Chapter 17
Practice Test 8

Reading Test

65 MINUTES, 52 QUESTIONS

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

Questions 1–10 are based on the following passage.

This passage is adapted from R. O'Grady, "But Once a Year." ©1917 by The Reilly & Britton Co.

A shabby little woman detached herself from the steadily marching throng on the avenue and paused before a shop window, from which solid rows of
Line electric bulbs flashed brilliantly into the December
5 twilight. The ever-increasing current of Christmas shoppers flowed on. Now and then it rolled up, like the waters of the Jordan, while a lady with rich warm furs about her shoulders made safe passage from her car to the tropic atmosphere of the great department store.
10 Wax figures draped with rainbow-tinted, filmy evening gowns caught her passing admiration, but she lingered over the street costumes, the silk-lined coats and soft, warm furs.

With her wistful gaze still fixed upon her favorite,
15 she had begun to edge her way through the crowd at the window. At the same instant, she caught the scent of fresh-cut flowers and looked up into the eyes of a tall young girl in a white-plumed velvet hat, with a bunch of English violets in her brown mink fur. As
20 their glances met, the shabby little woman checked a start, and half-defensively dropped her lids. There had flashed over the mobile face beneath the velvet hat a look of personal interest, an unmistakable impulse to speak.

25 The thrill of response that set the woman's pulses throbbing died suddenly. The red that mottled her grayish cheeks was the red of shame. Through the window, in a mirrored panel cruelly ablaze with light,

she saw herself: her made-over turban, her short,
30 pigeon-tailed jacket of a style long past, and her old otter cape with its queer caudal decorations and its yellowed cracks grinning through the plucked and ragged fur. As the white plume came nearer and nearer, the tremulous little woman regained her self-control.
35 It was but one of the coincidences of the city, she told herself, turning resolutely away.

The door slammed shut behind her. She glanced at her fingers, stained to an oily, bluish grime by the cheap dye of the garments that furnished her daily
40 work. Mechanically, she rose to wash. While her hands were immersed in the lather of rankly perfumed toilet soap, there came a gentle knock at the door.

"Come in," invited the woman, expecting some famine-pressed neighbor for a spoonful of coffee or a
45 drawing of tea.

The woman, having absently hung her towel on the doorknob, stared dazedly at the visitant. She could hardly credit her eyes. It was indeed the girl with the white ostrich plume and the bouquet of violets in her
50 brown mink fur.

"Do you know, I've such a silly excuse for coming." She laughed, and the laugh brought added music to her voice. "I noticed you had a rare fur-piece" her vivid glance returned to the pile of wraps on the chair "and
55 I want to ask a very great favor of you. Now please don't be shocked—I've been ransacking the city for something like it, and," with a determined air of taking the plunge, "I should like to buy it of you!"

CONTINUE →

"It, it's a rare pattern, you know," groped the girl,
60 her sweet tones assuming an eloquent, persuasive
quiver, "and you don't know how glad I'd be to have it."

The indignant color faded out of the woman's face.
"If you really want the thing"—abruptly she put her
bizarre possession into her strange visitor's lap—"If
65 you really want it, but I don't see"—yearning crept into
her work-dimmed eyes, a yearning that seemed to
struggle with disillusionment. "Tell me," she broke off,
"is that all you came here for?"

Apparently oblivious to the question, the young
70 woman rose to her feet. "You'll sell it to me then!" she
triumphed, opening her gold-bound purse.

"But, see here," demurred the woman, "I can't, it
ain't worth…"

The girl's gloved hands went fumbling into her
75 purse, while the old fur cape hung limply across one
velvet arm.

"You leave it to me," she commanded, and smiled,
a radiant, winning smile. The girl was gone and all at
once the room seemed colder and dingier than it ever
80 had before. But the woman was not cold. As she sat
huddled on the cot, warmth and vitality glowed within
her, kindled by the memory of a recent kindly human
touch.

The following evening, after working hours, the
85 shabby woman, wearing a faded scarf about her neck
to replace the old fur collar, diffidently accosted a
saleslady at the Sixth Avenue department store.

It was unusual to sell expensive furs to such a
customer. But people might send what freaks of
90 servants they pleased to do their Christmas shopping,
provided they sent the money, too. In this case, the
shabby little woman was prepared. She produced three
crisp ten-dollar bills—the fabulous sum which the
girl had left in her hand at parting—and two dollars
95 more from the savings in her worn little purse. Then,
hugging the big flat box against the tight-fitting bosom
of her jacket, she triumphantly left the store.

The author uses the image of the "waters of the
Jordan" (line 7) most likely to

A) claim the crowd approaching the window will
never ebb.

B) assert that the little woman was drowning in the
throng.

C) describe the method and magnitude of the crowd's
movement.

D) illustrate how a rich lady arrived at the
department store.

As used in line 16, "caught" most nearly means

A) chased.

B) grabbed.

C) stopped.

D) noticed.

Which choice best supports the claim that the shabby
little woman was at first excited by the tall young girl?

A) Lines 16–19 ("At the . . . fur")

B) Lines 19–21 ("As their . . . lids")

C) Lines 25–26 ("The thrill . . . suddenly")

D) Lines 29–33 ("she saw . . . fur")

According to the passage, why does the woman invite
the visitor to come in?

A) She plans to help someone in need.

B) No one has ever been refused entry.

C) She expects the young girl to drop by.

D) She is dazed and cannot see.

CONTINUE

5

In the context of the conversation between the young girl and the woman, the girl's comments in lines 51–58 ("Do you . . . you!") mainly serve to

A) persuade the woman to sell the fur at a discount.

B) emphasize the desire that inspired the girl's action.

C) laugh at the shabby woman for being indignant.

D) demand that the shabby woman surrender her wrap.

6

The girl uses the word "ransacking" (line 56) mainly to emphasize that her search was

A) comprehensive.

B) disruptive.

C) shocking.

D) silly.

7

It can reasonably be inferred from the passage that the shabby woman initially declines to sell the fur mainly because

A) the young woman is only interested in rare fur pieces.

B) she yearns for the young woman to appreciate her work more.

C) the young woman offers too high of a price.

D) she doesn't believe that it has much value.

8

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

A) Lines 63–67 ("If you . . . disillusionment")

B) Lines 72–73 ("But, see . . . worth")

C) Lines 84–87 ("The following . . . store")

D) Lines 88–89 ("It was . . . customer")

9

The passage states that after the girl's departure the shabby woman felt

A) cold.

B) dingy.

C) tired.

D) warmth.

10

The main purpose of the last paragraph is to

A) claim that stores only reluctantly sold to people like the shabby woman.

B) contrast common occurrences with the shabby woman's experience.

C) highlight the shabby woman's greatest triumph.

D) show how servants like the shabby woman go Christmas shopping.

CONTINUE ➡

Questions 11–20 are based on the following passages.

Passage 1 is adapted from Ludwig von Mises, *Bureaucracy*, published in 1944 by Yale University Press and now found through the Liberty Fund. Passage 2 is adapted from Albert Einstein, "Why Socialism?" Originally published by *Monthly Review* in 1949. Von Mises spoke publicly in favor of capitalism.

Passage 1

The main issue in present-day social and political conflicts is whether or not man should give away freedom, private initiative, and individual responsibility and surrender to the guardianship of a
5 gigantic apparatus of compulsion and coercion, the socialist state. Should authoritarian totalitarianism be substituted for individualism and democracy? Should the citizen be transformed into a subject, a subordinate in an all-embracing army of conscripted labor, bound
10 to obey unconditionally the orders of his superiors? Should he be deprived of his most precious privilege to choose means and ends and to shape his own life?

Our age has witnessed a triumphal advance of the socialist cause. As much as half a century ago an
15 eminent British statesman, Sir William Harcourt, asserted: "We are all socialists now." At that time this statement was premature as far as Great Britain was concerned, but today it is almost literally true for that country, once the cradle of modern liberty. It is no
20 less true with regard to continental Europe. America alone is still free to choose. And the decision of the American people will determine the outcome for the whole of mankind.

The problems involved in the antagonism between
25 socialism and capitalism can be attacked from various viewpoints. At present it seems as if an investigation of the expansion of bureaucratic agencies is the most expedient avenue of approach. An analysis of bureaucratism offers an excellent opportunity
30 to recognize the fundamental problems of the controversy.

Passage 2

The economic anarchy of capitalist society as it exists today is, in my opinion, the real source of the evil. We see before us a huge community of
35 producers the members of which are unceasingly striving to deprive each other of the fruits of their collective labor—not by force, but on the whole in faithful compliance with legally established rules. In this respect, is important to realize that the means
40 of production—that is to say, the entire productive capacity that is needed for producing consumer goods as well as additional capital goods—may legally be, and for the most part are, the private property of individuals.

45 Private capital tends to become concentrated in few hands, partly because of competition among the capitalists, and partly because technological development and the increasing division of labor encourage the formation of larger units of production
50 at the expense of the smaller ones. The result of these developments is an oligarchy of private capital the enormous power of which cannot be effectively checked even by a democratically organized political society. This is true since the members of legislative
55 bodies are selected by political parties, largely financed or otherwise influenced by private capitalists who, for all practical purposes, separate the electorate from the legislature. The consequence is that the representatives of the people do not in fact sufficiently
60 protect the interests of the underprivileged sections of the population. Moreover, under existing conditions, private capitalists inevitably control, directly or indirectly, the main sources of information (press, radio, education). It is thus extremely difficult,
65 and indeed in most cases quite impossible, for the individual citizen to come to objective conclusions and to make intelligent use of his political rights.

This crippling of individuals I consider the worst evil of capitalism. Our whole educational system
70 suffers from this evil. An exaggerated competitive attitude is inculcated into the student, who is trained to worship acquisitive success as a preparation for his future career.

I am convinced that there is only one way to
75 eliminate these grave evils, namely through the establishment of the socialist economy, accompanied by an educational system which would be oriented toward social goals. Nevertheless, it is necessary to remember that a planned economy is not yet socialism.
80 A planned economy as such may be accompanied by the complete enslavement of the individual. The achievement of socialism requires the solution of some extremely difficult socio-political problems: how is it

CONTINUE

possible, in view of the far-reaching centralization of
85 political and economic power, to prevent bureaucracy
from becoming all-powerful and overweening? How
can the rights of the individual be protected and
therewith a democratic counterweight to the power of
bureaucracy be assured?

