CollegeBoard SAT®

MARCH 13, 2021
INTERNATIONAL

The SAT®

Test Book

IMPORTANT REMINDERS

1

A No. 2 pencil is required for the test. Do not use a mechanical pencil or pen.

2

Sharing any questions with anyone is a violation of Test Security and Fairness policies and may result in your scores being canceled.

Test begins on the next page.

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.

This passage is adapted from James Baldwin, "This Morning, This Evening, So Soon." ©1993 by The James Baldwin Estate. Originally published in 1960.

"You are full of nightmares," Harriet tells me. She is in her dressing gown and has cream all over her face. She and my older sister, Louisa, are going out to be girls together. I suppose they have many things to talk about—they have me to talk about, certainly—and they do not want my presence. I have been given a bachelor's evening. The director of the film which has brought us such incredible and troubling riches will be along later to take me out to dinner.

I watch her face. I know that it is quite impossible for her to be as untroubled as she seems. Her self-control is mainly for my benefit—my benefit, and Paul's. Harriet comes from orderly and progressive Sweden and has reacted against all the advanced doctrines to which she has been exposed by becoming steadily and beautifully old-fashioned. We never fought in front of Paul, not even when he was a baby. Harriet does not so much believe in protecting children as she does in helping them to build a foundation on which they can build and build again, each time life's high-flying steel ball knocks down everything they have built.

Whenever I become upset, Harriet becomes very cheerful and composed. I think she began to learn how to do this over eight years ago, when I returned from my only visit to America. Now, perhaps, it has become something she could not control if she wished to. This morning, at breakfast, when I yelled at Paul, she averted Paul's tears and my own guilt by looking up and saying, "Your father is cranky this morning, isn't he?"

Paul's attention was immediately distracted from his wounds, and the unjust inflicter of those wounds, to his mother's laughter. He watched her.

"It is because he is afraid they will not like his songs in New York. Your father is an *artiste*, *mon chou*, and they are very mysterious people, *les artistes*. Millions of people are waiting for him in New York, they are begging him to come, and they will give him a *lot* of money, but he is afraid they will not like him. Tell him he is wrong."

She succeeded in rekindling Paul's excitement about places he has never seen. I was also, at once, reinvested with all my glamour. I think it is sometimes extremely difficult for Paul to realize that the face he sees on record sleeves and in the newspapers and on the screen is nothing more or less than the face of his father—who sometimes yells at him. Of course, since he is only seven—going on eight, he will be eight years old this winter—he cannot know that I am baffled, too.

"Of course, you are wrong, you are silly," he said with passion—and caused me to smile. His English is strongly accented and is not, in fact, as good as his French, for he speaks French all day at school. French is really his first language, the first he ever heard. "You are the greatest singer in France"—sounding exactly as he must sound when he makes this pronouncement to his schoolmates—"the

CONTINUE

greatest *American* singer"—this concession was so gracefully made that it was not a concession at all, it added inches to my stature, America being only a glamorous word for Paul. It is the place from which his father came, and to which he now is going, a place which very few people have ever seen. But his aunt is one of them and he looked over at her. "Mme. Dumont says so, and she says he is a *great actor, too*." Louisa nodded, smiling. "And she has seen *Les Fauves Nous Attendent*—five times!" This clinched it, of course. Mme. Dumont is our concierge and she has known Paul all his life. I suppose he will not begin to doubt anything she says until he begins to doubt everything.

He looked over at me again. "So you are wrong to be afraid."

"I was wrong to yell at you, too. I won't yell at you any more today."

"All right." He was very grave.

Louisa poured more coffee. "He's going to knock them dead in New York. You'll see."

"*Mais bien sûr*," said Paul, doubtfully. He does not quite know what "knock them dead" means, though he was sure, from her tone, that she must have been agreeing with him. He does not quite understand this aunt, whom he met for the first time two months ago, when she arrived to spend the summer with us. Her accent is entirely different from anything he has ever heard. He does not really understand why, since she is my sister and his aunt, she should be unable to speak French.

Harriet, Louisa, and I looked at each other and smiled. "Knock them dead," said Harriet, "means *d'avoir un succès fou*. But you will soon pick up all the American expressions." She looked at me and laughed. "So will I."

1

The main effect of the phrase "incredible and troubling riches" (lines 8-9) is to

A) suggest that the film director is not protecting the narrator's best interests.

B) indicate that the narrator is surprised by his own success.

C) emphasize that the narrator does not know how to spend his earnings wisely.

D) convey a sense of the narrator's mixed feelings about his career.

2

The image of the "high-flying steel ball" in line 22 serves mainly to

A) represent the sudden difficulties individuals may face in life.

B) explain why childhood is less predictable than adulthood.

C) suggest that success occurs more often than failure.

D) criticize attempts to shelter children from disappointment.

3

The narrator suggests that during the family's life together, Harriet has undergone what fundamental change?

A) Her approach to parenting has shifted as she has become more progressive.

B) Her identification with the place of her birth has intensified.

C) Her efforts to appear calm have become an unconscious habit.

D) Her concern for herself has come to exceed her attention to family matters.

CONTINUE

4

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

A) Lines 11-14 ("I know . . . Paul's")
B) Lines 14-17 ("Harriet . . . old-fashioned")
C) Lines 19-23 ("Harriet . . . built")
D) Lines 25-29 ("I think . . . wished to")

5

The narrator indicates that he experienced guilt during a family breakfast because he had

A) considered excluding his family from a trip to America.
B) become upset and hurt his son's feelings.
C) ruined the cheerful mood Harriet was in.
D) caused an argument between his son and Harriet.

6

The passage suggests that Harriet views the narrator's worries about performing in New York as

A) understandable, considering that he performs his songs in French.
B) exaggerated, considering the devotion of his audience.
C) strange, considering that he visits America often.
D) inconvenient, considering that performances are crucial to his career.

7

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

A) Lines 36-37 ("It is . . . New York")
B) Lines 37-39 ("Your . . . *artistes*")
C) Lines 39-42 ("Millions . . . like him")
D) Lines 43-44 ("She . . . seen")

8

According to the passage, Paul shows pride in his father partly by

A) defending his father to Harriet and Mme. Dumont.
B) learning about the country his father was born in.
C) boasting to schoolmates about his father's talent.
D) watching his father's films and listening to his music.

9

As used in lines 61 and 62, "concession" most nearly means

A) adjustment.
B) excuse.
C) agreement.
D) qualification.

10

In his conversation with his family, Paul brings up Mme. Dumont in order to

A) support his views on his father's ability as a performer.
B) display his knowledge of American singers and actors.
C) show that he is capable of forming opinions of his own.
D) argue against his aunt's attitude toward his father's career.

CONTINUE

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

This passage is adapted from Ann Gibbons, "A Find in Australia Hints at Very Early Human Exit from Africa." ©2017 by American Association for the Advancement of Science.

The timing of the peopling of Australia has been contentious for decades. Many archaeologists split into two camps, favoring settlement either
Line 60,000 years ago or sometime after 50,000 years ago,
5 depending on whether they trusted the dates from certain sites. Last year, geneticists analyzing DNA from living Aborigines joined the fray, but they came up with a wide range of dates, from 50,000 to 70,000 years ago.

10 The Madjedbebe rock shelter, formerly known as Malakunanja II, has always been central to the issue. Known for its striking rock art, researchers proposed in 1989 that the shelter was the oldest human occupation in Australia, after they dated sediments
15 containing stone tools to 50,000 to 60,000 years ago using the then-experimental method of thermoluminescence. But skeptics suggested that the 1500 tools and other artifacts could have drifted downward over time in the sandy sediments or that
20 animals or termites had disrupted the layers.

University of Queensland archaeologist Chris Clarkson had long wanted to reexcavate Madjedbebe to resolve the controversy. Geochronologist Richard "Bert" Roberts, now at the University of
25 Wollongong, who did the first dates, agreed to redate the site with Wollongong geochronologist Zenobia Jacobs, using optically stimulated luminescence (OSL) dating, a higher resolution form of thermoluminescence dating.

30 With Aborigine permission, the team reexcavated the site in 2012 and 2015 with painstaking stratigraphic controls. They found hundreds of thousands of new artifacts, including "elaborate" technologies such as the world's oldest ground-edge
35 stone axes, grindstones for pulverizing seeds, and finely made stone points that may have served as spear tips. The earliest people at the site also used "huge quantities of ochre" and are the first humans shown to have used reflective mica to decorate
40 themselves or rock walls.

The team took extensive steps to rule out the migration of artifacts between layers, for example by refitting together broken stone tools found in the same layer. Jacobs dated quartz grains from various
45 layers with OSL, determining when light last struck each grain and thus when it was buried. She dated 28,500 individual grains from 56 samples, checking to be sure that the dates were in proper order, growing older from top to bottom layers. Using a
50 Bayesian statistical technique to narrow the margins of error, she concluded that the oldest human occupation was 65,000 years ago, with a range of about 60,000 to 70,000 with 95% probability. "I think we nailed it," she says.

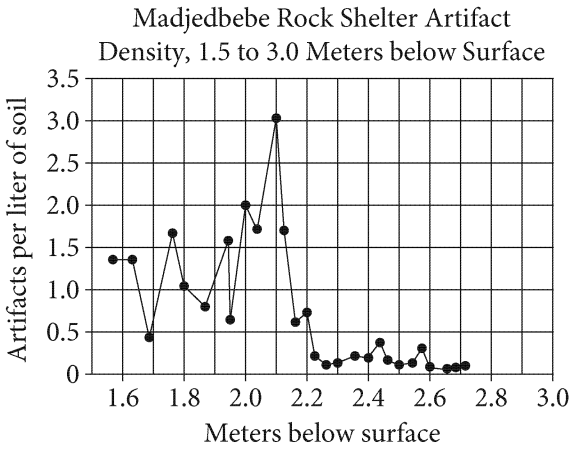
55 Other dating experts agree: "I feel really good about the dates," says geochronologist Edward Rhodes, calling the resulting chronology "highly robust."

The authors also suggest the new date of
60 65,000 years for the peopling of Australia pushes back the time when modern humans coming out of Africa mated with archaic species in Asia, such as Neandertals and Denisovans. Living Aborigines carry traces of those two species' DNA, which their
65 ancestors must have acquired by mixing somewhere in Asia before they reached Australia.

But such early mixing with Denisovans and Neandertals is at odds with genetic evidence from living Aborigines and nearby Melanesians, says
70 population geneticist David Reich. Analyses of these people's DNA "confidently" suggest that the mixing happened only 45,000 to 53,000 years ago, Reich says. "If these [new] dates are correct, they must be from a human population that was largely replaced
75 by the people who are the primary ancestors of today's Australians and New Guineans," he says.

That makes sense to archaeologist Jim O'Connell, who has favored the later chronology. This is "the only reliable [early] date," he says.

CONTINUE



Source: Data from Chris Clarkson et al., "Human Occupation of Northern Australia by 65,000 Years Ago." ©2017 by Macmillan Publishers Limited, part of Springer Nature.

11

As used in line 2, "contentious" most nearly means

A) disputed.
B) argumentative.
C) litigious.
D) impassioned.

12

As used in line 14 and line 52, "occupation" most nearly means

A) activity.
B) enterprise.
C) habitation.
D) conquest.

13

Which choice best supports the idea that Clarkson, Roberts, and Jacobs's methods allowed them to minimize the possibility that they would misidentify the age of some of the artifact fragments they found?

