the sum of all of the elements of Set S is 30, what is the value of $x^2 - 11x - 25$?

38

Michael wants to change the value of x so that the mean of Set S is equal to the median of Set S and for Set S to have no mode. What value of x would accomplish his goal?

STOP

If you finish before time is called, you may check your work on this section only.
Do not turn to any other section in the test.

SAT Essay

ESSAY BOOK

DIRECTIONS

The essay gives you an opportunity to show how effectively you can read and comprehend a passage and write an essay analyzing the passage. In your essay you should demonstrate that you have read the passage carefully, present a clear and logical analysis, and use language precisely.

Your essay must be written on the lines provided in your answer sheet booklet; except for the planning page of the answer booklet, you will receive no other paper on which to write. You will have enough space if you write on every line, avoid wide margins, and keep your handwriting to a reasonable size. Remember that people who are not familiar with your handwriting will read what you write. Try to write in print so that what you are writing is legible to those readers.

You have 50 minutes to read the passage and write an essay in response to the prompt provided inside this booklet.

REMINDER

- Do not write your essay in this booklet. Only what you write on the lined pages of your answer booklet will be evaluated.
- An off-topic essay will not be evaluated.

CONTINUE

As you read the passage below, consider how the author uses

- evidence, such as facts or examples, to support claims.
- reasoning to develop ideas and to connect claims and evidence.
- stylistic or persuasive elements, such as word choice or appeals to emotion, to add power to the ideas expressed.

Helen Keller's Address before the New York Association for the Blind, January 15, 1907

1 It is a great pleasure to me to speak in New York about the blind. For New York is great because of the open hand with which it responds to the needs of the weak and the poor. The men and women for whom I speak are poor and weak in that they lack one of the chief weapons with which the human being fights his battle. But they must not on that account be sent to the rear. Much less must they be pensioned like disabled soldiers. They must be kept in the fight for their own sake, and for the sake of the strong. It is a blessing to the strong to give help to the weak. Otherwise there would be no excuse for having the poor always with us…

2 For it is the community where the blind man lives that ultimately determines his success or his failure. The State can teach him to work, supply him with raw materials and capital to start his business. But his fellow-citizens must furnish the market for his products and give him the encouragement without which no blind man can make headway…

3 It is not helpful, in the long run it is harmful, to buy worthless articles of the blind. For many years kind-hearted people have bought futile and childish things because the blind made them. Quantities of beadwork that can appeal to no eye, save the eye of pity, have passed as specimens of the work of the blind. If beadwork had been studied in the schools for the blind and supervised by competent seeing persons, it could have been made a profitable industry for the sightless. I have examined beautiful beadwork in the shops, purses, bags, belts, lamp-shades and dress-trimmings, some of it very expensive, imported from France and Germany. Under proper supervision this beadwork could be made by the blind…

4 In Boston, in a fashionable shopping district, the Massachusetts commission has opened a salesroom where the best handicraft of all the sightless in the State may be exhibited and sold. There are hand-woven curtains, table-covers, bed-spreads, sofa-pillows, linen suits, rugs; and the articles are of good design and workmanship. People buy them not out of pity for the maker, but out of admiration for the thing. Orders have already come from Minnesota, from England, from Egypt. So the blind of the New World have sent light into Egyptian darkness!

5 …Nay, I can tell you of blind men who of their own accord enter the sharp competition of business and put their hands zealously to the tools of trade. It is our part to train them in business, to teach them to use their tools skillfully. Before this association was thought of, blind men had given examples of energy and industry, and with such examples shining in the dark other blind men will not be content to be numbered among those who will not, or cannot, carry burden on shoulder or tool in hand—those who know not the honour of hard-won independence.

6 The new movement for the blind rests on a foundation of common sense. It is not the baseless fabric of a sentimentalist's dream. We do not believe that the blind should be segregated from the seeing, gathered together in a sort of Zion City, as has been done in Roumania and attempted in Iowa. We have no queen to preside over such a city. America is a democracy, a multi-monarchy, and the city of the blind is everywhere. Each community should take care of its own blind, provide employment for them, and enable them to work side by side with the seeing. We do not expect to find among the blind a disproportionate number of geniuses. Education does not develop in them remarkable talent. Like the seeing man, the blind man may be a philosopher, a mathematician, a linguist, a seer, a poet, a prophet.