11

In Passage 1, von Mises makes which point about
socialism relative to capitalism?

A) Socialism creates greater equality in incomes,
but capitalism creates greater disparity in
incomes.

B) Capitalism is a foundational tenant of democracy,
but socialism erodes the foundations of
democracy.

C) Socialism oppresses self-motivation, but
capitalism allows individuals to retain their
liberties.

D) Socialism allows men to shape their own lives, but
socialism also requires men to conscript others
into employment.

12

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

A) Lines 1–6 ("The main . . . state")

B) Lines 11–12 ("Should . . . life")

C) Lines 13–14 ("Our . . . cause")

D) Lines 14–16 ("As much . . . now")

13

As used in line 13, "advance" most nearly means

A) upgrade.

B) breakthrough.

C) progress.

D) deposit.

14

What is Einstein's central claim in Passage 2?

A) An economic system which allows the wealthy
to gain disproportionate power is harmful to a
society.

B) The economic success of a society depends on the
ability of its citizens to make their own decisions.

C) An economic system that rewards initiative and
creativity is the most effective way to help all
members of a society.

D) Different economic systems have different merits
and disadvantages, and should be considered
carefully.

15

As used in line 36, "fruits" most nearly means

A) produce.

B) consequences.

C) byproducts.

D) output.

16

In Passage 2, Einstein implies that an educational system that fosters extreme competition over social goals is

A) idealistic, because it appears beneficial but doesn't work in reality.

B) destructive, because it limits the ability of individuals to exercise their rights.

C) weak, because it heightens differences between social classes.

D) effective, because it effectively prepares the next generation for success.

17

In Passage 2, Einstein makes which point about an improperly attempted socialist economy?

A) It could be more beneficial to society than unchecked freedom.

B) It could eliminate deadly perils and consequences.

C) It could permit the destruction of free choice.

D) It could lead to a capitalist-controlled media.

18

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

A) Lines 61–64 ("Moreover . . . education")

B) Lines 68–69 ("This . . . capitalism")

C) Lines 78–79 ("Nevertheless . . . socialism")

D) Lines 80–81 ("A planned . . . individual")

19

Which choice best states the relationship between the two passages?

A) Passage 2 provides social context for the financial system described in Passage 1.

B) Passage 2 elaborates on the pitfalls of the economic system criticized in Passage 1.

C) Passage 2 advocates against the economic system championed in Passage 1.

D) Passage 2 uses specifics to illustrate general ideas put forth in Passage 1.

20

Von Mises would have most likely reacted to lines 74–78 ("I am . . . goals") of Passage 2 with

A) agreement, because he also believes evils of society should be eliminated.

B) hostility, because he believes a socialist society enslaves its citizens and eliminates individualism.

C) impatience, because he believes relying on social goals to fix financial issues is ineffective.

D) reservation, because he agrees social issues are important, but socialism isn't effective.

CONTINUE ➤

Questions 21–30 are based on the following passage and supplementary material.

This passage is adapted from Rob Jackson, Robbie Andrew, Pep Canadell, Pierre Friedlingstein, and Glen Peters, "Natural Gas Use Is Rising: Is that Good News or Bad News for the Climate?" ©2020 by Scientific American.

The best we can say for 2019 is that global carbon dioxide emissions rose "only" 0.6 percent. That's a lot slower than the 1.5 percent and 2.1 percent growth in 2017 and 2018. Is it good news, the start of a transition
5 away from fossil fuels, or is it simply bad news, another record year of fossil carbon dioxide emissions?

Increased natural gas and oil use are driving the increase in carbon dioxide emissions and are outpacing slight declines from global coal use. Oil use around the
10 world has been rising steadily at about a percent and a half per year for the last five or six years. Natural gas use is surging at almost twice that rate, aided by the boom in liquefied natural gas (LNG) that is connecting global gas markets. Emissions from natural gas use
15 rose almost 200 million metric tons of CO_2 in 2019, and were responsible for two thirds of the global emissions increase.

In the United States and Europe, natural gas is replacing coal in electricity generation. Coal
20 consumption in both regions dropped at least 10 percent in 2019. Coal use in the U.S. is down by half from 15 years ago; 500 coal power plants have closed or are scheduled to. In the United Kingdom, the birthplace of the industrial revolution, coal-fired
25 electricity has almost disappeared and now supplies only 5 percent of power. In both countries, the replacement of coal by natural gas and renewables is reducing both CO_2 emissions and air pollution from particulates, mercury, sulfur and lead—saving lives as
30 a result.

While the U.K. and U.S. have some positive news, emissions are rising in many other places around the world. Oil use continues to climb, and the additional natural gas being burned isn't replacing coal in
35 electricity generation. Rather, it's meeting new energy demands for electricity and residential and industrial heating.

With natural gas use surging globally at 2.6 percent a year and with increased emissions from it outpacing
40 decreased emissions from coal globally, we need to reevaluate the role of natural gas as a bridge fuel. Where it replaces coal for electricity generation, it's reducing carbon dioxide emissions and improving air quality. It still produces carbon pollution, though,
45 and therefore slows, but does not solve, the climate problem. Where it's providing new energy and new emissions—replacing low- and no-carbon technologies or keeping them from being deployed—it is hindering climate solutions.

50 If the world is going to build thousands of new natural gas plants over the next decade—infrastructure that will run for decades—most of the plants should be carbon-capture-ready or use new technologies to produce their power. This is unfortunately not yet
55 happening. One promising new technology is the Allam cycle, which burns natural gas or other fossil fuels in oxygen rather than air, with carbon dioxide as the carrier gas. An Allam cycle power plant produces almost pure CO_2 as a byproduct. This pipeline-
60 quality CO_2 removes the need for CO_2 capture in current technologies that use amines or hydroxides to scrub the CO_2. The CO_2 can then, in principle, be sequestered back underground, like the natural gas or coal it came from. A 50-megawatt Allam Cycle
65 demonstration plant is being built in La Porte, Tex. We hope it succeeds.

This year's likely growth in global CO_2 emissions of approximately 0.6 percent will be slower than the growth in emissions for the past two years. That's good
70 news. But growth is growth, and another year and another decade have been lost to record emissions. We remain far from the 7.6 percent annual declines recommended by a new United Nations report. Current trends don't suggest structural changes are
75 happening that would lead to a peak and decline in global emissions anytime soon. As we welcome the New Year and new decade, some people will celebrate the good news that emissions growth slowed in 2019. Others will bemoan the bad news that growth is
80 growth, with record carbon dioxide emissions reached yet again. What we need is much more radical news: a steep drop in pollution that drains the emissions glass as quickly as a final champagne toast.
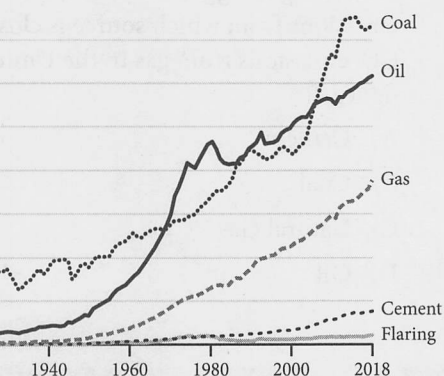
Figure 1

al CO_2 Emissions by Source, in tons

Coal
Oil
Gas
Cement
Flaring

1940   1960   1980   2000   2018

Figure 2

missions from Gas by Country, in tons

United
States

Russia

United
Kingdom
Brazil
Norway

1940   1960   1980   2000   2018

written from the point of view of
members committed to reducing climate

proposing potential avenues of research.
entalists calling consumers to action.
ncerned with global developments.

22

As used in line 12, "aided by" most nearly means

A) lessened by.

B) relieved of.

C) boosted by.

D) revealed by.

23

The last sentence of the second paragraph (lines 14–17) mainly serves to

A) alert the reader to a troubling trend.

B) evaluate a claim made later in the passage.

C) contrast the results for this year with those of prior years.

D) commend efforts to mitigate climate change.

24

It can most reasonably be inferred from the passage that the authors believe current natural gas production

A) performs better in the American market than in global markets.

B) will be replaced by the Allam Cycle in the near future.

C) is the ultimate solution for clean air technology.

D) pollutes the environment in unsustainable ways.

25

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

A) Lines 9–14 ("Oil use . . . markets")

B) Lines 18–19 ("In the . . . generation")

C) Lines 42–44 ("Where . . . quality")

D) Lines 44–46 ("It still . . . problem")

CONTINUE ➡

Annual Glob

14 billion t
12 billion t
10 billion t
8 billion t
6 billion t
4 billion t
2 billion t
0 t

1900   1920

Annual CO_2 Er

1.6 billion t
1.4 billion t
1.2 billion t
1 billion t
800 million t
600 million t
400 million t
200 million t
0 t

1900   1920
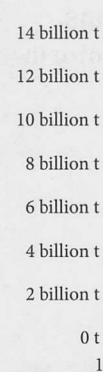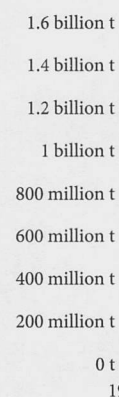
21

The passage is

A) industry n
change.

B) scientists

C) environm

D) citizens c

26

According to the passage, the Allam cycle can improve on current pollution levels by

A) producing fewer carrier gases.

B) storing byproducts almost entirely underground.

C) burning pure oxygen instead of breathable air.

D) eliminating CO_2 capture from the production process.

27

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

A) Lines 55–58 ("One . . . gas")

B) Lines 58–59 ("An Allam . . . byproduct")

C) Lines 59–62 ("This . . . CO_2")

D) Lines 62–64 ("The CO_2 . . . from")

28

As used in line 81, "radical" most nearly means

A) fanatical.

B) remarkable.

C) militant.

D) enlightening.

29

According to figure 1, in 2018, the level of global CO_2 emissions from which source is closest to the 2018 CO_2 emissions from gas in the United States shown in figure 2?

A) Cement

B) Coal

C) Natural Gas

D) Oil

30

According to figures 1 and 2, in what year were global CO_2 emissions from oil equal to the U.S. CO_2 emissions from natural gas in the year 2000?