A) Lines 21-23 ("University . . . controversy")
B) Lines 32-37 ("They . . . tips")
C) Lines 41-44 ("The team . . . layer")
D) Lines 49-53 ("Using . . . probability")

14

According to the passage, the discovery of mica at the Madjedbebe rock shelter indicates that the first people to inhabit the site

A) used this material for artistic creations.
B) traded this substance among themselves.
C) used tools chiefly to extract this item.
D) chose the site for this resource.

15

In lines 44-49 ("Jacobs . . . layers"), the author most likely describes how Jacobs worked with grains of quartz in order to

A) illustrate the personal interest Jacobs had in proving that geochronology is an exact science.
B) indicate the sense that OSL dating is an especially labor-intensive research technique.
C) convey the meticulousness of Jacobs's approach in gathering and interpreting data.
D) highlight the rigors every scientist must undergo in building support for a novel theory.

CONTINUE

16

According to the passage, how does Jacobs feel about the results of her team's research?

A) She feels confident about the accuracy of her team's results.

B) She feels defensive about potential criticisms of her team's results.

C) She feels anxious about the disparity between previous findings and her team's results.

D) She feels curious about the unexpectedness of her team's results.

17

It can reasonably be inferred from the passage that the discrepancy between the chronology established by Clarkson, Roberts, and Jacobs and the DNA evidence from living Aborigines has which implication?

A) The discrepancy challenges the idea that some living humans share genetic traits with Neandertals and Denisovans.

B) The discrepancy indicates that multiple migrations of early humans to Australia may have occurred.

C) The discrepancy undermines researchers' confidence in the techniques they use to determine the migratory patterns of early humans.

D) The discrepancy suggests that the ancestors of living Aborigines may have arrived in Australia from New Guinea instead of Asia.

18

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

A) Lines 63-66 ("Living . . . Australia")

B) Lines 67-70 ("But such . . . Reich")

C) Lines 70-73 ("Analyses . . . Reich says")

D) Lines 73-76 ("If these . . . he says")

19

The last paragraph mainly serves to

A) suggest that the date of Australia's first settlement remains inconclusive.

B) present another researcher's plans to build on Clarkson, Roberts, and Jacobs's work.

C) offer additional archaeological evidence to support the time line suggested by the OSL dating.

D) indicate another researcher's agreement with Reich's suppositions about the chronology.

20

According to the graph, the greatest number of artifacts per liter of soil was found at approximately how many meters below the surface?

A) 2.0

B) 2.1

C) 2.2

D) 2.3

21

According to the graph, the greatest total change in artifact density was observed over which 0.1-meter interval of depth below the surface?

A) 1.6 and 1.7 meters

B) 1.7 and 1.8 meters

C) 2.0 and 2.1 meters

D) 2.1 and 2.2 meters

CONTINUE

Questions 22-31 are based on the following passage.

This passage is adapted from Patricia S. Churchland, *Braintrust: What Neuroscience Tells Us about Morality*. ©2011 by Princeton University Press.

Among male primates, cooperation may be rather limited in those social organizations where dominance hierarchies are strong and maintained by aggression. Cooperation among female primates may also be sensitive to rank, as it is in baboons. Research on the question of social tension and its effect on cooperation has been undertaken by psychologist Brian Hare.

Bonobos tend to be more easygoing than chimpanzees, arguably because their foraging territory south of the Congo River is much richer in large fruiting trees than the chimpanzee territories north of the Congo River. As Hare explains, "Overall, large patches of fruit and higher levels of high quality herbs to fall back on when fruit is unavailable reduce the costs of co-feeding and group living for bonobos relative to chimpanzees." With reduced foraging competition, there is likely to be reduced aggression, and hence a more relaxed way of life. Being more relaxed means that bonobos will be tolerant of the close presence of others during eating. Chimpanzees, by contrast, have a rather high-stress social organization with a tight male dominance hierarchy. Bonobo females within a group bond closely, especially along kin lines, and although males have a dominance hierarchy, a coalition of females can gang up on a male. A female bonobo will take food from a male, and bite one who resists, a behavior rarely seen in chimpanzees though also common in ringtail lemurs. Chimps are also less likely than bonobos to tolerate the close presence of down-rank or up-rank bystanders during feeding.

Hare wondered whether easygoing bonobos might be more successful than the more socially tense chimpanzees in solving a problem that requires cooperation of two animals. To test this, Hare and his team trained the chimps by putting two food dishes separated by 2.7 meters on a platform in a cage. To retrieve the food, the two animals had to simultaneously pull on the attached rope-ends. The chimps easily learned the task, whereupon the experiment changed, and only a single dish of food was placed on the platform, which the chimps could share if they successfully pulled the platform forward. What Hare observed was that if a chimpanzee could work with a "friend" (roughly, a chimp of the same rank), cooperation was smooth, but if he or she was paired with a nonfriend, such as a more dominant chimp, cooperation failed, even though both knew what they needed to do to get the food. In other experiments, a chimp was allowed to go and get another chimp to help in the one-dish food-pulling task. Under this condition, chimps generally picked someone both friendly to them and known to be skilled at the task.

How did the bonobos do? Even though the chimps were given more experience at the task, the naïve bonobos outperformed them. This was clearly evident when only one of the food dishes was baited, and after pulling the platform in, the two bonobos shared. Chimps were wary of the one-dish situation, either to avoid interacting with a more dominant chimp, or because the more dominant chimp could not suppress entitlement to all the food. Interestingly, comparable results had been found earlier for two species of macaques—the strict-hierarchy rhesus, known to be socially prickly, were less cooperative than the loose-hierarchy tonkean, known to be more socially easygoing.

In analyzing the results, Hare suggests that a relatively high level of cooperativity in a species may be enabled by the social system and the temperamental portfolio that supports it. Both chimps and bonobos are clever enough to know how to cooperate, and to understand the value of a cooperative interaction. But cooperation is much more constrained by the chimpanzee social system. As noted, in the wild bonobos live in a richer resource environment than chimpanzees, which may have allowed the more easygoing temperament to flourish. Arguably, the chimps' higher levels of aggression and social intolerance during feeding may in general have served them fairly well in a highly competitive food environment.

CONTINUE

22

The primary purpose of the passage is to

A) describe the foraging behaviors of two primate species.

B) refute a theory about cooperative interaction in two primate species.

C) examine the relationship between social tension and cooperation in two primate species.

D) analyze data about gender dominance hierarchies in two primate species.

23

Over the course of the passage, the main focus shifts from a discussion of a

A) method used to study task performance to a discussion of the significant implications of the study.

B) debate raised by previous social dominance experiments to a discussion of a study intended to resolve the debate.

C) finding based on a scientific experiment to a discussion of possible applications of the experiment's results.

D) theory about differences in observed behaviors to a discussion of an experiment testing those differences.

24

As used in line 5, "sensitive to" most nearly means

A) compassionate about.

B) responsive to.

C) disregarded by.

D) drawn to.

25

Which choice best supports the idea that an abundant supply of food may result in reduced social tension?

A) Lines 1-4 ("Among . . . aggression")

B) Lines 4-5 ("Cooperation . . . baboons")

C) Lines 9-13 ("Bonobos . . . River")

D) Lines 19-21 ("Being . . . eating")

26

The main contrast the author draws between female bonobos and female chimpanzees is in terms of their

A) interaction with males in their species.

B) willingness to forage in areas unfamiliar to their species.

C) tolerance of males of lower rank in their species.

D) aggression toward other females in their species.

27

As used in line 29, "common" most nearly means

A) unrefined.

B) popular.

C) plain.

D) typical.

CONTINUE

28

Based on the passage, Hare's reason for having the chimpanzees initially work together to retrieve food from two dishes was most likely to

A) reveal whether the chimpanzees were cooperating solely because they were of the same rank.

B) support the theory that the chimpanzees were collaborating only to retrieve the dishes of food.

C) confirm that the chimpanzees could execute a mechanical process essential to a subsequent phase of the experiment.

D) ensure that the experiment's results reflected the chimpanzees' actual abilities rather than chance occurrences.

29

Based on the description of Hare's research, a chimpanzee would be most likely to work cooperatively to retrieve a single dish of food if the chimpanzee were

A) partnered with a chimpanzee of the same social position.

B) familiar with the task's goal and the reward for completing the task.

C) paired with a more dominant and experienced chimpanzee.

D) able to observe other primates completing the task before beginning the task.

30

It can reasonably be inferred from the passage that one assumption of Hare's research is that

A) cooperation between different primate species is a natural behavior.

B) primates are limited in their ability to adapt to unfamiliar environments.

C) survival of primates is compromised by a lack of cooperation between species.

D) cooperation among primates requires a certain level of intelligence and skill.

31

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

A) Lines 70-73 ("In analyzing . . . supports it")

B) Lines 73-76 ("Both . . . interaction")

C) Lines 76-77 ("But cooperation . . . system")

D) Lines 81-84 ("Arguably . . . environment")

CONTINUE

Questions 32-41 are based on the following passages.

Passage 1 is adapted from the majority opinion by Supreme Court Justice Pierce Butler, delivered in the 1929 case *United States v. Schwimmer*, 279 U.S. 644 (1929). Passage 2 is adapted from a dissenting opinion by Justice Oliver Wendell Holmes Jr. in the same case. Hungarian refugee Rosika Schwimmer was denied United States citizenship for refusing to promise to bear arms in the country's defense, as required by the oath of allegiance. Her case went to the Supreme Court.

Passage 1

Whatever tends to lessen the willingness of citizens to discharge their duty to bear arms in the country's defense detracts from the strength and safety of the government. And their opinions and beliefs as well as their behavior indicating a disposition to hinder in the performance of that duty are subjects of inquiry under the statutory provisions governing naturalization and are of vital importance, for if all or a large number of citizens oppose such defense the 'good order and happiness' of the United States cannot long endure. And it is evident that the views of applicants for naturalization in respect of such matters may not be disregarded. The influence of conscientious objectors against the use of military force in defense of the principles of our government is apt to be more detrimental than their mere refusal to bear arms. The fact that, by reason of sex, age or other cause, they may be unfit to serve does not lessen their purpose or power to influence others. . . .

The record shows that respondent strongly desires to become a citizen. She is a linguist, lecturer, and writer; she is well educated and accustomed to discuss governments and civic affairs. Her testimony should be considered having regard to her interest and disclosed ability correctly to express herself. . . . Taken as a whole, it shows that her objection to military service rests on reasons other than mere inability because of her sex and age personally to bear arms. Her expressed willingness to be treated as the government dealt with conscientious objectors who refused to take up arms in the recent war indicates that she deemed herself to belong to that class. The fact that she is an uncompromising pacifist, with no sense of nationalism, but only a cosmic sense of belonging to the human family, justifies belief that she may be opposed to the use of military force as contemplated by our Constitution and laws. And her testimony clearly suggests that she is disposed to exert her power to influence others to such opposition.

Passage 2

The applicant seems to be a woman of superior character and intelligence, obviously more than ordinarily desirable as a citizen of the United States. It is agreed that she is qualified for citizenship except so far as the views set forth in a statement of facts 'may show that the applicant is not attached to the principles of the Constitution of the United States and well disposed to the good order and happiness of the same, and except in so far as the same may show that she cannot take the oath of allegiance without a mental reservation.' The views referred to are an extreme opinion in favor of pacifism and a statement that she would not bear arms to defend the Constitution. So far as the adequacy of her oath is concerned I hardly can see how that is affected by the statement, inasmuch as she is a woman over fifty years of age, and would not be allowed to bear arms if she wanted to. And as to the opinion the whole examination of the applicant shows that she . . . thoroughly believes in organized government and prefers that of the United States to any other in the world. Surely it cannot show lack of attachment to the principles of the Constitution that she thinks that it can be improved. . . .