7 But believe me, if the light of genius burns within him, it will burn despite his infirmity, and not because of it...

8 I appeal to you, give the blind man the assistance that shall secure for him complete or partial independence. He is blind and falters. Therefore go a little more than halfway to meet him. Remember, however brave and self-reliant he is, he will always need a guiding hand in his.

Write an essay in which you explain how Helen Keller develops her argument about the necessity of industries for the blind. In your essay, analyze how Keller uses one or more of the features listed above (or features of your own choice) to strengthen the logic and persuasiveness of her argument. Be sure that your analysis focuses on the most relevant aspects of the passage.

Your essay should not explain whether you agree with Keller's claims, but rather explain how the author builds an argument to persuade her audience.

END OF TEST

DO NOT RETURN TO A PREVIOUS SECTION.

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Completely darken bubbles with a No. 2 pencil. If you make a mistake, be sure to erase mark completely. Erase all stray marks.

1.

YOUR NAME: _____
(Print) Last First M.I.

SIGNATURE: _____ DATE: / /

HOME ADDRESS: _____
(Print) Number and Street

_____
City State Zip Code

PHONE NO.: _____
(Print)

IMPORTANT: Please fill in these boxes exactly as shown on the back cover of your test book.

2. TEST FORM

_____

3. TEST CODE

0	A	J	0	0
1	B	K	1	1
2	C	L	2	2
3	D	M	3	3
4	E	N	4	4
5	F	O	5	5
6	G	P	6	6
7	H	Q	7	7
8	I	R	8	8
9			9	9

4. REGISTRATION NUMBER

0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

5. YOUR NAME

First 4 letters of last name					FIRST INIT	MID INIT
A	A	A	A		A	A
B	B	B	B		B	B
C	C	C	C		C	C
D	D	D	D		D	D
E	E	E	E		E	E
F	F	F	F		F	F
G	G	G	G		G	G
H	H	H	H		H	H
I	I	I	I		I	I
J	J	J	J		J	J
K	K	K	K		K	K
L	L	L	L		L	L
M	M	M	M		M	M
N	N	N	N		N	N
O	O	O	O		O	O
P	P	P	P		P	P
Q	Q	Q	Q		Q	Q
R	R	R	R		R	R
S	S	S	S		S	S
T	T	T	T		T	T
U	U	U	U		U	U
V	V	V	V		V	V
W	W	W	W		W	W
X	X	X	X		X	X
Y	Y	Y	Y		Y	Y
Z	Z	Z	Z		Z	Z

6. DATE OF BIRTH

Month	Day		Year	
JAN				
FEB	0	0	0	0
MAR	1	1	1	1
APR	2	2	2	2
MAY	3	3	3	3
JUN		4	4	4
JUL		5	5	5
AUG		6	6	6
SEP		7	7	7
OCT		8	8	8
NOV		9	9	9
DEC				

7. SEX

MALE
FEMALE

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Test 3 Start with number 1 for each new section.
If a section has fewer questions than answer spaces, leave the extra answer spaces blank.

Section 1—Reading

1.	A	B	C	D	27.	A	B	C	D
2.	A	B	C	D	28.	A	B	C	D
3.	A	B	C	D	29.	A	B	C	D
4.	A	B	C	D	30.	A	B	C	D
5.	A	B	C	D	31.	A	B	C	D
6.	A	B	C	D	32.	A	B	C	D
7.	A	B	C	D	33.	A	B	C	D
8.	A	B	C	D	34.	A	B	C	D
9.	A	B	C	D	35.	A	B	C	D
10.	A	B	C	D	36.	A	B	C	D
11.	A	B	C	D	37.	A	B	C	D
12.	A	B	C	D	38.	A	B	C	D
13.	A	B	C	D	39.	A	B	C	D
14.	A	B	C	D	40.	A	B	C	D
15.	A	B	C	D	41.	A	B	C	D
16.	A	B	C	D	42.	A	B	C	D
17.	A	B	C	D	43.	A	B	C	D
18.	A	B	C	D	44.	A	B	C	D
19.	A	B	C	D	45.	A	B	C	D
20.	A	B	C	D	46.	A	B	C	D
21.	A	B	C	D	47.	A	B	C	D
22.	A	B	C	D	48.	A	B	C	D
23.	A	B	C	D	49.	A	B	C	D
24.	A	B	C	D	50.	A	B	C	D
25.	A	B	C	D	51.	A	B	C	D
26.	A	B	C	D	52.	A	B	C	D