A) 1925

B) 1945

C) 1965

D) 1985

CONTINUE

Questions 31–41 are based on the following passage and supplemental material.

This passage is excerpted from Maxwell T. Boykoff and Jules M. Boykoff, "Balance as bias: global warming and the US prestige press," originally published in 2004 by the University of Colorado Boulder.

The mass media play an important role in the construction of environmental issues and problems. Accordingly, prestige-press coverage of global warming
Line is not just a collection of news articles; it is a social
5 relationship between people that is mediated by news articles. The parameters of this social relationship are defined, in large part, by the many journalistic norms and values that both affect what is deemed news and influence how that news is framed. The
10 United States prestige press—by which we mean the *New York Times,* the *Washington Post,* the *Los Angeles Times,* and the *Wall Street Journal*—has contributed in significant ways to failed discursive translations regarding global warming. These press outlets have
15 done this by adhering to the journalistic norm of balanced reporting, offering a countervailing "denial discourse"—"a voluble minority view [that] argues either that global warming is not scientifically provable or that it is not a serious issue"—roughly equal space
20 to air its suppositions. The 'balancing' of scientific findings and the counter-findings results, in large part, from an accumulation of tactical media responses and practices guided by widely accepted journalistic norms and values.
25   In fact, when it comes to coverage of global warming, balanced reporting can actually be a form of informational bias. Despite the highly regarded United Nations-sponsored Intergovernmental Panel on Climate Change's (IPCC's) consistent assertions
30 that global warming is a serious problem with a "discernible" human component that must be addressed immediately, balanced reporting has allowed a small group of global warming skeptics to have their views amplified.
35   Ross Gelbspan has asserted, "[t]he professional canon of journalistic fairness requires reporters who write about a controversy to present competing points of view. When the issue is of a political or social nature,

fairness—presenting the most compelling arguments
40 of both sides with equal weight—is a fundamental check on biased reporting. But this canon causes problems when it is applied to issues of science. It seems to demand that journalists present competing points of view on a scientific question as though they
45 had equal scientific weight, when actually they do not."
The IPCC has asserted that global warming is a serious problem that has anthropogenic* influences, and that it must be addressed immediately. In the managerial scientific discourse represented by the
50 IPCC, a remarkably high level of scientific consensus has emerged on these two particular issues. D. James Baker, administrator of the US National Oceanic and Atmospheric Administration, has said about global warming that "[t]here's a better scientific consensus on
55 this than on any issue I know—except maybe Newton's second law of dynamics."
However, on December 3, 2002, the *Washington Post* cited "numerous uncertainties [that] remain about global warming's cause and effect," echoing
60 George W. Bush's call "for a decade of research before the government commits to anything more than voluntary measures to stem carbon dioxide and other greenhouse gas emissions." This statement was not only a backhanded swipe at the findings of scientists
65 concerned about global warming, but it was also the spectacular culmination of a complex and perpetually unfolding discursive process propagated by the prestige press in the United States.
The continuous juggling act journalists engage
70 in often mitigates against meaningful, accurate, and urgent coverage of the issue of global warming. Since the general public garners most of its knowledge about science from the mass media, investigating the mass media's portrayal of global warming is crucial. The
75 disjuncture above is one illustration that—through the filter of balanced reporting—popular discourse has significantly diverged from the scientific discourse. To date, this disconnection has played a significant role in the lack of concerted international action to curb
80 practices that contribute to global warming.

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* anthropogenic = caused by human beings

U.S. Prestige-Press Coverage of Action
Regarding Global Warming
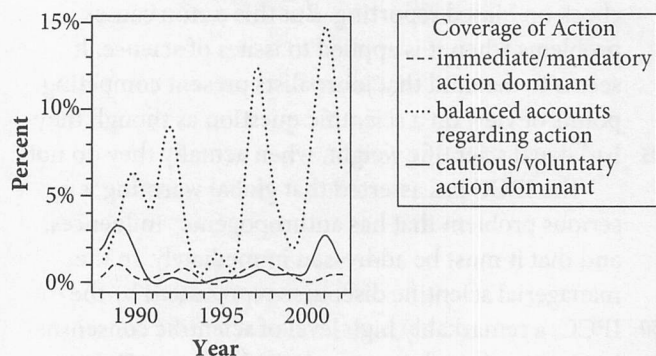
Credit: Maxwell T. Boykoff and Jules M. Boykoff

Figure 1

31

The main purpose of the passage is to

A) question the journalistic ideal of balanced coverage regarding scientific reporting.

B) demonstrate the bias of scientific journalists covering environmental stories.

C) analyze the antagonistic relationship between the elite press and local news outlets.

D) discuss ideals of objectivity in relation to journalism.

32

According to the passage, which expectation do reporters covering controversy face?

A) They should present only the most objective reporting of the issues.

B) They should persist in unearthing the truth, no matter the consequences.

C) They should offer equal consideration to opposing perspectives.

D) They should promote constructive solutions to environmental problems.

33

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

A) Lines 1–2 ("The mass . . . problems")

B) Lines 6–9 ("The parameters . . . framed")

C) Lines 35–38 ("Ross . . . view")

D) Lines 48–51 ("In the . . . issues")

34

As used in line 51, "particular" most nearly means

A) local.

B) specific.

C) appropriate.

D) peculiar.

35

The authors most likely include the quotation in lines 54–56 to

A) contrast the consensus of scientific authorities with the reporting in prestige publications.

B) propose possible models for accurate reporting.

C) criticize the gullibility of readers of partisan media outlets.

D) demonstrate the importance of scientific facts for public discourse.

36

The authors indicate that the work of journalists may involve

A) independent research concerning the trustworthiness of sources.

B) questioning one's own conscience when investigating controversial topics.

C) relating socially to interview subjects for stories.

D) prioritizing balanced reporting of viewpoints over covering the facts.

CONTINUE

37

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

A) Lines 3–6 ("Accordingly . . . articles")

B) Lines 57–63 ("However . . . emissions")

C) Lines 63–68 ("This . . . States")

D) Lines 69–71 ("The continuous . . . warming")

38

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

A) bend.

B) limit.

C) delay.

D) edge.

39

Based on the graph, in what year were the percentages of all three types of coverage of action tactics regarding global warming most similar?

A) 1989

B) 1993

C) 1994

D) 1999

40

Which statement is best supported by information in the graph?

A) Between 1989 and 1999, the number of "cautious/voluntary" accounts of global warming declined dramatically, but then rose significantly.

B) Between 1995 and 2000, the number of "immediate/mandatory" accounts of global warming remained the same.

C) Between 1988 and 2002, the number of "balanced" accounts of global warming tended to increase.

D) Between 1988 and 2001, the number of all accounts of global warming doubled.

41

The 2001 data in the graph best serve as evidence that

A) "coverage of global warming is not just a collection of news articles" (lines 3–4).

B) "balanced reporting can actually be a form of informational bias" (lines 26–27).

C) "global warming is a serious problem that has anthropogenic influences" (lines 46–47).

D) "through the filter of balanced reporting—popular discourse has significantly diverged from the scientific discourse" (lines 75–77).

Questions 42–52 are based on the following passage.

This passage is adapted from Jef Akst, "Silent Canopies." ©2016 by The Scientist.

In late September, Kimberly Williams-Guillén, an assistant professor at the University of Washington Bothell and a conservation scientist for the Nicaraguan environmental NGO Paso Pacífico, received a report
5   that a handful of howler monkeys (genus Alouatta) had been found dead at an eco-resort in Nicaragua. Bizarrely, the monkeys showed no signs of trauma or disease. "They seemed to be in fairly good condition," she recalls.

10   Over the next couple of months, Williams-Guillén and her colleagues continued to receive news that howler monkeys were dying. Then, around mid-January, the reports really started to flood in.

When it became clear that this was not just an
15   isolated incident, Williams-Guillén hopped on a plane to Nicaragua to see for herself. "I saw many healthy-looking monkeys, but I also saw many visibly unwell monkeys," she says. "They were thin and very lethargic, often solitary and nonresponsive. There were several
20   that I was able to walk up to and grab them out of a bush."

Although the mortality rate seems to have slowed since mid-February, the researchers are anxious to understand what's going on. Williams-Guillén
25   speculates that the deaths may be linked to the drought that has struck Nicaragua and other areas of Central and South America this year. "The deaths are all really concentrated in the areas worst hit by drought," she says. "Even just going to the other side of the
30   mountain, where it's slightly more humid, there's a lot fewer deaths, and there's visibly more potential howler monkey food, whereas the areas that have the highest rates of mortality, the trees are just bare—there's hardly a leaf or flower to be eaten."

35   Kenneth Glander of Duke University agrees that limited food availability is likely a contributing factor, though the cause of death may not be starvation per se. Rather, the lack of food may drive the monkeys to consume plants with high levels of certain toxins
40   that aren't part of their normal diet. In the 1970s,

Glander witnessed a handful of dead or dying howler monkeys in Costa Rica, including two that displayed convulsions similar to those reported in Nicaraguan monkeys this year. "When we did autopsies on them, I
45   was able to determine [that] their stomachs were full of leaves that they'd never eaten before." He then collected a sample of those leaves from trees at his study site and brought them back to Duke for analysis, finding that they were chock-full of toxic alkaloids.

50   A good test of this hypothesis would be to see how other animals in the areas are faring, says Pedro Américo Dias of the University of Veracruz in Mexico. "If there are no reports of deaths in other frugivorous primates and other frugivorous animals, perhaps [food
55   availability] doesn't have to do with it," he says.

Another possible cause for the howler monkey die-offs is disease. Although Nicaragua is currently believed to be free of yellow fever, Dias points out that outbreaks of the viral disease devastated howler
60   monkey populations in the late 1940s and into the 1950s. Some researchers even speculate that yellow fever may be a cause of the relatively low genetic diversity among Central American howler monkeys, Dias says. "Yellow fever in the past could have caused
65   important bottlenecks."

Williams-Guillén thinks that disease is an unlikely cause of the recent monkey deaths, however. While she and her colleagues are still waiting to export blood and tissue samples to U.S. labs for further analysis,
70   she notes that a Nicaraguan researcher has done virus diagnostics on some of the samples. And, so far, none have tested positive for yellow fever, Zika, chikungunya, or dengue viruses. "Between that and the lack of any necrosis of the liver in the dead animals,
75   [disease] is unlikely," Williams-Guillén says.