. . . She is an optimist and states in strong and, I do not doubt, sincere words her belief that war will disappear and that the impending destiny of mankind is to unite in peaceful leagues. I do not share that optimism nor do I think that a philosophic view of the world would regard war as absurd. But most people who have known it regard it with horror, as a last resort, and even if not yet ready for cosmopolitan efforts, would welcome any practicable combinations that would increase the power on the side of peace. The notion that the applicant's optimistic anticipations would make her a worse citizen is sufficiently answered by her examination, which seems to me a better argument for her admission than any that I can offer. Some of her answers might excite popular prejudice, but if there

CONTINUE

is any principle of the Constitution that more imperatively calls for attachment than any other it is the principle of free thought—not free thought for those who agree with us but freedom for the thought
85 that we hate.

32

According to Passage 1, the refusal of citizens to bear arms in the country's defense will directly result in an

A) overall weakening in the security of the national government.

B) inability of citizens to defend their personal ethical beliefs.

C) increase in military attacks from hostile foreign countries.

D) escalating mistrust between different classes of citizens.

33

As used in line 8, "governing" most nearly means

A) disrupting.

B) assuming.

C) inspecting.

D) regulating.

34

Which choice from Passage 1 best supports the idea that the government has an interest in curbing any possible trend toward pacifism?

A) Lines 11-13 ("And it . . . disregarded")

B) Lines 13-17 ("The influence . . . arms")

C) Lines 26-29 ("Taken . . . arms")

D) Lines 29-32 ("Her expressed . . . class")

35

The main purpose of the last sentence of Passage 1 (lines 37-40) is to

A) hint at the unpredictability of naturalization decisions.

B) underscore the deficiencies of the application process.

C) emphasize the possible threat posed by the applicant.

D) summarize the evidence presented by the applicant.

36

In Passage 2, Holmes indicates that criticism of the US Constitution is

A) typical of those who are unfamiliar with Constitutional principles.

B) compatible with believing in the Constitution's doctrines.

C) reflective of a general cultural trend.

D) suggestive of a positive view of the world.

37

As used in line 79, "admission" most nearly means

A) disclosure.

B) concession.

C) acceptance.

D) testimony.

CONTINUE

38

The main purpose of both passages is to

A) argue that all people who apply for US citizenship must be prepared to obey US law.

B) investigate the accuracy of an individual's testimony from a previous court case.

C) determine whether an applicant for citizenship is suitable for military service.

D) evaluate the appropriateness of an individual's petition to become a US citizen.

39

Based on Passage 2, Holmes most likely would have responded to Butler's claim that Schwimmer has "no sense of nationalism" (line 34) by arguing that Schwimmer

A) believes that the government of the United States is superior to any other.

B) is confident that life in the United States will improve gradually over time.

C) displays nationalism in her deep understanding of the US Constitution.

D) would contend that her pacifism constitutes a fierce loyalty to the United States.

40

Based on Passage 1, Butler most likely would have responded to lines 54-58 ("So far . . . wanted to") in Passage 2 by stating that

A) future law may make it possible for women to bear arms in the country's defense.

B) a person of any age or sex has the right to offer opinions about the military.

C) Schwimmer is capable of persuading others to adopt her opinions.

D) Schwimmer's opposition to the use of defensive military force is unconstitutional.

41

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

A) Lines 4-11 ("And their . . . endure")

B) Lines 17-19 ("The fact . . . others")

C) Lines 23-25 ("Her testimony . . . herself")

D) Lines 33-37 ("The fact . . . laws")

CONTINUE

Questions 42-52 are based on the following passage and supplementary material.

This passage is adapted from Jonathan B. Losos, *Improbable Destinies: Fate, Chance, and the Future of Evolution*. ©2017 by Jonathan B. Losos. The Rothamsted Park Grass Experiment is a collection of grass plots established in the nineteenth century to study the effects of fertilizers on plants.

Botanist Roy Snaydon saw in the Park Grass Experiment a way to experimentally test the idea that soil chemistry can drive evolutionary divergence in plants, even over very short distances and short periods of time. If this were the case, he reasoned, then it was possible that the variation seen among the Park Grass Experiment plots may partly have resulted from the adaptive divergence of members of the same species to the varying conditions on the different plots.

There was only one problem: the staff at Rothamsted looked upon the experimental plots—at that point one hundred years old—as hallowed ground. Only a few select staff members were allowed to even walk on the plots to tend them. Nobody was allowed to collect material or conduct research on them. The scientist supervising the plots and the Plots Committee were dubious about Snaydon's proposals, but his request came at the right time. The committee was considering discontinuing the experiments because they saw nothing left to learn, so what could be the harm in letting the professor do a little work on a few plots? Snaydon was called to appear before the committee and intensely grilled. Finally, approval was granted, albeit grudgingly, and they permitted Snaydon to collect a limited number of seeds.

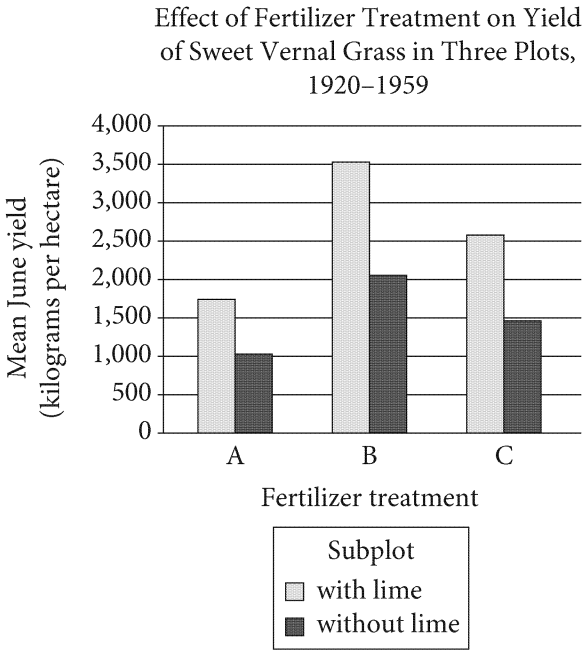
To test his idea that plants had diverged among the plots, Snaydon focused on sweet vernal grass, the plant found on the plots throughout the experimental field. He initially selected three plots that had been fertilized with different chemical mixes since the initiation of the experiment in 1856. Because lime had been applied to the southern half of each plot for half a century, the study involved six subplots varying markedly in mineral content and soil acidity. Snaydon's hypothesis was that over the past century, the grass populations had diverged evolutionarily to adapt to the specific conditions they experienced.

And diverge they had. Snaydon, quickly joined by ace graduate student Stuart Davies, found tremendous variation in the sweet vernal grass from one subplot to the next. The total weight (termed "yield") of the grass on some subplots was fifty percent higher than on others; height varied to a comparable extent. To test for genetic differences, they planted the seeds from different plots side by side. Sweet vernal grass from the different plots grown under identical conditions in a university research garden differed in a variety of traits, including the weight of the flowers, the size of the leaves, and the grass's susceptibility to mildew, demonstrating a genetic basis for differences among the subplots.

The existence of evolved genetic differences among plots did not, in itself, prove that these changes were adaptive—the changes could represent the sort of random genetic fluctuations that occur by chance in small populations. To test the adaptation hypothesis directly, Snaydon and Davies grew plants under a variety of different soil conditions. As they expected, plants grew best on soil with the same chemical composition as their natal plot. Taking this approach one step further, they took garden-reared plants and placed them back out onto the experimental plots (by this point, the scientific dividends of the work were so obvious that the Plots Committee was more liberal in the sort of work it allowed). Sure enough, plants grew much better on their home plot than on plots with different soil chemistry and vegetation characteristics. The conclusion was clear: over the course of a century, plants had adapted to the conditions they experienced on their own subplots.

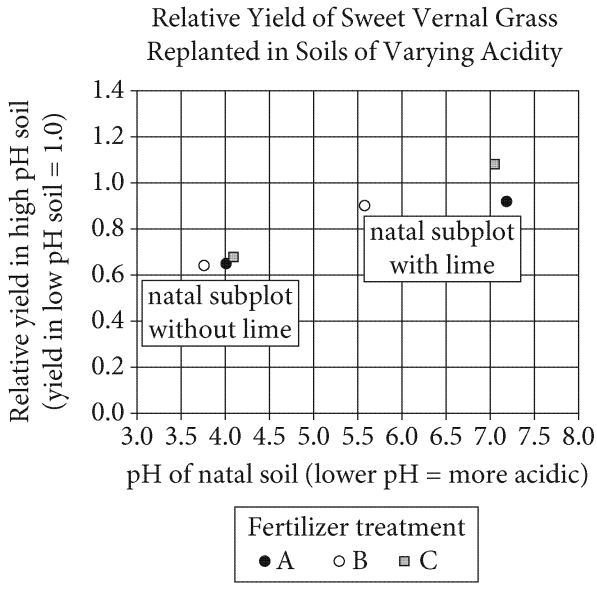
CONTINUE

Figure 1



Adapted from R. W. Snaydon and M. S. Davies, "Rapid Population Differentiation in a Mosaic Environment. II. Morphological Variation in *Anthoxanthum odoratum*." ©1972 by Society for the Study of Evolution.

Figure 2



Adapted from R. W. Snaydon, "Rapid Population Differentiation in a Mosaic Environment. I. The Response of *Anthoxanthum odoratum* Populations to Soils." ©1970 by Society for the Study of Evolution.

42

As used in line 3, "drive" most nearly means

A) handle.
B) oversee.
C) transport.
D) cause.

43

The main purpose of the second paragraph (lines 11-27) is to

A) show how the Plots Committee had assured the longevity of the Park Grass Experiment.
B) relate circumstances that posed an obstacle to the execution of Snaydon's research.
C) provide historical context about the formation of the Plots Committee.
D) summarize several flaws in the research proposal Snaydon presented.

CONTINUE

44

According to the passage, Snaydon's selection of plots for his experiment was based on the

A) type of fertilizer applied to the southern portion of each subplot and how it affected the mineral content in the soil.

B) levels of soil acidity in the plots after they were treated with fertilizers to increase the effectiveness of the lime.

C) concentrations of lime in the various subplots together with the total number of seeds found on each plot.

D) variety of chemical mixes used to fertilize the plots together with the application of lime to half of each plot.

45

As used in line 33, "initiation" most nearly means

A) commencement.

B) provocation.

C) acceptance.

D) instruction.

46

Based on the passage, which choice best helps explain why the experiments discussed in the last paragraph were necessary for confirming Snaydon's hypothesis?

A) The number of seeds that were replanted in the university research garden was too small to prove the existence of genetic differences.

B) The initial experiment conducted in the university research garden did not rule out a competing explanation for the observed variation between the plants.

C) The initial experiment conducted in the university research garden focused on too limited a number of traits to establish clear differences between the plants.

D) The soil chemistry of the plots studied in the university research garden was not identical to the soil chemistry of the Park Grass Experiment plots.