Section 2—Writing and Language Skills

1.	A	B	C	D	23.	A	B	C	D
2.	A	B	C	D	24.	A	B	C	D
3.	A	B	C	D	25.	A	B	C	D
4.	A	B	C	D	26.	A	B	C	D
5.	A	B	C	D	27.	A	B	C	D
6.	A	B	C	D	28.	A	B	C	D
7.	A	B	C	D	29.	A	B	C	D
8.	A	B	C	D	30.	A	B	C	D
9.	A	B	C	D	31.	A	B	C	D
10.	A	B	C	D	32.	A	B	C	D
11.	A	B	C	D	33.	A	B	C	D
12.	A	B	C	D	34.	A	B	C	D
13.	A	B	C	D	35.	A	B	C	D
14.	A	B	C	D	36.	A	B	C	D
15.	A	B	C	D	37.	A	B	C	D
16.	A	B	C	D	38.	A	B	C	D
17.	A	B	C	D	39.	A	B	C	D
18.	A	B	C	D	40.	A	B	C	D
19.	A	B	C	D	41.	A	B	C	D
20.	A	B	C	D	42.	A	B	C	D
21.	A	B	C	D	43.	A	B	C	D
22.	A	B	C	D	44.	A	B	C	D

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Completely darken bubbles with a No. 2 pencil. If you make a mistake, be sure to erase mark completely. Erase all stray marks.

Test 3 Start with number 1 for each new section.
If a section has fewer questions than answer spaces, leave the extra answer spaces blank.

Section 3—Mathematics: No Calculator

1. (A) (B) (C) (D)
2. (A) (B) (C) (D)
3. (A) (B) (C) (D)
4. (A) (B) (C) (D)
5. (A) (B) (C) (D)
6. (A) (B) (C) (D)
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10. (A) (B) (C) (D)
11. (A) (B) (C) (D)
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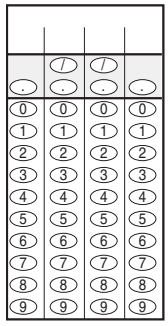
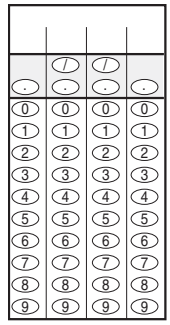
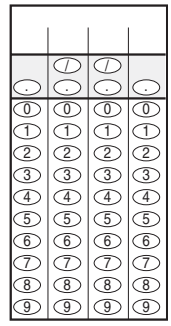
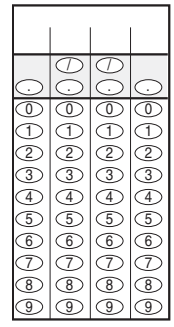
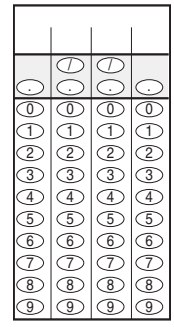
13. (A) (B) (C) (D)
14. (A) (B) (C) (D)
15. (A) (B) (C) (D)

16. 
17. 
18. 
19. 
20. 