For now, however, the cause of the recent howler monkey deaths remains a mystery. Williams-Guillén suspects that no one hypothesis will be correct. "There's probably an interaction of factors," she
80   says. "Animals that might have had some clinical or secondary infections that normally aren't that problematic...got into a situation where they were extremely food- and water-stressed, and that might have been enough to tip them into mortality."

CONTINUE

42

The primary purpose of the passage is to

A) portray the concerns, actions, and theories of an investigation.

B) discuss and assess contradictory results regarding an aberration.

C) demonstrate the unusual persistence of a researcher's efforts toward a problem.

D) examine the methodology and questions raised by a hypothesis.

43

According to the passage, Williams-Guillén's ultimate hypothesis rests most strongly on which kind of evidence?

A) Genealogical evidence

B) Authoritative opinions

C) Unreliable descriptions

D) Multiple tests

44

As used in line 15, "hopped on" most nearly means

A) avoided.

B) flew.

C) jumped.

D) entered.

45

Which statement regarding howler monkeys is most strongly supported by the passage?

A) They are less affected by ecological changes than other species would be.

B) They cannot easily be captured by researchers when healthy.

C) They share some known dietary similarities with other species.

D) They prefer the taste of non-toxic foods.

46

According to the author, an early consideration regarding howler monkey deaths was whether they

A) could be prevented through food distribution.

B) were simply random occurrences.

C) impacted howler monkeys of all ages.

D) were impacting the entire population.

47

Which theory provided by the passage supports Williams-Guillén's belief that "no one hypothesis will be correct" (line 78)?

A) The unusual monkey deaths have since ceased to be a problem.

B) The assumption that the impact of drought on the health of the monkey population was more significant than that of any other factor.

C) Lack of food in the past has led some monkeys to consume lethal alkaloids.

D) Yellow fever was the cause of a previous outbreak of disease that had afflicted the howler monkey population.

48

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

A) Lines 22–24 ("Although . . . on")

B) Lines 27–29 ("The deaths . . . says")

C) Lines 29–34 ("Even . . . eaten")

D) Lines 35–40 ("Kenneth . . . diet")

CONTINUE →

49

The primary purpose of the seventh and eighth paragraphs (lines 56–75) is to

A) define Williams-Guillén's method.

B) demonstrate Williams-Guillén's expertise.

C) underscore Williams-Guillén's assumptions.

D) provide Williams-Guillén's perspective.

50

In indicating that yellow fever may have created "bottlenecks" (line 65), the author most likely means that the fever

A) reduced the monkey's opportunities to breed with genetically different partners.

B) led to the current howler monkey deaths.

C) introduced a prohibitively large number of virus-free monkeys into the ecosystem.

D) caused a greater degree of competition between monkeys.

51

According to the passage, Williams-Guillén's investigation provides an answer to which of the following questions?

A) What factor is unlikely to have contributed to howler monkey deaths?

B) Why do monkeys insist on continuing to consume toxic leaves?

C) How do yellow fever outbreaks affect genetic diversity among howler monkeys?

D) How can howler monkey populations return to normal following this outbreak of deaths?

52

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

A) Lines 61–64 ("Some . . . says")

B) Lines 66–67 ("Williams-Guillén . . . however")

C) Lines 71–73 ("And, so . . . viruses")

D) Lines 80–84 ("Animals . . . mortality")

STOP

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

No Test Material On This Page

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.

Wake Up!

If you've ever been driving on a long stretch of highway late at **[1]** night or, early in the morning, you almost certainly know the feeling. Even though you're in a heavy machine hurtling forward at an extraordinary rate, you just can't stay awake. You know that driving requires your full attention, but your eyelids are just too heavy.

If you haven't had this experience, you're lucky, but you're in the minority. Charles Czeisler, from the Division of Sleep Medicine at Harvard, says that as many as 56 million Americans a month "admit that they drive when they haven't gotten enough sleep." This may seem like a harmless enough problem, but as many as one-seventh of these drivers admit to falling asleep at the **[2]** wheel. Causing more than a million crashes each year, including 50,000 injuries and 6,400 deaths.

[1]
A) NO CHANGE
B) night or early in the morning you,
C) night or early in the morning, you
D) night, or early in the morning you

[2]
A) NO CHANGE
B) wheel, causing
C) wheel, this causes
D) wheel. Which causes

CONTINUE →

[3] These may sound like drunk-driving numbers and with good cause. At a recent forum, Czeisler suggested that driving on fewer than two hours of sleep is the equivalent of driving while [4] intoxicated. Judgment is— similarly compromised, and reactions are correspondingly slowed. The numbers speak for themselves, so Czeisler and the committee are attempting now to implement changes in the law code to address sleep deprivation. [5]

3

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

A) NO CHANGE

B) Auto-accident fatalities are among the leading causes of death every year.

C) Medical professionals regularly hold forums to share their findings and discover new findings.

D) Drunk driving remains a difficult problem in this country, even though the penalties for it are strict.

4

A) NO CHANGE

B) intoxicated, judgment is

C) intoxicated. Judgment is:

D) intoxicated: judgment is

5

At this point, the writer wants to add a specific proposal that Czeisler's group has made based on the information in this paragraph. Which choice best accomplishes this goal?

A) Some of Czeisler's colleagues have already organized new conferences on sleep apnea and other sleep disorders.

B) The invention of self-driving cars could potentially reduce the risks of sleep-deprived driving.

C) Czeisler has had a long and illustrious career teaching people about how to observe their own unconscious behavior.

D) Czeisler and his colleagues are trying to get sleep-deprived driving added to the list of criminal statutes.

Some of the group's findings make obvious sense. They argue that people who work night shifts never quite regulate their sleep, regardless of how regular their sleep schedules are. **6** In addition, night-shift workers with sleep disorders are at a particular risk of which they are unaware. One major sleep disorder for which this is especially true is sleep apnea. Czeisler's group estimates that approximately 85% of sleep apnea cases go undiagnosed and untreated. Individuals with sleep apnea don't rest deeply even when they are asleep, and the disorder, given all of its negative side effects, **7** was doubling the risk of sleep-related crashes.

6

Which choice most effectively combines the underlined sentences?

A) In addition, night-shift workers with sleep disorders are at a particular risk of which they are unaware; moreover, one major sleep disorder for which this is especially true is sleep apnea.

B) In addition, night-shift workers with sleep disorders, especially sleep apnea, are at a particular risk of which they are unaware.

C) In addition, night-shift workers with sleep disorders are at a particular risk of which they are unaware: among them are sleep apnea especially.

D) In addition, night-shift workers with sleep disorders are at a particular risk of which they are unaware; one major sleep disorder for which this is especially true is sleep apnea.

7

A) NO CHANGE
B) are doubling
C) is doubling
D) doubles

CONTINUE

The findings regarding young people, **8** for example, were not quite so obvious. Young people have a tendency to think that they can operate at a high level with less sleep. **9** This may be anecdotally true, but the science suggests that in fact quite the opposite is true. A set of chemicals in the hypothalamus region of the brain produces the cells that help the transition from wakefulness to sleep. In younger people, these cells are **10** highly developed, whereas in older people, many of the cells have died or function at a lower level. As a result, a younger person is more at risk for uncontrollable lapses in engagement **11** adding too attention because brain function between wakefulness and sleep is more easily blurred. So next time you think you're okay to drive after a late night, use some of those brain cells and call a cab or take a nap instead.

8
A) NO CHANGE
B) however,
C) furthermore,
D) thus,

9

Which choice most effectively cites commonly held views while previewing what is to come in this paragraph?
A) NO CHANGE
B) Young people's susceptibility to alcoholism is also much higher than that of adults.
C) It's also well known that young people tend to drive faster than older people.
D) Everyone's different, and maybe you are one of the lucky few who doesn't need that much sleep.

10
A) NO CHANGE
B) firing on all cylinders,
C) going off,
D) off the chain,

11
A) NO CHANGE
B) and attention lapses also
C) plus attention as well
D) and attention

CONTINUE

Questions 12–22 are based on the following passage.

To Preserve, but Not to Reconstruct

Although the building served a variety of functions, the Parthenon's original construction remained more or less intact for over two millennia. The enormous temple to the goddess Athena Parthenos that stands in ruins today was completed in 432 B.C.E. **12** Nevertheless, it served its original purpose for a thousand years, until it was turned into a church by the Byzantines in the 6th century and then into a mosque by the Ottoman Empire in the mid-15th century. The shift of the building's religious affiliation involved some minor architectural changes, but until the late 17th **13** century, the building, largely retained its majestic, classical profile.

The first major catastrophe in the Parthenon's history came during a war between the Ottoman Empire and the Venetian army in 1687: the Ottomans used the Parthenon as a gunpowder storehouse **14** for storing ammunition, which exploded when it was hit by a Venetian cannon. **15** Additionally, three hundred people died in the explosion.

12

A) NO CHANGE
B) Remarkably,
C) As a result,
D) Therefore,

13

A) NO CHANGE
B) century, the building largely
C) century: the building largely
D) century the building, largely,

14

A) NO CHANGE
B) where they stored ammunition,
C) —a place to store ammunition—
D) DELETE the underlined portion.

15

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

> The roof of the building collapsed, along with many sculptures and several dozen columns.

Should the writer make this addition here?

A) Yes, because it provides an important detail about the effect of the explosion.
B) Yes, because it helps to explain the facts presented later in the passage.
C) No, because it repeats information presented later in the passage.
D) No, because it is not directly related to the main idea of the paragraph.

CONTINUE

Over the course of the 18th century, the ruins of the Parthenon were largely neglected by the local government, **16** though interest in the building grew in Britain. The first major effort at what might be called preservation came in the years 1801–1812 when Thomas Bruce, the Earl of Elgin, systematically removed most of the extant sculpture from the Parthenon and shipped it all to Britain, where it remains today.

In the 1890s, the first major push to restore the Parthenon began when Nikolaos Balanos was charged with restoring **17** its iconic column's. Unfortunately, Balanos's restoration efforts ultimately caused more harm than good. Most disastrously, the iron clamps that he **18** using holding pieces of masonry together corroded after years of exposure to the **19** weather, eventually it caused even more damage to the already fragile building.