47

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

A) Lines 56-60 ("The existence . . . populations")

B) Lines 60-62 ("To test . . . conditions")

C) Lines 64-67 ("Taking . . . plots")

D) Lines 72-75 ("The conclusion . . . subplots")

48

The parenthetical remark in lines 67-70 ("by this . . . allowed") mainly serves to

A) note that Snaydon's research revived the committee's interest in genetic adaptations.

B) suggest that Snaydon's conclusions were anticipated by the scientific community.

C) specify Snaydon's contribution to a particular area of scientific inquiry.

D) indicate a reason why Snaydon was able to continue testing his hypothesis.

49

The data presented in figure 1 best support which statement about the mean June yield of sweet vernal grass in the plots Snaydon studied?

A) For all three fertilizer treatments, the mean yields were consistent across subplots that were treated with lime.

B) The mean yields in subplots without lime consistently exceeded 1,500 kilograms per hectare.

C) For all three fertilizer treatments, the mean yields of subplots treated with lime were higher than those of subplots without lime.

D) The mean yields in subplots treated with lime consistently fell short of 2,000 kilograms per hectare.

CONTINUE

50

According to figure 2, the relative yield in high pH soil of sweet vernal grass plants that had not been treated with lime in their natal subplot was within which range?

A) 0.4–0.6
B) 0.6–0.8
C) 0.8–1.0
D) 1.0–1.2

51

Based on the passage, which choice best helps account for the differences in relative yield of the various sweet vernal grass plants after they were replanted in high pH soil, as presented in figure 2?

A) Sweet vernal grass plants that had been treated with lime adapted to the high pH soil more quickly than did plants that had not been treated with lime.
B) Sweet vernal grass plants cultivated with lime were more likely to thrive in a variety of soil types than were sweet vernal grass plants without lime.
C) The high pH soil was more similar in composition to the natal soil of sweet vernal grass plants treated with lime than it was to the natal soil of sweet vernal grass plants without lime.
D) The respective fertilizer treatments were more effective in providing nourishment for sweet vernal grass plants in high pH soil than in low pH soil.

52

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

A) Lines 34-37 ("Because . . . acidity")
B) Lines 41-44 ("Snaydon . . . next")
C) Lines 47-49 ("To test . . . side")
D) Lines 70-72 ("Sure . . . characteristics")

STOP

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

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.

Material Ecology: Design for the Future

In 2006, architect and designer Neri Oxman was still a doctoral student at the Massachusetts Institute of Technology (MIT) when she proposed a radical new approach for the field of design. Oxman 1 quickly established herself as a rising star in design, having been featured in both peer-reviewed scholarly journals and popular magazines across the world.

1

Which choice most effectively establishes the main topic of the passage?

A) NO CHANGE

B) envisioned a more holistic and ecological design paradigm that combined biology, engineering, and computer science; she called this approach "material ecology."

C) coined the term "material ecology" to describe an interdisciplinary research project, which she documented on a blog by the same name.

D) set out to discover a new way to build things.

CONTINUE

In Oxman's view, early twenty-first-century architectural design was stubbornly rooted in the design principles of the industrial era. 2 Assembled with discrete, mass-produced, interchangeable parts, most structures were built like machines. Conventional construction processes, Oxman observed, were in contrast to the dynamic, organic ways most biological structures occur in 3 nature, there material is not a secondary but an essential aspect of design. By utilizing new 3-D printing technologies, Oxman argued, designers could begin to grow or fabricate structures from seamless, multifunctional materials that would be both integrated 4 into and responsive to the surrounding environment. The possibilities she imagined were remarkably creative: buildings made with breathable exteriors and concrete that could repair itself, like bone. Indeed, some might even be called poetic, such as shell-like homes with insulation that functioned like a bird's plumage—raising and flattening feathers—to regulate temperature.

2

Which choice best supports the idea in the previous sentence?

A) NO CHANGE
B) Having studied biology, computational design, and architecture, Oxman approached architectural design with a uniquely interdisciplinary perspective.
C) Oxman spent her time studying natural structural systems like bone, wood, feathers, shells, and nests and was impressed by their innate beauty.
D) Collaboration with nature was fundamental to Oxman's concept of material ecology.

3

A) NO CHANGE
B) nature, where
C) nature. Where
D) nature,

4

A) NO CHANGE
B) on and responsive for
C) by and responsive of
D) for and responsive with

CONTINUE

Since Oxman introduced the concept, material ecology has garnered acclaim and influenced designers worldwide. In 2014, Simon 5 Schleicher an architectural designer at the University of Stuttgart, followed Oxman's biomimetic approach in solving a particular engineering 6 challenge: designing shading systems for irregularly shaped glass-paneled skyscrapers. External awnings, which are assembled out of standardized parts, often don't fit the atypical contours of modern buildings and are prone to weather damage. Recognizing the insufficiency of these traditional rigid-body devices, 7 Schleicher's designs were modeled on the elastic movement principles of plants. His solution was a single-material façade-shading structure that could cover a building like the petals on a flower, able to open and contract in response to changing weather conditions.

5

A) NO CHANGE
B) Schleicher an architectural designer at the University of Stuttgart
C) Schleicher, an architectural designer, at the University of Stuttgart
D) Schleicher, an architectural designer at the University of Stuttgart,

6

A) NO CHANGE
B) challenge; designing
C) challenge designing:
D) challenge designing—

7

A) NO CHANGE
B) Schleicher modeled his designs on the elastic movements of plants.
C) the elastic movements that Schleicher's designs were modeled on were those of plants.
D) the elastic movements of plants provided the model for Schleicher's designs.

CONTINUE

Schleicher's design 8 is just one application born from Oxman's progressive design philosophy. In fact, Oxman herself is at work 9 essaying the conceits of her fancy at MIT, where she is now a professor. Her recent

8

Which choice provides the most effective transition from the previous paragraph to this one?

A) NO CHANGE

B) is part of a larger research project, titled "Deployable Structures in Architecture—Flexible Surface Structures on the Basis of Bionic Principles."

C) was published in a 2015 issue of *Computer-Aided Design*, which was edited by Oxman.

D) is, as of 2018, still at an early stage of development, and Schleicher himself is now an assistant professor at the University of California, Berkeley.

9

A) NO CHANGE

B) cooking up fresh stuff

C) developing new ideas

D) following her hunches

CONTINUE

projects include a 3-D printed garment designed for **10** keeping and sustaining life at a time of interstellar space travel and a room-sized structural dome spun entirely by silkworms. **11** Unlike conventional housing structures, the silkworm-spun dome is beautiful, biodegradable, self-healing, and replicable.

10

A) NO CHANGE

B) sustaining human biological systems during a period of space travel

C) the preservation of life while traveling on a journey through space

D) sustaining life during space travel

11

The writer wants a concluding sentence that offers a general assessment of the main topic of the passage. Which choice best accomplishes this goal?

A) NO CHANGE

B) Oxman's design work has even expanded into the realm of high fashion, with 3-D printable gowns and bodices customized for each model.

C) At the vanguard of her field, Oxman is looking far beyond the conventions of the present to define the future of design.

D) Oxman was not the first designer to take inspiration from the natural world, and she will certainly not be the last.

CONTINUE

Questions 12-22 are based on the following passage.

Incompletely Complete Art

12 Universally celebrated for containing one of the most important art collections in the world, the Metropolitan Museum of Art is world famous for its vast collection of undisputed masterpieces, but at its newest gallery, the Met Breuer, an exhibition features works of art 13 beginning with those made by Renaissance masters and concluding with contemporary works. In spite of their great variety, the artworks in the exhibit, titled *Unfinished: Thoughts Left Visible*, share a striking commonality: whether it was because the artist could not keep working or made the deliberate decision to stop, each work is incomplete. Spanning five centuries of art with over 190 pieces, the exhibition explores the theme, fascinating to artists and art lovers alike, of how to know when a work of art is truly finished.

Some works, such as Flemish painter Peter Paul Rubens's *Henry IV at the Battle of Ivry*, 14 was left unfinished due to circumstances outside of the artist's control. Rubens was living in Antwerp (in what is now Belgium) in 1628 when he began this 15 ambitious work, commissioned by Marie de Medicis, Queen of France, as part of a series documenting her late husband's great victories. Rubens 16 fills the enormous canvas with

12

A) NO CHANGE
B) Featuring a collection of works by the greatest artists in the world,
C) Understood worldwide to be a premier location to view artworks,
D) DELETE the underlined portion, adjusting the capitalization as needed.

13

Which choice best sets up the information that follows in the paragraph?

A) NO CHANGE
B) some visitors might initially find inadequate.
C) by famous artists like Rembrandt van Rijn and Jackson Pollock.
D) from the museum's own collection and on loan from major international museums.

14

A) NO CHANGE
B) is
C) were
D) has been

15

A) NO CHANGE
B) enthusiastic
C) industrious
D) determined

16

A) NO CHANGE
B) will fill
C) is filling
D) filled

CONTINUE

dynamic brushstrokes, sketching out a dramatic battle scene with a fierce, three-armed soldier at its **17** center; planning to paint over one arm later. Three years later, Rubens still had not decided which arm to remove when, frustrated that the now-exiled queen had sent him the wrong canvas dimensions and failed to make the expected payments, **18** and abandoning the painting for good. *Henry IV* was never sent to France, but Rubens's significance as an artist ensured its status as one of Belgium's national treasures.

Other artists may intentionally leave a work unfinished, as African American artist Kerry James Marshall did with his 2009 painting *Untitled*. **19** Although the painting within a painting is a conventional

17

A) NO CHANGE
B) center:
C) center
D) center,

18

A) NO CHANGE
B) he abandoned
C) while abandoning
D) having abandoned

19

At this point, the writer is considering adding the following sentence.

> The work features a painter turned away from her self-portrait in progress.

Should the writer make this addition here?

A) Yes, because it provides information that explains why Marshall left his painting unfinished.
B) Yes, because it provides details about the painting that are necessary for understanding the main idea of the paragraph.
C) No, because it does not explain why Marshall's work belongs in the Met Breuer exhibition.
D) No, because it does not effectively describe the impact Marshall's painting has on viewers.

CONTINUE

artistic motif, Marshall deploys it for a specific purpose: to address the lack of black subjects in Western art. As Marshall noted in a 2014 interview, "When I was growing up, I recognized my absence in the pantheon." The painting's incompleteness encourages viewers to imagine finishing the work themselves. 20 More than that, though, it provokes them to reflect on the scarcity of black subjects in the artistic canon. 21 Marshall is inspired by the work of African American artist Charles White.

Andrea Bayer, the curator of the exhibition, says that unfinished works can be masterpieces in their own right and illuminate the process of artistic creation. 22 Paintings, by Rubens and Marshall, demonstrate that unfinished works can also provide valuable insights into the interplay between historical contexts and creative decisions.

20

A) NO CHANGE
B) In other words, indeed,
C) On the contrary,
D) In the final analysis,

21

Which choice provides the most effective conclusion to the paragraph?

A) NO CHANGE
B) Marshall's work has appeared in major museums, including the Museum of Modern Art in New York and the Art Institute of Chicago.
C) Born in Alabama in 1955, Marshall grew up in the Watts section of Los Angeles, and these early influences shaped his approach to making art.
D) What Marshall seems to have left undone actually allows *Untitled* to fulfill his artistic purpose.

22

A) NO CHANGE
B) Paintings by Rubens and Marshall
C) Paintings—by Rubens and Marshall—
D) Paintings by Rubens and Marshall,

CONTINUE

Questions 23-33 are based on the following passage and supplementary material.