Section 4—Mathematics: Calculator

1. (A) (B) (C) (D)
2. (A) (B) (C) (D)
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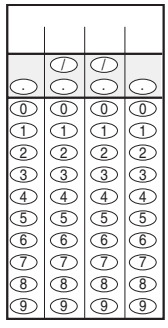
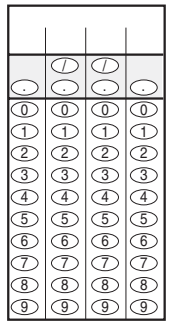
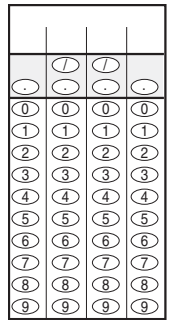
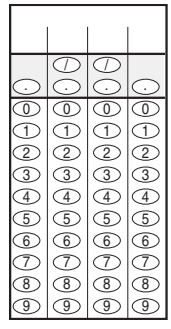
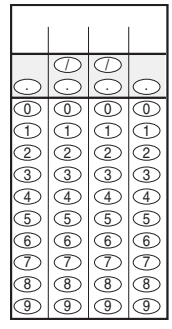
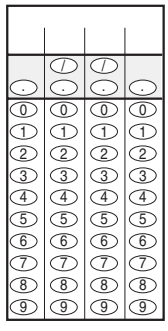
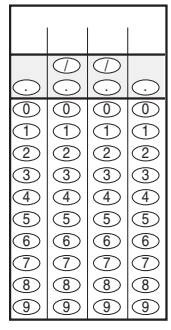
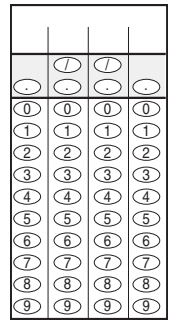
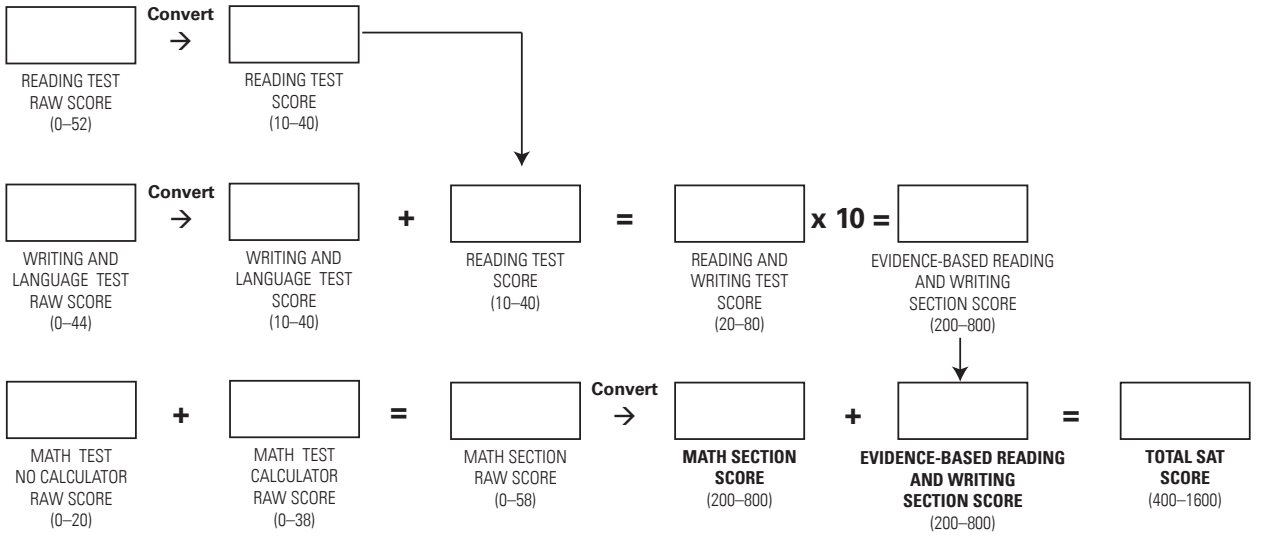
31. 
32. 
33. 
34. 
35. 
36. 
37. 
38. 

RAW SCORE CONVERSION TABLE SECTION AND TEST SCORES

Raw Score *(# of correct answers)*	Math Section Score	Reading Test Score	Writing and Language Test Score
0	200	10	10
1	200	10	10
2	210	10	10
3	230	11	10
4	240	12	11
5	260	13	12
6	280	14	13
7	290	15	13
8	310	15	14
9	320	16	15
10	330	17	16
11	340	17	16
12	360	18	17
13	370	19	18
14	380	19	19
15	390	20	19
16	410	20	20
17	420	21	21
18	430	21	21
19	440	22	22
20	450	22	23
21	460	23	23
22	470	23	24
23	480	24	25
24	480	24	25
25	490	25	26
26	500	25	26
27	510	26	27
28	520	26	28
29	520	27	28

Raw Score *(# of correct answers)*	Math Section Score	Reading Test Score	Writing and Language Test Score
30	530	28	29
31	540	28	30
32	550	29	30
33	560	29	31
34	560	30	32
35	570	30	32
36	580	31	33
37	590	31	34
38	600	32	34
39	600	32	35
40	610	33	36
41	620	33	37
42	630	34	38
43	640	35	39
44	650	35	40
45	660	36	
46	670	37	
47	670	37	
48	680	38	
49	690	38	
50	700	39	
51	710	40	
52	730	40	
53	740		
54	750		
55	760		
56	780		
57	790		
58	800		

Please note that the numbers in the table may shift slightly depending on the SAT's scale from test to test; however, you can still use this table to get an idea of how your performance on the practice tests will translate to the actual SAT.

CONVERSION EQUATION SECTION AND TEST SCORES