16

Which choice best supports the main point of the paragraph?

A) NO CHANGE

B) which makes it all the more remarkable that the government later sponsored restoration efforts.

C) and the building was even briefly used as an army barracks.

D) but it became a very popular subject of paintings and engravings.

17

A) NO CHANGE

B) it's iconic column's.

C) its iconic columns.

D) it's iconic columns.

18

A) NO CHANGE

B) used to hold

C) using to hold

D) used in the holding of

19

A) NO CHANGE

B) weather; eventually causing

C) weather, eventually causing

D) weather, eventually it causing

CONTINUE

[1] The most recent restoration effort was begun in 1975, and conservation work continues today. [2] As a result of this painstaking work, the restoration is proceeding at a far slower pace than the original construction, which took only sixteen years. [3] The project has taken so long partly because the first step was to undo the misguided earlier restoration attempt. [4] Workers then catalogued tens of thousands of pieces of marble and used computer programs to try to match each piece to its specific location. [5] The **20** shadows of each column's design are incredibly sophisticated, and pieces match one another by fractions of millimeters. **21**

The goal of the current restoration is not, however, to entirely rebuild the structure. "We wanted to preserve the beauty of what has survived these past 2,500 years," says Manolis Korres, **22** who is the project's chief architect. "It's a reminder of man's power to create, as well as to destroy."

20

A) NO CHANGE

B) tininess

C) suggestions

D) nuances

21

To make this paragraph most logical, sentence 2 should be

A) placed after sentence 3.

B) placed after sentence 4.

C) placed after sentence 5.

D) DELETED from the paragraph.

22

A) NO CHANGE

B) being

C) the architect is

D) DELETE the underlined portion.

CONTINUE ➤

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

Today is Brought to You by Big Data

Ask anyone what the next big thing in business is, and it's very likely they'll say "big data." The term refers to all the information that the digital age allows companies and organizations to collect: how many items an online shopper looks at before deciding to make a purchase, exactly how much time a delivery truck spends idling in **23** traffic, or, how the weather affects which books patrons check out from the library. Some of this glut of data comes from increasingly sophisticated and connected sensors on everything from cars and trucks to appliances and light bulbs. **24** Consequently, a huge portion of it comes from social media posts that can't be analyzed in traditional ways. This means that new ways of **25** digging online activity for information are constantly being developed.

Data analysts are the people who develop new ways of looking at such information, in fields ranging from healthcare to the nonprofit **26** sector too manufacturing. Although many companies have long employed financial analysts or market research analysts, the need for even more data analysts is quickly growing. Job-seekers with degrees in computer science or mathematics are likely to be attracted to data analysis jobs, because there is no standard requirement for a graduate degree or certification.

23
A) NO CHANGE
B) traffic, or
C) traffic: or
D) traffic; or

24
A) NO CHANGE
B) Additionally,
C) However,
D) Therefore,

25
A) NO CHANGE
B) checking out
C) mining
D) taking a peek at

26
A) NO CHANGE
B) sector to
C) section, to
D) section to

CONTINUE

Salaries are also attractive: the average starting salary of a data analyst is almost $50,000 more than **27** that as a computer programmer.

28 Another draw of the field of data analytics is that specialized knowledge of a particular field is not necessarily a requirement. While it may seem that a background in healthcare would be prerequisite for making sense of medical data, the analyst's job is very much a collaborative one. Doctors and epidemiologists, for example, work alongside data analysts, who can design algorithms tailored to the needs of particular research projects. An expert in statistics can open researchers' eyes to new ways of using **29** his or her information, and such collaborations ultimately lead to innovations that benefit society at large.

30 According to the Bureau of Labor Statistics,

27

A) NO CHANGE
B) that of
C) those of
D) DELETE the underlined portion.

28

Which choice is the best introduction to the paragraph?

A) NO CHANGE
B) More and more schools are offering degree programs in data analytics.
C) Epidemiology is one example of a field in which data analytics is of fundamental importance.
D) Some companies are creating new positions for data analysts, while others are adding the duties to positions that already exist.

29

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

30

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

> Since there is no standard certification or job title for those who analyze big data, it can be difficult to quantify exactly how much the field is growing.

Should the writer make this addition here?

A) Yes, because it introduces an issue that is further discussed in the paragraph.
B) Yes, because it offers additional details about a point made in the previous paragraph.
C) No, because it strays from the main focus of the paragraph.
D) No, because it contradicts the ideas presented later in the paragraph.

CONTINUE ▶

related job **31** titles (including operations research analyst and statistician) have projected growth rates of up to 34% over the next ten years.

32 Big data is already used to schedule our UPS deliveries and to recommend music and movies for us to stream. Within the next decade, it will no doubt become a part of nearly every other aspect of our **33** goings-on.

Projected Increase in Jobs Related to Data Analytics, 2014–2024

	2014 Number	2024 Number (predicted)	Projected Growth Rate
Statistician	30,000	40,100	34%
Operations Research Analyst	91,300	118,900	30%
Market Research Analyst	495,500	587,800	19%
Management Analyst	758,000	861,400	14%
Financial Analyst	277,600	309,900	12%

Data from Bureau of Labor Statistics, Occupational Outlook Handbook, http://www.bls.gov/ooh/

31

A) NO CHANGE

B) titles: including operations research analyst and statistician,

C) titles including operations research analyst, and statistician,

D) titles, including operations research analyst and statistician

32

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

> In fact, operations research analyst positions are projected to have the greatest number of jobs in the field by 2024.

Should the writer make this addition?

A) Yes, because it includes surprising data that makes the argument more interesting.

B) Yes, because it summarizes the central thesis of the passage.

C) No, because it is only tangentially related to the main idea of the passage.

D) No, because it is not supported by the data presented in the table.

33

A) NO CHANGE

B) habits.

C) usual procedure.

D) daily lives.

CONTINUE →

Questions 34–44 are based on the following passage.

The Near-Death and Rebirth of Rock

Every generation can be defined by its music: the GI Generation is sometimes called the Jazz Generation. The Silent Generation had big band and swing, and Baby Boomers, of course, had rock and roll. But there was a time during the **34** delayed '50s and early '60s when it seemed that rock and roll might be a short-lived fad.

The film *Blackboard* **35** *Jungle,* which featured the song "Rock Around the Clock" by Bill Haley and his Comets—catapulted popular culture into the rock-and-roll era in 1955. The movie sparked controversy, **36** moreover, with some theaters cutting the iconic opening song, others refusing to show it at all, and large crowds of teenagers flocking to see it wherever they could. The following year, Elvis Presley **37** will appear on the Ed Sullivan show, thrilling and scandalizing audiences nationwide with his pompadour and his hip-swiveling dance moves.

34

A) NO CHANGE
B) tardy
C) behind
D) late

35

A) NO CHANGE
B) *Jungle—*
C) *Jungle:*
D) *Jungle;*

36

A) NO CHANGE
B) and,
C) however,
D) as a result,

37

A) NO CHANGE
B) appearing
C) appeared
D) was appearing

CONTINUE ➡

Rock and roll was widely embraced as the
[38] symbol, of a new, rebellious generation. Chuck
Berry, Little Richard, Buddy Holly, and Jerry Lee Lewis
expanded on the groundwork laid by Bill Haley and Elvis,
bringing bluesy rhythms and exuberant, danceable
energy to popular music. [39] Les Paul's innovations in
developing a solid-body electric guitar helped make this
kind of music possible.

[38]

A) NO CHANGE

B) symbol of

C) symbol: of

D) symbol of,

[39]

The writer wants a conclusion to the paragraph that
logically completes the discussion of the popularity
of early rock and provides an effective transition into
the next paragraph. Which choice best accomplishes
these goals?

A) NO CHANGE

B) Popular new dance moves, such as the Hand Jive,
popped up alongside the new style of music.

C) The television show American Bandstand,
which focused exclusively on Top 40 hits, helped
popularize rock music.

D) It seemed as if the rise of rock and roll was
unstoppable.

CONTINUE →

But in the late 50s, one by one, **40** rock musicians began to expand their musical styles, incorporating elements of gospel and classical music. Buddy Holly was killed in a plane crash. Elvis was drafted. Little Richard abandoned music and became a preacher. Others were marred by scandal: Jerry Lee Lewis married his 13-year-old cousin, and Chuck Berry **41** debuted his signature duck walk, hopping across the stage on one foot while playing the guitar. As the big stars dropped off, it was as if those who viewed rock and roll as dangerous and degenerate had been correct: nothing good was coming of it.

40

Which choice most effectively sets up the main idea of the paragraph?

A) NO CHANGE

B) the icons of early rock disappeared from the music scene.

C) rock musicians began to write their own songs instead of just playing covers of already-established hits.

D) British rock bands began to gain popularity in the United States.

41

Which choice is most consistent with the examples in the previous sentences?

A) NO CHANGE

B) opened some of the first integrated music clubs in St. Louis.

C) served time in jail for having improper relations with a minor.

D) combined blues, country, and R&B in an innovative new way.

CONTINUE →

The Beatles changed everything in 1963, when their songs were first aired on American radio. In early 1964, two of The **42** Beatles' album's, were released in the United States, followed quickly by an appearance on the Ed Sullivan show and their first American tour. The Beatles had been inspired by Buddy Holly, and young American audiences loved these new stars even more than they had loved **43** those of the late 50s. **44** Elvis' dance moves had met with disapproval from older generations. The Beatles' shaggy hairdos were seen as a symbol of rebellion by parents of the band's fans. Young fans, however, embraced everything The Beatles stood for, and the band members relished their roles as leaders of a revolutionary youth culture. Over the course of the 1960s, the band's music became increasingly experimental and political, reflecting the changing interests of its audience, but rock's popularity never again waned.

42

A) NO CHANGE

B) Beatles' albums

C) Beatles album's

D) Beatle's album's

43

A) NO CHANGE

B) them

C) these

D) DELETE the underlined portion.

44

Which choice most effectively combines the underlined sentences?

A) Just as Elvis' dance moves had met with disapproval from older generations, The Beatles' shaggy hairdos were seen as a symbol of rebellion by parents of the band's fans.