Giants of the Sea

Mysticete whales are the giants of today's oceans—but when and why did they get so big? One hypothesis holds that around 30 million years ago, early in the whales' evolutionary history, gigantism (a typical length of 10 23 meters) or more gave the whales a survival advantage because it meant they could outcompete smaller whales for prey. According to another hypothesis, gigantism evolved in the whales about 23 million years ago because larger mysticetes had been more successful than their smaller counterparts at defending themselves against massive predators. Recently, a group of researchers decided to evaluate both hypotheses.

The researchers collected length data for living mysticete 24 species. They estimated the typical length of several mysticete species that are extinct, making the estimates from fossils. The first known mysticete species appeared around 25 30 million years ago and is estimated by the researchers to have been 7 meters in length. Based on the hypotheses they were testing, the researchers had expected the fossil data to show a shift toward gigantism between 20 and 30 million years ago.

23

A) NO CHANGE
B) meters or more—
C) meters or more)
D) meters—or more

24

Which choice most effectively combines the sentences at the underlined portion?

A) species; fossils of several mysticete species that are extinct were used by the researchers for estimates of typical length.
B) species; they collected it for several extinct ones by estimating their typical length, making the estimates from fossils.
C) species and, from fossils of extinct ones, estimated the typical length of several.
D) species and, from fossils, estimated the typical length of several extinct mysticete species.

25

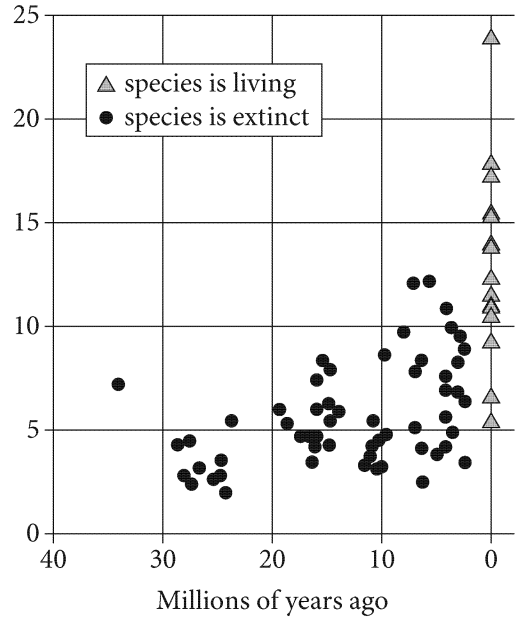
Which choice most accurately represents data in the graph?

A) NO CHANGE
B) 34
C) 40
D) 44

CONTINUE

To the researchers' surprise, though, the data indicated that during this period, 26 the most abundant mysticete species had a typical length of only about 6 meters. In fact, the data 27 suggested that the shift toward gigantism did not occur until the last 10 million years. Today, the majority of mysticetes are more than 10 meters in length, with members of the longest species reaching nearly 25 meters.

Body Lengths of Living and Extinct Mysticete Whale Species



Adapted from Graham J. Slater et al., "Independent Evolution of Baleen Whale Gigantism Linked to Plio-Pleistocene Ocean Dynamics." ©2017 by Graham J. Slater et al.

26

Which choice most accurately represents data in the graph?

A) NO CHANGE
B) nearly half of mysticete species had a typical length of less than 5
C) the largest mysticete species had a typical length of only about 12
D) most mysticete species had a typical length of less than 5

27

A) NO CHANGE
B) will suggest
C) would suggest
D) had been suggesting

CONTINUE

To account for the unanticipated data, the researchers developed a new hypothesis: mysticetes grew in response to changes in climate. About 4.5 million years ago, Earth entered an ice age, with many cycles of glacial formation and **28** to retreat. Every time the glaciers melted, water carried nutrients from the land into shallow ocean waters, a process called runoff. Changes in air temperature caused wind patterns to shift, **29** that shift in turn triggered a process known as upwelling, causing nutrients from the deep ocean to rise up toward the surface. **30** However, more nutrients meant more available food.

28

A) NO CHANGE
B) retreat.
C) retreated.
D) glaciers retreating.

29

A) NO CHANGE
B) this
C) which
D) DELETE the underlined portion.

30

A) NO CHANGE
B) Conversely,
C) Regardless,
D) DELETE the underlined portion, adjusting the capitalization as needed.

CONTINUE

[1] Together, runoff and upwelling created what one science journalist described **31** as: dense "buffets" for the mysticetes. [2] But these buffets were not continuous; they were patchy and seasonal. [3] According to paleobiologist Jorge Velez-Juarbe, a "large size allows [a whale] to take a giant bite" and **32** vacillate more easily between areas rich in food. [4] A large body can also store more fat to sustain a whale between feedings. [5] The researchers believe that for these reasons, smaller mysticetes gave way to giant ones. **33**

31

A) NO CHANGE
B) as
C) as;
D) as—

32

A) NO CHANGE
B) ambulate
C) migrate
D) transfer

33

The writer wants to add the following sentence to this paragraph.

> With food being only occasionally plentiful, gigantism gave the mysticetes several key advantages.

The best placement for the sentence is

A) before sentence 1.
B) after sentence 1.
C) after sentence 2.
D) after sentence 3.

CONTINUE

Questions 34-44 are based on the following passage.

Bearing Fruit with Community Gardens

In 2011 residents of the Crown Heights neighborhood in Brooklyn, New York, turned a vacant local lot into a garden. They maintained the garden for years, beautifying the landscape and reaping fruits and vegetables—until a real estate company purchased the land and ultimately 34 succeeded in evicting the gardeners. After the 35 resident's forced departure, the land returned 36 back to being disused, subject to the slow process of commercial development.

37 A plague on many cities are vacant lots. These vacant lots often languish as dumping grounds for litter and waste. As the story of the Crown Heights community garden shows, commercial development may not always be the ideal solution to the problem, since regulations and long application processes can prevent companies from taking action on the plots. Community gardens merit support over uncertain commercial enterprise not only because they can offer a speedier means of revitalizing vacant lots 38 and because they can also bring unique benefits to residents and neighborhoods.

34

A) NO CHANGE
B) succeeded for
C) seceded in
D) seceded at

35

A) NO CHANGE
B) residents'
C) residents
D) resident

36

A) NO CHANGE
B) and regressed to disuse,
C) to disuse,
D) to its previous state of being in disuse,

37

Which choice most effectively combines the sentences at the underlined portion?

A) While vacant lots plague many cities, they are often languishing
B) Plaguing many cities often are vacant lots, which languish
C) Vacant lots plague many cities, often languishing
D) Many cities are plagued by vacant lots, so they often languish

38

A) NO CHANGE
B) as they can also
C) and can also
D) but also because they can

CONTINUE

Free from certain restrictions imposed on developers, individuals can work together and in tandem with local institutions and government to 39 rid vacant lots of soil contaminants that would impede the development of community gardens. A garden in Fairmont, West Virginia, developed in 2013 on a disused piece of land, serves as a prime example. Local business 40 owner, Christa Blais worked with the city to acquire the property, while students at Fairmont State University built a rainwater-collection system and helped design sections of the garden. 41 Although certain gardeners are motivated primarily by a desire for tastier food, the city of Fairmont facilitated the building of a bridge and paved the roads around the garden for easier access. The garden had already begun to flourish by the fall of 2014 when funding for the bridge and other projects 42 were obtained through a national grant awarded in recognition of the garden's positive impact on the community.

39

Which choice most effectively sets up the discussion that follows in the paragraph?

A) NO CHANGE
B) create thriving community gardens relatively quickly.
C) decide what types of food and flowers should be grown in each community garden.
D) ensure that a garden can be financially self-sustaining into the future.

40

A) NO CHANGE
B) owner Christa Blais,
C) owner: Christa Blais,
D) owner Christa Blais

41

Which choice provides the most effective transition from the previous sentence to the information that follows in this sentence?

A) NO CHANGE
B) Because it is important to Blais that children learn about where their food comes from,
C) Despite the need for a fence around the perimeter,
D) In addition to aiding Blais in securing the land,

42

A) NO CHANGE
B) have been
C) was
D) are

CONTINUE

A community garden can be impactful in ways other than as a means of rapidly beautifying an unsightly lot. The Fairmont garden, for example, provides access to fresh produce, which residents can grow on their own rented plots or cultivate on a shared community plot. (In some neighborhoods, community gardens are crucial in this 43 respect.) The garden also offers students the opportunity to learn about food production, while community members can enjoy the natural beauty of a garden even if they do not have enough yard space to grow their own. Not every vacant lot should be turned into a 44 garden, but organizations such as the National Gardening Association will continue providing resources aimed at ensuring gardens everywhere bear fruit.

43

The writer is considering revising the underlined portion to the following.

> respect, yielding nutrient-rich foods that would otherwise be difficult for residents to obtain.

Should the writer make this revision?

A) Yes, because it explains why the ability of community gardens to provide access to fresh produce is so important.

B) Yes, because it provides additional information about the kinds of crops that can be grown in community gardens.

C) No, because it undermines a point made earlier in the paragraph about food grown in community gardens.

D) No, because it interjects information that is only tangentially related to the creation of community gardens.

44

Which choice most effectively concludes the passage?

A) NO CHANGE

B) garden, though, with some experts arguing that produce of suitable freshness can simply be brought into communities that lack gardens.

C) garden; larger lots in particular should be designated for commercial development since they can accommodate bigger structures.

D) garden, but when the alternative is slow-moving commercial development that may never bear fruit, the case for a community garden is compelling.

STOP

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

No Test Material On This Page

Math Test – No Calculator

25 MINUTES, 20 QUESTIONS

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

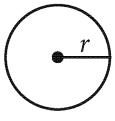
DIRECTIONS

For questions 1-15, solve each problem, choose the best answer from the choices provided, and fill in the corresponding bubble 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.

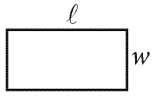
NOTES

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.

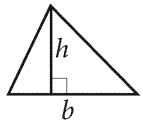
REFERENCE



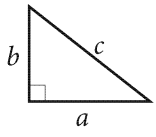
$A = \pi r^2$
$C = 2\pi r$



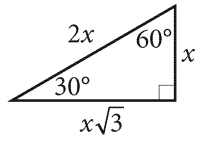
$A = \ell w$

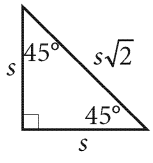


$A = \frac{1}{2}bh$

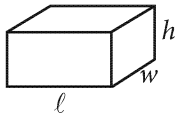


$c^2 = a^2 + b^2$

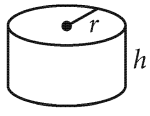




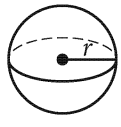
Special Right Triangles



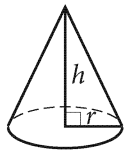
$V = \ell wh$



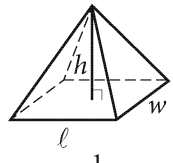
$V = \pi r^2 h$



$V = \frac{4}{3}\pi r^3$



$V = \frac{1}{3}\pi r^2 h$



$V = \frac{1}{3}\ell wh$

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

Which expression is equivalent to $a^2b^3(a^3b^4)$?

A) a^5b^7

B) a^5b^{12}

C) a^6b^7

D) a^6b^{12}

2

Sydney is studying the sediment in the valley of a canyon. She determines that the age of the sediment at the top of the canyon is 2,000,000 years old. She knows that the layers below were created at a rate of 1 meter every 800 years. Which equation can Sydney use to determine the age of the sediment y, in years, where x is the number of meters below the top of the canyon?

A) $2{,}000{,}000 = 800x + y$

B) $y = 2{,}000{,}000x + 800$

C) $y = 800x + 2{,}000{,}000$

D) $x = y + (800)(2{,}000{,}000)$

3

The function f is defined as $f(x) = 2$ if $x < 3$ and $f(x) = 0$ if $x \geq 3$. At how many points does the graph of $y = f(x)$ in the xy-plane intersect the x-axis?

A) 0

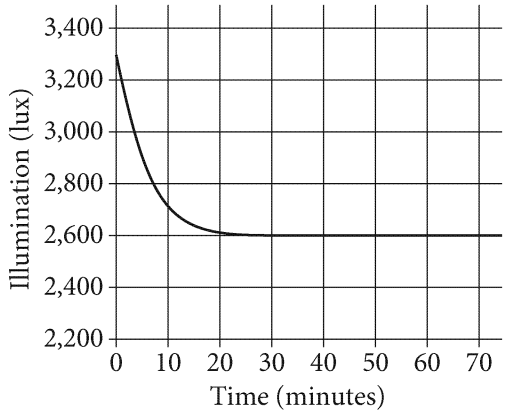
B) 2

C) 3

D) Infinitely many

4

A certain LED lightbulb initially produces 3,300 lux of illumination. When the LED lightbulb is left on, its illumination decreases exponentially, as shown in the graph.



Which statement best compares the illumination at 30 minutes with the illumination at 0 minutes?

A) The illumination is identical at 30 minutes and at 0 minutes.

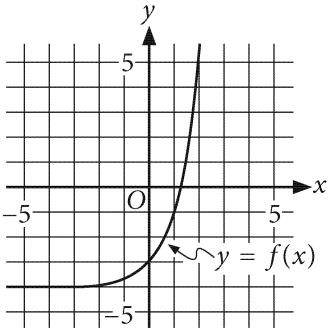
B) The illumination is approximately 20% less at 30 minutes than it was at 0 minutes.

C) The illumination is approximately 50% less at 30 minutes than it was at 0 minutes.

D) The illumination is approximately 80% less at 30 minutes than it was at 0 minutes.

CONTINUE

5



The graph of $y = f(x)$ is shown. What is the y-intercept of the graph of $y = f(x) + 2$?

A) $(0, 2)$

B) $(0, -1)$

C) $(0, -2)$

D) $(0, -5)$

6

A line in the xy-plane passes through the points $(2, 6)$ and $(6, 12)$. Which of the following is an equation of this line?

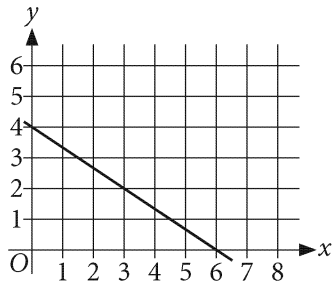
A) $y = \frac{2}{3}x + \frac{14}{3}$

B) $y = \frac{2}{3}x + 8$

C) $y = \frac{3}{2}x + \frac{14}{3}$

D) $y = \frac{3}{2}x + 3$

7



What is an equation of the graph shown?

A) $6x - 3y = 4$

B) $6x + 3y = 12$

C) $2x - 3y = 4$

D) $2x + 3y = 12$

8

$$y = 2x - 5$$
$$y = x^2 - 5$$

The graph of the given system of equations has an intersection point (x, y) in the xy-plane. What is a possible value of y ?

A) -2

B) -1

C) 0

D) 2

CONTINUE

9

$$4x + 7 - x = 3(x + 2) + 1$$

How many solutions does the given equation have?

A) Zero
B) Exactly one
C) Exactly two
D) Infinitely many

10

In right triangle XYZ, angle Z is a right angle. The value of $\sin X$ is 0.64. What is the value of $\cos Y$?

A) 0.26
B) 0.36
C) 0.64
D) 0.77

11

Which expression is equivalent to $\sqrt{ab}$, where a and b are positive numbers?

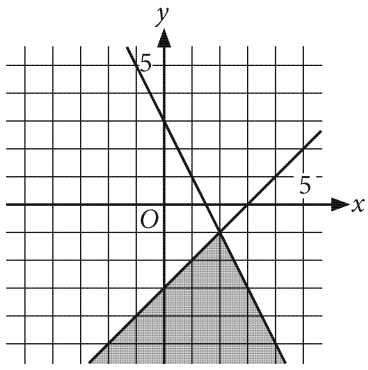
A) $a^{\frac{1}{2}}b^{\frac{1}{2}}$

B) $ab^{\frac{1}{2}}$

C) a^2b^2

D) ab^2

12



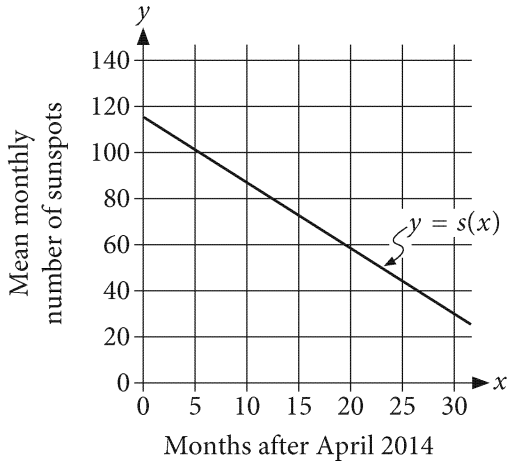
In the xy-plane above, the graphs of the lines with equations $y = -2x + 3$ and $y = x - 3$ are shown. Point P (not shown) has coordinates $(2, -4)$ and lies in the shaded region. Which of the following is(are) true about point P ?

I. The coordinates of P satisfy $y < -2x + 3$.
II. The coordinates of P satisfy $y > x - 3$.

A) I only
B) II only
C) I and II
D) Neither I nor II

CONTINUE

13



The graph of the linear function shown models the mean monthly number of sunspots, $s(x)$, as a function of the number of months, x, since April 2014, where $0 \leq x \leq 30$. Which is the best estimate for the mean monthly number of sunspots in April 2015?

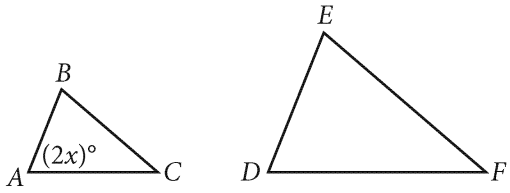
A) 50

B) 60

C) 70

D) 80

14



Note: Figure not drawn to scale.

In the figures shown, triangle ABC is similar to triangle DEF, where A, B, and C correspond to D, E, and F, respectively. If $\frac{AB}{DE} = \frac{1}{4}$, what is the measure, in degrees, of $\angle D$ in terms of x ?

A) $2x$

B) $4x$

C) $6x$

D) $8x$

15

A ball was thrown into the air from a height of 4 feet (ft). One second after the ball was thrown, it reached a maximum height of 20 ft. The height of the ball can be modeled with a quadratic function, where t is the time, in seconds, since the ball was thrown and $h(t)$ is the height of the ball, in ft. Which function models the height of the ball over time?

A) $h(t) = -16(t-1)^2 + 4$

B) $h(t) = -16(t+1)^2 + 4$

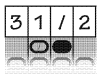
C) $h(t) = -16(t-1)^2 + 20$

D) $h(t) = -16(t+1)^2 + 20$

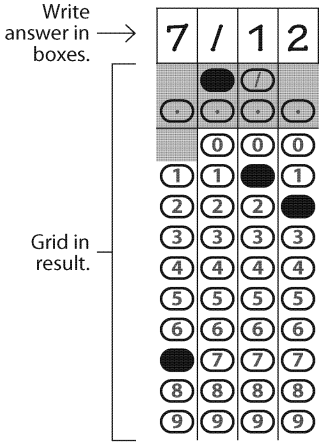
CONTINUE

DIRECTIONS

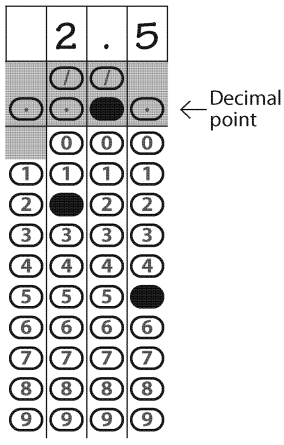
For questions 16-20, solve the problem and enter your answer in the grid, as described below, on the answer sheet.

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 bubbles accurately. You will receive credit only if the bubbles are filled in correctly.
2. Mark no more than one bubble 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 $3\frac{1}{2}$.)
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.

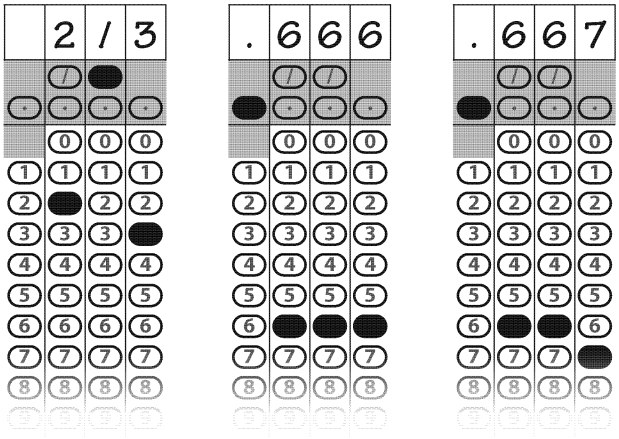
Answer: $\frac{7}{12}$ are:



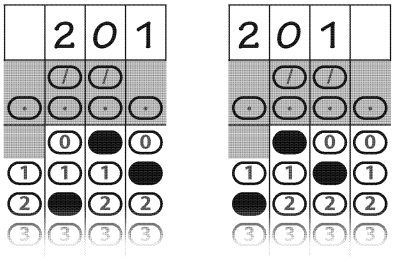
Answer: 2.5



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

$$|\, x + 2 \,| = 9$$

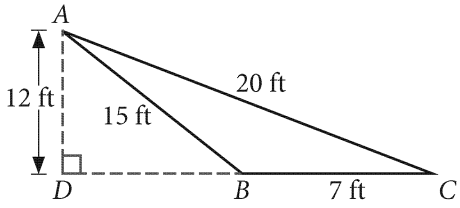
What is the positive solution to the given equation?

17

$$3(x - 30) = x + 510$$

What value of x satisfies the given equation?

18



Note: Figure not drawn to scale.

Triangle ABC and its dimensions in feet (ft) are shown, where B, C, and D lie on the same line. What is the area, in ft^2, of triangle ABC ?

19

$$3x - 2y = 3$$
$$4x + 5y = 50$$

If (x, y) is the solution to the system of equations above, what is the value of y ?

20

$$x^2 - 2x - 1 = 0$$

The equation above has solutions $x = \dfrac{2 + \sqrt{n}}{2}$ and $x = \dfrac{2 - \sqrt{n}}{2}$, where n is a positive integer. What is the value of n ?

STOP

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

No Test Material On This Page

Math Test – Calculator

55 MINUTES, 38 QUESTIONS

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

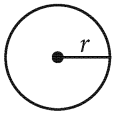
DIRECTIONS

For questions 1-30, solve each problem, choose the best answer from the choices provided, and fill in the corresponding bubble 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 16 on how to enter your answers in the grid. You may use any available space in your test booklet for scratch work.