B) Elvis' dance moves had met with disapproval from older generations, even though The Beatles' shaggy hairdos were seen as a symbol of rebellion by parents of the band's fans.

C) In the same way that Elvis' popular dance moves made older generations disapproving in their style, The Beatles' hairdos, which were seen by many parents as shaggy, were widely taken by the band's fans to be a symbol of rebellion.

D) The Beatles' hairdos were met with disapproval from parents of the band's fans in being shaggy and rebellious, just as Elvis' dance moves had met with disapproval from older generations.

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

Math Test – No Calculator

25 MINUTES, 20 QUESTIONS

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

DIRECTIONS

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

NOTES

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

REFERENCE

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

$A = \ell w$

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

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

Special Right Triangles

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

$V = \ell wh$

$V = \pi r^2 h$

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

$V = \frac{1}{3}\pi r^2 h$
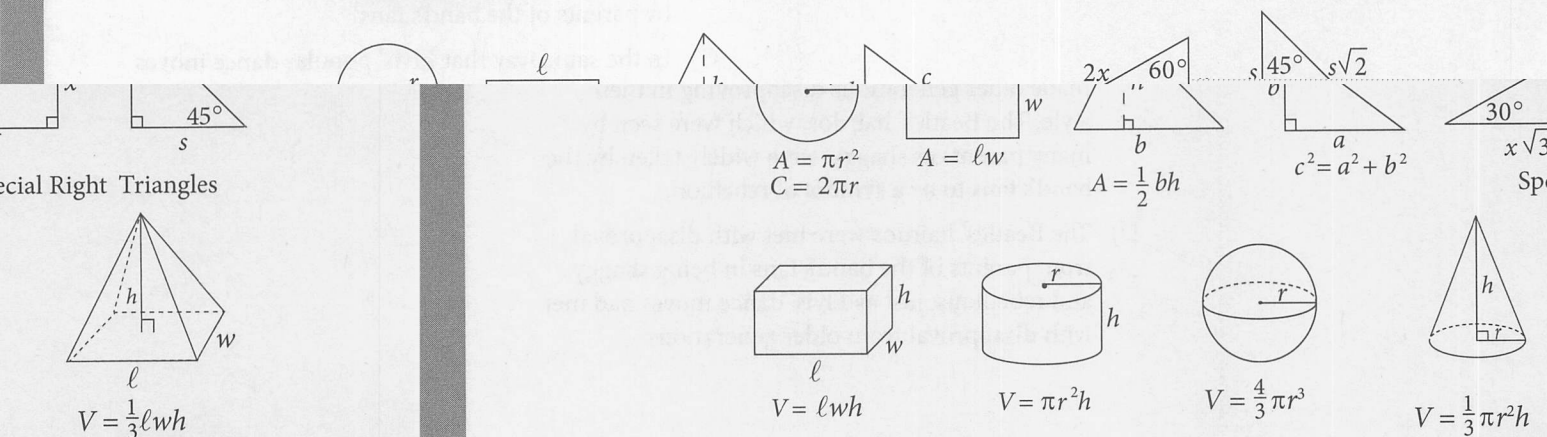
The number of degrees of arc in a circle is 360.
The number of radians of arc in a circle is 2π.
The sum of the measures in degrees of the angles of a triangle is 180.

CONTINUE

1

What is the sum of the complex numbers $3 + 6i$ and $7 + 2i$, where $i = \sqrt{-1}$?

A) $10 + 8i$

B) $21 + 12i$

C) 18

D) $18i$

2

Abigail creates a pricing plan for her job as a piano instructor. She charges a one-time registration fee to every client in order to begin instruction. The equation $C = 40h + 100$ represents the total amount C, in dollars, that Abigail charges for h hours of lessons. What does 100 represent in the equation?

A) The amount of the registration fee, in dollars

B) The total amount, in dollars, Abigail will charge for one hour

C) The total amount, in dollars, Abigail will charge for any number of hours

D) The price of one hour, in dollars

3

A jeweler obtains two samples of gold. Sample F weighs 220 ounces and Sample G weighs 140 ounces. The samples bought by the jeweler contain a total of 150 ounces of pure gold. Which equation models this relationship, where a is the percent of pure gold, expressed as a decimal, of Sample F and b is the percent of pure gold, expressed as a decimal, of Sample G?

A) $1.4a + 2.2b = 150$

B) $2.2a + 1.4b = 150$

C) $140a + 220b = 150$

D) $220a + 140b = 150$

4

If $a = \dfrac{4}{5}b$ and $b = 15$, what is the value of $4a - 5$?

A) 8

B) 10

C) 12

D) 43

CONTINUE

5

$$(cy - d)(cy + d) = 25y^2 - 16$$

Which of the following could be the value of *c* in the equation above, where *c* and *d* are constants?

A) 4

B) 5

C) 16

D) 25

6

If $\sqrt{49} = \sqrt{y} - \sqrt{16}$, what is the value of *y* ?

A) 121

B) 65

C) 11

D) $\sqrt{11}$

7

Which of the following is the graph of the equation $y = \dfrac{1}{3}x - 2$ in the *xy*-plane?

A)
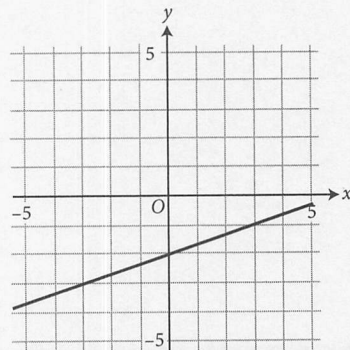
B)
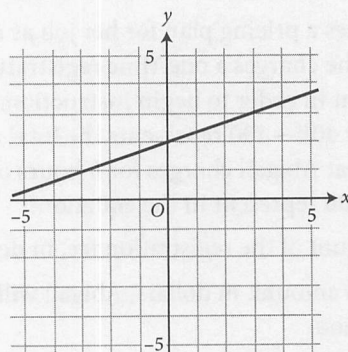
C)
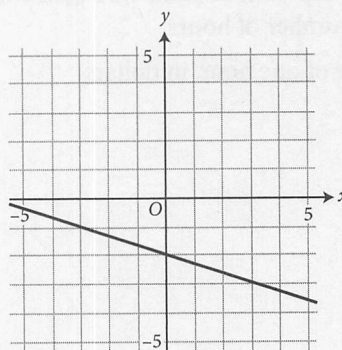
D)
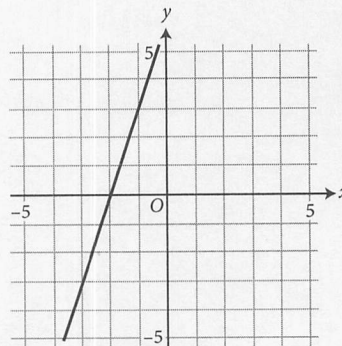
CONTINUE

8

A wedding band uses the equation $F = 300nh$ to estimate the fee F, in dollars, it charges for a wedding that requires n musicians and lasts h hours. Which of the following correctly expresses h, in terms of F and n?

A) $h = \dfrac{F}{300 + n}$

B) $h = \dfrac{F}{300n}$

C) $h = \dfrac{n}{300F}$

D) $h = \dfrac{300}{nF}$

9

s	$r(s)$	$t(s)$
0	−1	−1
1	2	1
2	3	1
3	−1	−3
4	−2	3

The table above shows some values for the functions r and t. For which value of s is $r(s) \times t(s) = s$?

A) 0

B) 1

C) 2

D) 3

10

Which of the following is equivalent to $\dfrac{2y^2 + 5y}{2y + 7}$?

A) $y - 1 + \dfrac{7}{2y + 7}$

B) $\dfrac{7}{2y + 7}$

C) $y + 2$

D) y

11

Renee is taking a calculus class. Her goal is to have the average score on her 3 tests be at least a 90. She scored 99 on the first test and 83 on the second test. Which inequality can be used to represent the score, s, that Renee could receive on the 3rd test to meet her goal?

A) $\dfrac{99}{3} + \dfrac{83}{3} + s \geq 90$

B) $99 + 83 + s \geq 3(90)$

C) $\dfrac{99 + 83}{2} + s \geq 90$

D) $99 + 83 \geq s(90)$

CONTINUE

12

$y = ax^2 - k$
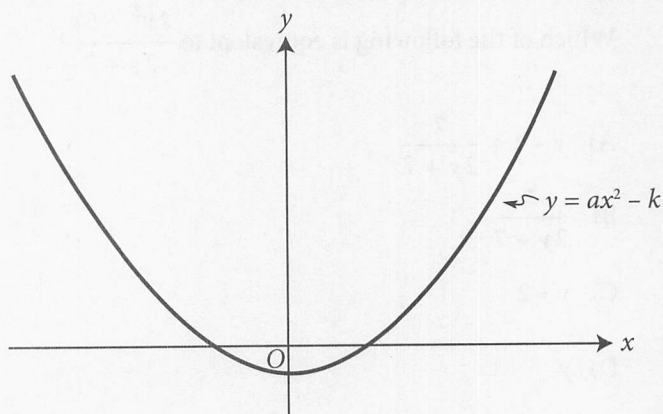
The vertex of the parabola in the xy-plane above is $(0, -k)$. Which of the following is true about the parabola with the equation $y = -a(x + j)^2 - k$?

A) The graph opens downward and the vertex is $(j, -k)$.

B) The graph opens upward and the vertex is $(j, -k)$.

C) The graph opens downward and the vertex is $(-j, -k)$.

D) The graph opens upward and the vertex is $(-j, -k)$.

13

Which of the following is equivalent to $\left(\dfrac{x}{2} - y\right)^2$?

A) $\dfrac{x^2}{2} + y^2$

B) $\dfrac{x^2}{4} + y^2$

C) $\dfrac{x^2}{4} - xy + y^2$

D) $\dfrac{x^2}{2} - \dfrac{xy}{2} + y^2$

14

$$4x^2 - 5x = k$$

In the equation above, k is a constant. If the equation has two real solutions, which of the following could be the value of k ?

A) -4

B) -3

C) -2

D) -1

15

A clothing store owner is buying T-shirts and pairs of jeans from a wholesaler. She wants to buy at least three times as many T-shirts as pairs of jeans. She will spend no more than $200 on the order. Each T-shirt that is ordered costs the store $1.25, and each pair of jeans that is ordered costs the store $9.75. Let t represent the number of T-shirts ordered and j represent the number of pairs of jeans ordered, where t and j are nonnegative integers. Which of the following systems of inequalities best expresses this situation?