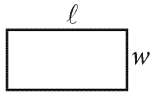
NOTES

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.

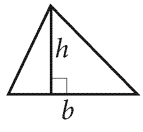
REFERENCE



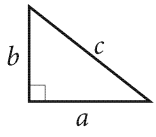
$A = \pi r^2$
$C = 2\pi r$



$A = \ell w$



$A = \frac{1}{2}bh$



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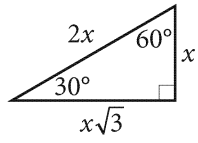
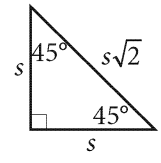
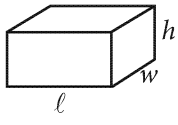
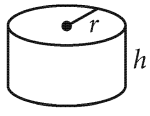




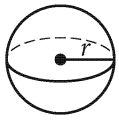
Special Right Triangles



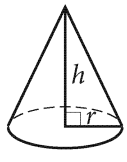
$V = \ell wh$



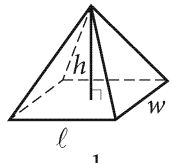
$V = \pi r^2 h$



$V = \frac{4}{3}\pi r^3$



$V = \frac{1}{3}\pi r^2 h$



$V = \frac{1}{3}\ell wh$

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

What is 48% of 50 ?

A) 2

B) 24

C) 25

D) 98

2

The function f is defined by $f(x) = 2x$. For what value of x does $f(x) = 6$?

A) 2

B) 3

C) 8

D) 12

3

When a zebra fish was 25 days old, the length of its tail fin was 3.0 millimeters (mm). The length of the fin increased by 0.06 mm each day for the next 175 days. Which of the following types of functions best describes how the fin length changed over time during this 175-day period?

A) Increasing linear

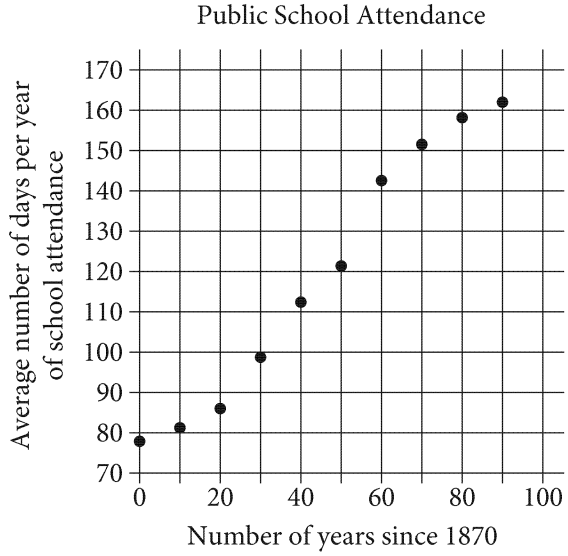
B) Decreasing linear

C) Increasing exponential

D) Decreasing exponential

4

The scatterplot shows the average number of days per year of school attendance by US public school students every 10 years from 1870 through 1960.



Which is the best approximation of the average number of days per year of school attendance in the year 1920?

A) 80

B) 90

C) 120

D) 160

CONTINUE

5

In the eleventh and twelfth centuries, the city of Cahokia (in what is now the state of Illinois) had a population of 20,000. The size of the city was 6 square miles. What was the population density, to the nearest hundred people per square mile, of Cahokia?

A) 3,300

B) 16,700

C) 23,300

D) 120,000

6

The length of a rectangle is 3 times the width w of the rectangle. Which of the following represents the area A of the rectangle in terms of w ?

A) $A = \frac{1}{9}w^2$

B) $A = \frac{1}{3}w^2$

C) $A = 3w^2$

D) $A = 9w^2$

7

$$w = 3.71m$$

The given equation can be used to calculate the weight w, in newtons, of any object on Mars that has mass m, in kilograms. Which table shows several values of m kilograms and corresponding values of w newtons?

A)

m	0	1	2	3
w	0	3.71	7.42	11.13

B)

m	0	1	2	3
w	0	4.71	5.71	6.71

C)

m	0	3.71	7.42	11.13
w	0	1	2	3

D)

m	0	4.71	5.71	6.71
w	0	1	2	3

CONTINUE

8

$$14x + 8y = 152$$

A summer day camp separates all 152 campers into groups that each consist of either all older children or all younger children. The equation above describes this situation, where x is the number of groups of older children and y is the number of groups of younger children. Which of the following is the best interpretation of the number 8 in this context?

A) The total number of younger children at the camp

B) The number of children in each of the younger children's groups

C) The number of children in each of the older children's groups

D) The number of groups

9

Archaeologists discovered a total of 100 Roman coins featuring either Emperor Augustus or Emperor Tiberius. The ratio of coins featuring Emperor Augustus to coins featuring Emperor Tiberius was 2 to 3. How many coins featured Emperor Augustus?

A) 20

B) 40

C) 60

D) 80

10

$$\frac{1}{2}(x + c) = 10$$

In the given equation, c is a constant. If x is the solution to the equation, what is the value of $x + c$?

A) 2

B) 5

C) 12

D) 20

CONTINUE

Questions 11 and 12 refer to the following information.

A researcher conducted a survey to identify attitudes about television. The survey included a section of 20 three-option questions and a section of true-or-false questions. After the survey, participants discussed their responses in an individual 15-minute interview session. Participant responses were assigned a certain number of points, as shown in the tables. Participants who received a total of 75 or more points on the survey were considered to have a positive attitude about television.

Three-Option Questions

Response	Points
Always	2
Sometimes	1
Never	1

True-or-False Questions

Response	Points
True	2
False	0

11

Tamika answered all the questions in the three-option section of the survey and only responded "always" and "sometimes." She received 35 points in this section. To how many questions did Tamika respond "always"?

A) 5

B) 10

C) 15

D) 20

12

Diego received m points on the three-option section. If t is the number of true-or-false questions he answered with a response of "true," which of the following inequalities models the number of true-or-false questions that he must have answered as "true" to be considered to have a positive attitude about television?

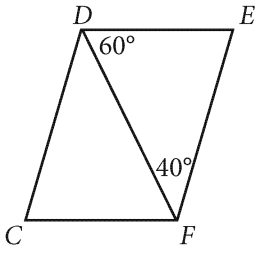
A) $2m + t \geq 75$

B) $m + 2t \geq 75$

C) $m(t + 2) \geq 75$

D) $\frac{(m + t)}{2} \geq 75$

13



In the figure shown, $CD = EF$ and $CF = DE$. What is the measure of $\angle CDE$?

A) 40°

B) 60°

C) 100°

D) 120°

CONTINUE

14

The list of numbers shown represents the ages of 6 different children.

4, 7, 5, 9, 7, 3

What is the median age?

A) 5

B) 6

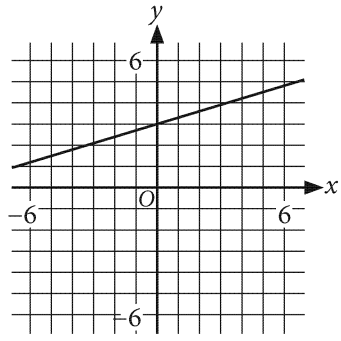
C) 7

D) 9

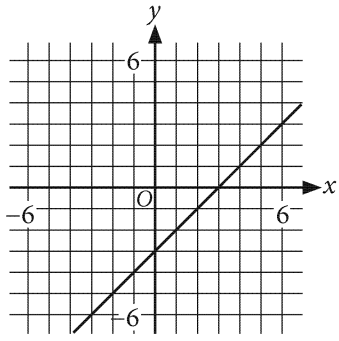
15

Which of the following could be the graph of the line with the equation $y = ax$, where a is a positive constant, in the xy-plane?

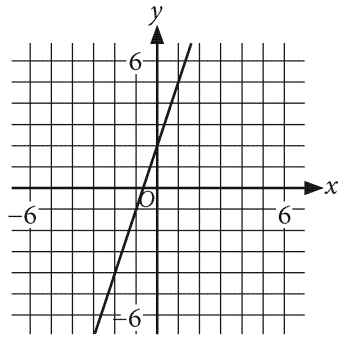
A)



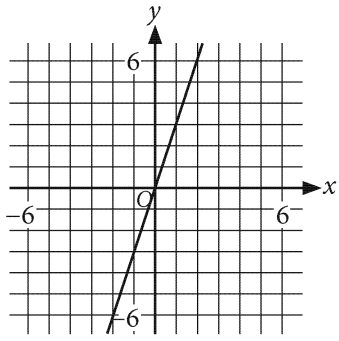
B)



C)



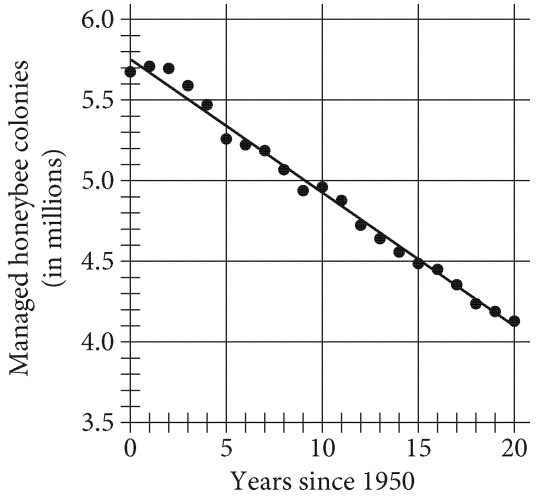
D)



CONTINUE

16

The scatterplot shows the relationship between the number of managed honeybee colonies in the United States, in millions, and the number of years since 1950. A line of best fit is also shown.



Which of the following is the best interpretation of the slope of the line of best fit in this context?

A) The predicted number of managed honeybee colonies decreased by about 0.08 million colonies per year.

B) The predicted number of managed honeybee colonies decreased by about 0.21 million colonies per year.

C) The predicted number of managed honeybee colonies increased by about 0.72 million colonies per year.

D) The predicted number of managed honeybee colonies increased by about 1.6 million colonies per year.

17

For the linear function f, $f(-2) = -5$, and the graph of $y = f(x)$ in the xy-plane has a slope of 4. Which equation defines f?

A) $f(x) = 4x - 7$

B) $f(x) = 4x - 5$

C) $f(x) = 4x - 2$

D) $f(x) = 4x + 3$

18

For a data set that consists of 9 values, the median is much larger than the mean. Which of the following could explain why the median is much larger than the mean?

A) The distribution of the values from the data set is symmetric about the median.

B) The data set contains a value that is unusually large relative to the other values in the data set.

C) The data set contains a value that is unusually small relative to the other values in the data set.

D) Each value in the data set is the same.

CONTINUE

19

The value of m, where $m > 0$, was increased by 500%. What is the resulting value in terms of m ?

A) $0.6m$

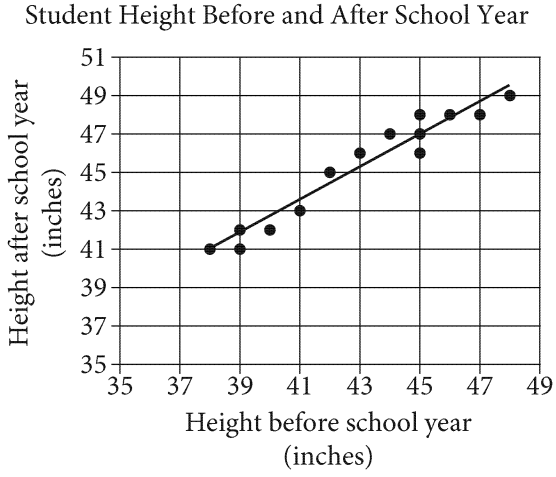
B) $6m$

C) $60m$

D) $600m$

20

The scatterplot shows the heights, in inches, of 14 children measured before the school year began and after the school year ended. A line of best fit for the data is also shown.