A) $t \geq 3j$
   $3.75t + 9.75j \leq 200$

B) $3t \geq j$
   $3.75t + 9.75j \leq 200$

C) $t \geq 3j$
   $1.25t + 9.75j \leq 200$

D) $3t \geq j$
   $1.25t + 9.75j \leq 200$

CONTINUE

DIRECTIONS

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

1. Although not required, it is suggested that you write your answer in the boxes at the top of the columns to help you fill in the circles accurately. You will receive credit only if the circles are filled in correctly.

2. Mark no more than one circle in any column.

3. No question has a negative answer.

4. Some problems may have more than one correct answer. In such cases, grid only one answer.

5. **Mixed numbers** such as $3\frac{1}{2}$ must be gridded as 3.5 or 7/2. (If $\boxed{3\ 1\ /\ 2}$ is entered into the grid, it will be interpreted as $\frac{31}{2}$, not as $3\frac{1}{2}$.)

6. **Decimal Answers:** If you obtain a decimal answer with more digits than the grid can accommodate, it may be either rounded or truncated, but it must fill the entire grid.

Answer: $\frac{7}{12}$ Answer: 2.5

Write answer in boxes. ← Fraction line

Grid in result. ← Decimal point

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

In the figure above, $\overline{PQ}$ is parallel to $\overline{RT}$. What is the length of $\overline{PS}$?

17

If $r^{\frac{s}{2}} = 64$ for positive integers r and s, what is one possible value of s ?

18

Points P and Q lie on a circle with radius 2, and arc $\overset{\frown}{PQ}$ has length $\dfrac{\pi}{6}$. What fraction of the circumference is the length of arc $\overset{\frown}{PQ}$?

19

$$\frac{4}{7}a = \frac{7}{2}$$

What value of a is the solution to the equation above?

CONTINUE

20

How many gallons of a juice mix that is 60% orange juice must be added to 5 gallons of a juice mix that is 30% orange juice to obtain a juice mix that is 40% orange juice?

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

Math Test – Calculator

55 MINUTES, 38 QUESTIONS

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

DIRECTIONS

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

NOTES

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

REFERENCE

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

$A = \ell w$
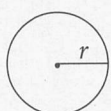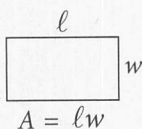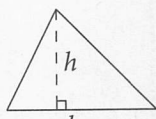
$A = \frac{1}{2} bh$
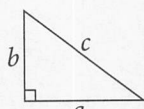
$c^2 = a^2 + b^2$
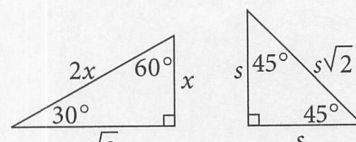
Special Right Triangles

$V = \ell wh$
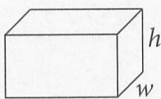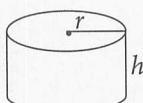
$V = \pi r^2 h$
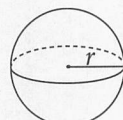
$V = \frac{4}{3} \pi r^3$
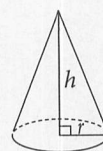
$V = \frac{1}{3} \pi r^2 h$
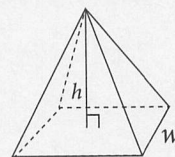
$V = \frac{1}{3} \ell wh$

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

Laura went out for a run. After running for a while, she stopped to sit on a park bench and rest. When she started running again, she was tired, and ran at a slower rate than she had initially. Which of the following graphs could model the distance Laura ran versus time?

A)
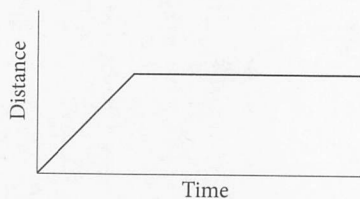
B)
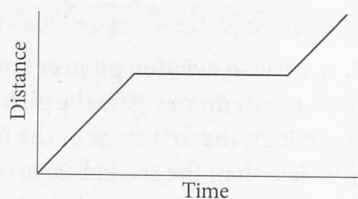
C)
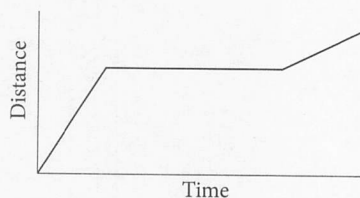
D)
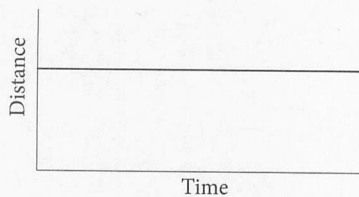
2

What expression is equivalent to
$(3y^2 - 2) - (-5y^2 + 3y - 6)$?

A) $-2y^2 + 3y - 4$

B) $-2y^2 - 3y - 4$

C) $8y^2 + 3y - 4$

D) $8y^2 - 3y + 4$

3
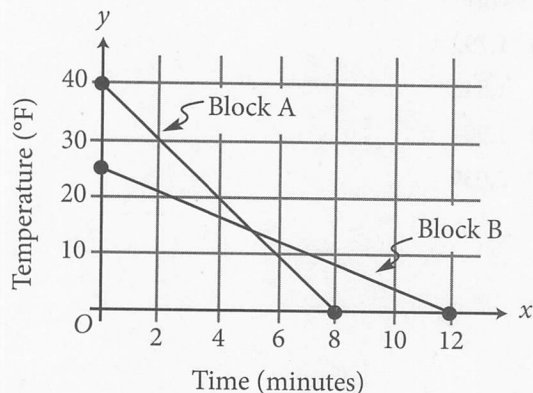
The graph above shows the temperature of two different blocks of metal that are being cooled in a freezer to a temperature of 0 degrees Fahrenheit. Both blocks lose heat at a constant rate, and Block B started at a lower initial temperature to decrease the time required to cool it. Block A took 8 minutes to cool to 0 degrees Fahrenheit and Block B took 12 minutes to cool to 0 degrees Fahrenheit. According to the graph, what was the difference, in degrees Fahrenheit, between the initial temperatures of Block A and Block B?

A) 10

B) 15

C) 20

D) 25

CONTINUE

4

Who is Your Internet Service Provider?

Internet Service Provider	Percent of Households
Corporate Cable	47%
Speedy Connections	21%
Global Networks	17%
Dave's Dial-Up	12%
Other	3%

The table above summarizes a census of 2,800 households within a small community. Based on the table, how many households receive their Internet service from either Corporate Cable or Global Networks?

A) 1,792

B) 1,843

C) 1,904

D) 2,039

5

An office supply vendor that delivers printer ink to companies charges a subscription fee of $230 for its services plus x dollars for each carton of ink. If a company paid $1,364 for 18 cartons of ink, including the subscription fee, what is the value of x ?

A) 46

B) 52

C) 63

D) 78

6

$$16a + 20b > 12$$

Which of the following inequalities is equivalent to the inequality above?

A) $5b + 4a > 4$

B) $5a + 4b > 3$

C) $a + b > 4$

D) $4a + 5b > 3$

7

In May of 1937, American aviation pioneer Amelia Earhart attempted to circumnavigate the globe. According to flight logs, the first stage of the trip was 110 nautical miles less than the second stage of the trip, and the two stages combined totaled 676 nautical miles. How many nautical miles was the first stage?

A) 249

B) 283

C) 327

D) 390

CONTINUE

8

The total weight of a carton of oranges is 27.3 pounds, of which 9.6 pounds is the weight of the carton itself. If a fruit vendor pays $46.25 for a carton of oranges, which of the following is closest to the cost of the oranges, in dollars per pound?

A) $6.50

B) $4.80

C) $2.60

D) $1.70

9

The board of directors at a natural history museum decided to survey all of its scientists to determine if the new wing in the museum should feature an aquatic exhibit. The board met with a sample group of 30 marine biologists. The majority of the sample group were in favor of featuring an aquatic exhibit in the new wing. Which of the following is true about the board's survey?

A) The sample group should have included more marine biologists.

B) It concludes that a majority of the scientists are in favor of featuring an aquatic exhibit in the new wing.

C) The sample group is biased because it is not representative of all scientists.

D) The sample group should have consisted only of scientists who are not marine biologists.

10

Adopted Animal Characteristics

		Species	
		Dogs	Cats
Color	Brown	13	9
	Black	21	7

An animal shelter held an adoption event to find new homes for a group of dogs and cats. The table above shows the number and color of dogs and cats that were adopted at the event. Each animal was classified as only one color. Of the cats that were adopted, what fraction were black?

A) $\dfrac{7}{16}$

B) $\dfrac{9}{16}$

C) $\dfrac{7}{50}$

D) $\dfrac{16}{50}$

CONTINUE

Questions 11–13 refer to the following information.

Arctic Sea Ice	
Study Year	Extent (million km²)
0	5.98
1	6.18
2	6.08
3	5.59
4	5.95
5	4.32
6	4.73
7	5.39
8	4.81
9	4.22
10	3.63
11	5.35
12	5.29
13	4.68
14	4.72

Arctic Sea Ice Extent Over Time
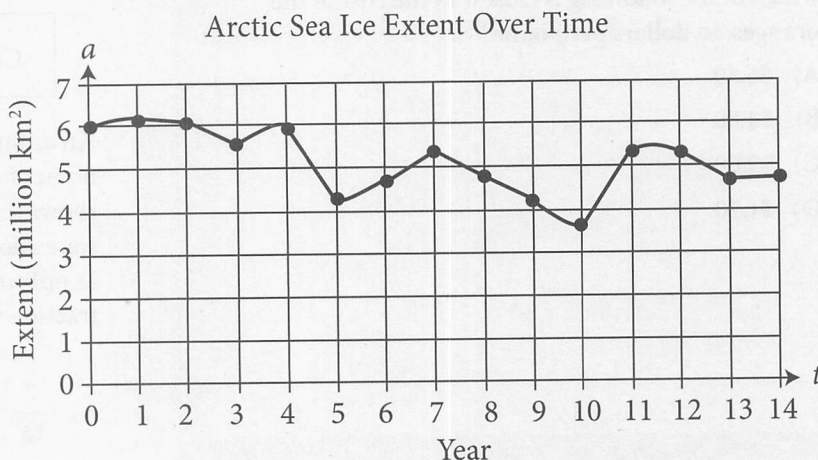
A team of research climatologists conducted a 14-year study to determine the change in the area of the Arctic sea covered with ice, termed the Arctic sea ice extent. The graph and table above model the extent a, in millions of square kilometers, of Arctic sea ice t years after the study began.