Which of the following could be an equation of the line of best fit for the data shown in the scatterplot?

A) $y = \frac{59}{7} + \frac{6}{7}x$

B) $y = -\frac{59}{7} + \frac{6}{7}x$

C) $y = -\frac{33}{6} + \frac{7}{6}x$

D) $y = \frac{33}{6} + \frac{7}{6}x$

CONTINUE

21

In a collection of items, 10% are red, 25% are green, 35% are blue, and 30% are yellow. If there are 60 green items, how many blue items are in the collection?

A) 21

B) 24

C) 72

D) 84

22

$$2x + 5y = 25$$
$$nx + 3y = p$$

In the given system of equations, n and p are constants. The system has infinitely many solutions. What is the value of np ?

A) 15

B) 18

C) $\frac{250}{3}$

D) $\frac{1,250}{3}$

23

The scale on a map indicates that 2 inches on the map corresponds to an actual distance of 1 mile. Location A and location B are n inches apart on the map. What is the actual distance, in miles, between the two locations?

A) $3n$

B) $2n$

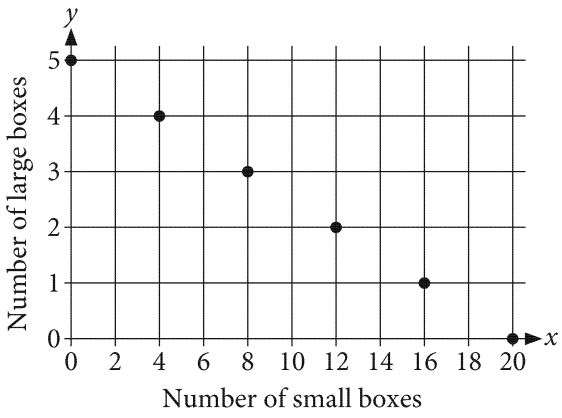
C) n

D) $\frac{n}{2}$

CONTINUE

24

Possible Box Combinations of 100 Pounds of Fruit



A grocer must package exactly 100 pounds of fruit for an order. The grocer has two sizes of boxes that can be used to package the fruit, and each box used will be completely filled. The graph above shows the different possible combinations of the number of small boxes, x, and the number of large boxes, y, needed to pack the order, Based on the graph, which of the following equations best models the relationship between x and y ?

A) $y = 5x + 20$

B) $y = 20x + 5$

C) $5x + 20y = 100$

D) $20x + 5y = 100$

25

$$(x + 3)(x + k) = 0$$

In the given equation, k is a constant. If the equation has exactly one solution, what is the value of k ?

A) -3

B) 0

C) 1

D) 3

26

$$\sqrt[3]{a^2} = \sqrt{b}$$
$$a^{2x} = b^6$$

In the equations above, a and b are constants, $a > 1$, and $b > 1$. What is the value of x ?

A) 2

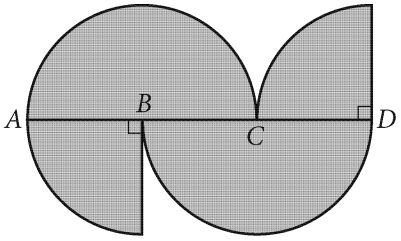
B) 3

C) 4

D) 12

CONTINUE

27



In the figure above, points A, B, C, and D are collinear. Arcs $\overset{\frown}{AC}$ and $\overset{\frown}{BD}$ are semicircles centered at B and C. The other two arcs are each half of a semicircle. If $AB = r$, what is the area of the shaded region?

A) $6\pi r^2$

B) $\frac{5}{2}\pi r^2$

C) $2\pi r^2$

D) $\frac{3}{2}\pi r^2$

28

$$x^2 + bx - 12 = 0$$

In the given equation, b is a positive integer constant. Which value could be a solution to the equation?

A) 3

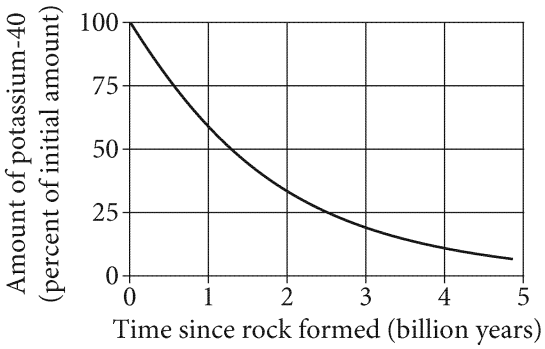
B) 4

C) 6

D) 12

CONTINUE

29



The amount of the radioactive isotope potassium-40 in a rock decreases by half every 1.28 billion years. The relationship between the time t, in billions of years, since the rock formed and the percentage of potassium-40 that remains in the rock, $A(t)$, is shown in the graph. Which equation best models this relationship?

A) $A(t) = 100 + \left(\frac{1}{2}\right)^{\left(\frac{t}{1.28}\right)}$

B) $A(t) = 100 + \left(\frac{1}{2}\right)^{\left(\frac{1.28}{t}\right)}$

C) $A(t) = 100\left(\frac{1}{2}\right)^{\left(\frac{1.28}{t}\right)}$

D) $A(t) = 100\left(\frac{1}{2}\right)^{\left(\frac{t}{1.28}\right)}$

30

Data set X	7	7	8	8	9	10	10	11	11
Data set Y	1	1	2	2	3	4	4	5	5

The standard deviation of data set X is q, and the standard deviation of data set Y is s. Which of the following statements about the standard deviation of the data sets is true?

A) $q > s$

B) $q = s$

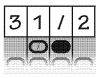
C) $q < s$

D) The relationship between q and s cannot be determined.

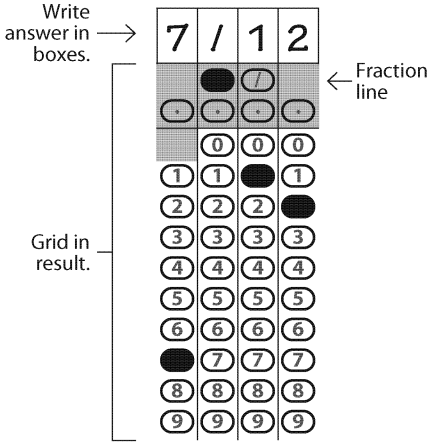
CONTINUE

DIRECTIONS

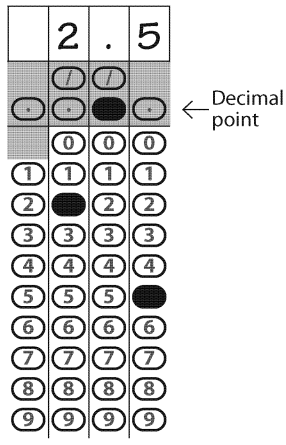
For questions 31-38, solve the problem and enter your answer in the grid, as described below, on the answer sheet.

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 bubbles accurately. You will receive credit only if the bubbles are filled in correctly.
2. Mark no more than one bubble 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 $3\frac{1}{2}$.)
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.

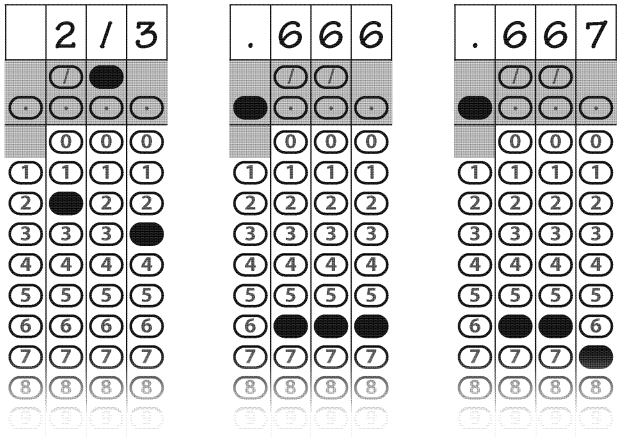
Answer: $\frac{7}{12}$ are:



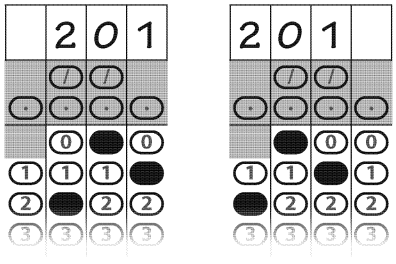
Answer: 2.5



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

31

What is the average speed, in meters per second, of a person who runs 200 meters in 25 seconds?

32

The function V is defined by $V(w) = w(w + 1)(w + 2)$. What is the value of $V(2)$?

33

$$x + y = 105$$
$$x + y + y = 145$$

The solution to the given system of equations is (x, y). What is the value of y ?

34

What is the y-coordinate of the y-intercept of the graph of $y = 5^x + 1$ in the xy-plane?

35

	Red	Blue	Total
Small	20	30	50
Large	30	20	50
Total	50	50	100

The table shows the distribution of color and size for 100 items. If a red item is selected at random from the 100 items, what is the probability that the selected item is small? (Express your answer as a fraction or decimal, not as a percent.)

36

The length of a diagonal of a square is $\frac{\sqrt{2}}{2}$. What is the length of a side of the square?

CONTINUE

Questions 37 and 38 refer to the following information.

The table shows the numbers of certain types of households in Nassau County. New York, as reported in the US Census in 2000 and 2010.

	2000	2010
Households with individuals under 18 (in thousands)	173	165
Households with individuals 65 and older (in thousands)	139	145

37

The number of households with individuals 65 and older in Nassau County in 2010 was p% greater than the number of households with individuals 65 and older in Nassau County in 2000. What is the value of p, to the nearest tenth?

38

There was a total of 447,000 households in Nassau County in 2000. If one of these households was selected at random, what is the probability that the selected household did not have an individual under age 18 ? (Express your answer as a decimal rounded to the nearest thousandth.)

STOP

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

March 13, 2021 International

ANSWER KEY

Reading Test Answers

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

READING TEST RAW SCORE (NUMBER OF CORRECT ANSWERS)

Writing and Language Test Answers

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

WRITING AND LANGUAGE TEST RAW SCORE (NUMBER OF CORRECT ANSWERS)

Math Test – No Calculator Answers

1 A	11 A
2 C	12 A
3 D	13 D
4 B	14 A
5 B	15 C
6 D	16 7
7 D	17 300
8 B	18 42
9 D	19 6
10 C	20 8

MATH TEST – NO CALCULATOR RAW SCORE (NUMBER OF CORRECT ANSWERS)

Math Test – Calculator Answers

1 B	11 C	21 D	31 8
2 B	12 B	22 B	32 24
3 A	13 C	23 D	33 40
4 C	14 B	24 C	34 2
5 A	15 D	25 D	35 2/5, .4
6 C	16 A	26 C	36 1/2, .5
7 A	17 D	27 D	37 4.3
8 B	18 C	28 A	38 .613
9 B	19 B	29 D	
10 D	20 A	30 B	

MATH TEST – CALCULATOR RAW SCORE (NUMBER OF CORRECT ANSWERS)