11

The function a, defined by $a(t) = c - dt$, where c and d are constants, models the extent, in millions of square kilometers, of Arctic sea ice t years after the start of the study during a period in which the change is approximately linear. What does d represent?

A) The predicted total decrease in extent, in millions of square kilometers, of Arctic sea ice during the period

B) The predicted decrease in extent, in millions of square kilometers, of Arctic sea ice per year during the period

C) The predicted extent, in millions of square kilometers, of Arctic sea ice at the beginning of the period

D) The predicted extent, in millions of square kilometers, of Arctic sea ice at the end of the period

°12

The rate of decrease of Arctic sea ice extent from Year 7 to Year 10 is nearly constant. On this interval, which of the following best models the extent a, in millions of square kilometers, of Arctic sea ice t years after the study began?

A) $a = 5 - 0.21t$

B) $a = 7 - 0.13t$

C) $a = 10 - 0.64t$

D) $a = 15 - 1.82t$

13

Over which time period is the average decrease of Arctic sea ice extent the greatest?

A) Year 4 to Year 5

B) Year 7 to Year 8

C) Year 9 to Year 10

D) Year 12 to Year 13

CONTINUE

14

$$9c + 5d = 22$$

$$7c - 5d = 10$$

For the solution (c, d) to the system of equations above, what is the value of $c + d$?

A) $-\dfrac{6}{5}$

B) $\dfrac{6}{5}$

C) $\dfrac{7}{5}$

D) $\dfrac{14}{5}$

15
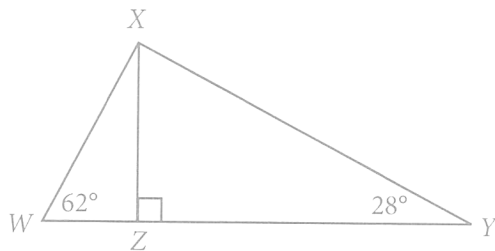
Triangle WXY is shown above. Which of the following is equal to the ratio $\dfrac{WZ}{WX}$?

A) $\dfrac{XZ}{XY}$

B) $\dfrac{XY}{XZ}$

C) $\dfrac{XZ}{YZ}$

D) $\dfrac{YZ}{XY}$

16

s	t
-2	$\dfrac{7}{2}$
-1	$\dfrac{19}{2}$
0	$\dfrac{31}{2}$
1	$\dfrac{43}{2}$
2	$\dfrac{55}{2}$

Which of the following equations relates t to s for the values in the table above?

A) $t = \dfrac{31}{2} \cdot (6)^s$

B) $t = 6s + \dfrac{31}{2}$

C) $t = \dfrac{1}{4} \cdot \left(\dfrac{31}{2}\right)^s$

D) $t = \dfrac{1}{6}s - 4$

CONTINUE

Questions 17–19 refer to the following information.
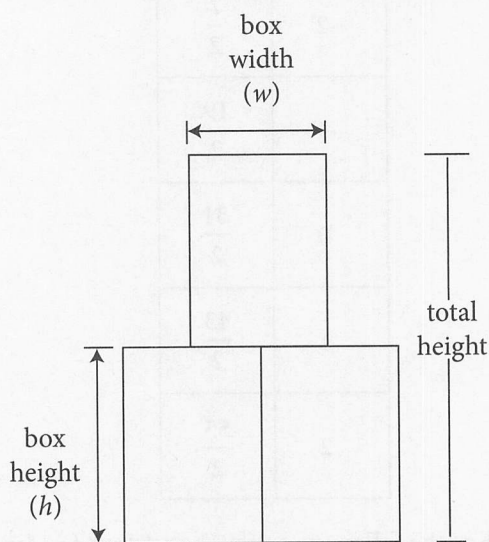
Note: Figure not drawn to scale.

When designing stacked displays of different types of crackers for sale, a manufacturer can use the box size formula $h + 3w = 30$, where h is the height of each box of crackers, in inches, and w is the width of each box of crackers, in inches. For any given stacked display, the height and width of each box displayed is the same.

The height of each level in the stacked display is equal to the height of the boxes of crackers in the display. For example, there are 2 levels in the figure above, each with a height of h. The total height of the stacked display is the sum of each level's height as shown in the figure.

17

Some cracker manufacturing companies require that, for wheat crackers, the box height must be at least 12 inches and the box width must be at least 3 inches. According to the box size formula, which of the following inequalities represents the set of all possible values for the box width that meets this size requirement?

A) $6 \leq w \leq 12$

B) $3 \leq w \leq 6$

C) $w \geq 3$

D) $0 \leq w \leq 3$

18

A manufacturer wants to use the box size formula to design a stacked display that has a total height of 7 feet, holds boxes with a height between 8 and 10 inches, and contains an even number of levels. With the manufacturer's constraints, which of the following must be the width, in inches, of the box? (1 foot = 12 inches)

A) 6.8

B) 7.2

C) 8.4

D) 10

19

Which of the following expresses the box width in terms of the box height?

A) $w = \dfrac{1}{3}(30 - h)$

B) $w = \dfrac{1}{3}(30 + h)$

C) $w = -\dfrac{1}{3}(30 - h)$

D) $w = -\dfrac{1}{3}(30 + h)$

CONTINUE

20

A study was done on the circumferences of different types of trees in a forest. A random sample of trees were measured and each tree was marked to guarantee that no tree was measured twice. The sample contained 250 red maple trees, of which 40% had a circumference less than 35 inches. Which of the following conclusions is best supported by the data?

A) The average circumference of all the trees in the forest is approximately 35 inches.

B) Approximately 40% of all the trees in the forest have circumferences less than 35 inches.

C) Approximately 40% of all the red maple trees in the forest have circumferences less than 35 inches.

D) The majority of all the trees in the forest have circumferences larger than 35 inches.

21

What is the product of the solutions to $(y + 4)(y - 0.3) = 0$?

A) −1.2

B) −3.7

C) 3.7

D) 1.2

22

Height versus Time for a Trampolining Gymnast
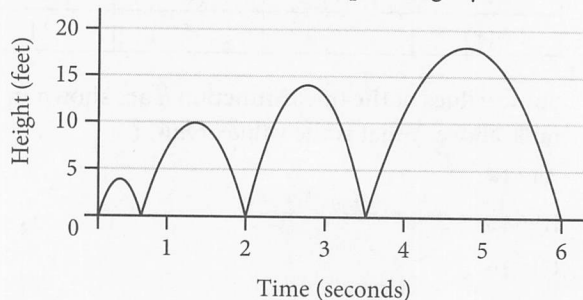
To break a height record in a trampolining competition, a gymnast repeatedly bounced on a trampoline using increasing amounts of force to achieve greater heights. The graph above represents the relationship between the time elapsed after the start of the jumps and the height of the gymnast above the trampoline. How many times was the gymnast at a height of 15 feet?

A) Three

B) Two

C) One

D) None

23

A writer's salary was $81.34 per assignment. After a promotion and a raise, her salary is now $88.51 per assignment. To the nearest tenth of a percent, by what percent did the writer's salary increase?

A) 7.2%

B) 8.1%

C) 8.8%

D) 9.3%

CONTINUE

24

x	1	3	7
$h(x)$	−3	5	21

Some values of the linear function h are shown in the table above. What is the value of $h(6)$?

A) 14

B) 15

C) 16

D) 17

25

Number of U.S. Presidents Aged 60 or
Younger when Inaugurated

Age	Frequency
42	1
43	1
46	2
47	2
48	1
49	2
50	1
51	5
52	2
54	5
55	4
56	3
57	4
58	1
60	1

There are 35 U.S. Presidents who were 60 years old or younger when they were inaugurated, as shown in the table above. Based on the table, what was the median age for these 35 presidents?

A) 51

B) 52

C) 54

D) 55

26

In the xy-plane, the graph of $4x^2 + 20x + 4y^2 - 12y = 110$ is a circle. What is the radius of the circle?

A) $\sqrt{55}$

B) 34

C) 12

D) 6

27

The resistor ratio $a{:}b$ is the ratio of the current, in amperes, through two resistors connected in a parallel circuit. The ratio of resistance, in ohms, of two resistors connected in a parallel circuit is $b{:}a$. In the diagram below, the circuit is powered by a battery that passes current through Resistors X, Y, and Z.

Battery — Resistor X 5 amperes — Resistor Y 18 amperes — Resistor Z 15 amperes
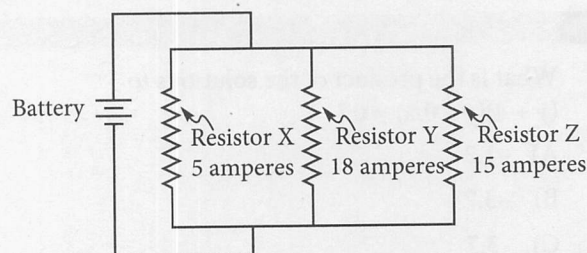
If Resistor X has a resistance of 24 ohms, what is the resistance of Resistor Z?

A) 8

B) 32

C) 72

D) 240

28

Satellites orbit Earth so that it takes P seconds to complete one orbit when the satellite is a meters from the center of the planet, where $P = 36 \times 10^{-8} \, a\sqrt{a}$. Which of the following gives the approximate orbital ratio, in seconds per meter, for a satellite a meters away from the center of Earth?

A) $6 \times 10^{-4} \sqrt{a}$

B) $\dfrac{36 \times 10^{-8}}{\sqrt{a}}$

C) $36 \times 10^{-8} \, a$

D) $36 \times 10^{-8} \sqrt{a}$

29

The scatterplot below shows the number of soft drinks sold, in thousands of gallons, by fast food restaurants over a 15-year period.

Soft Drinks Sold by Fast Food Restaurants
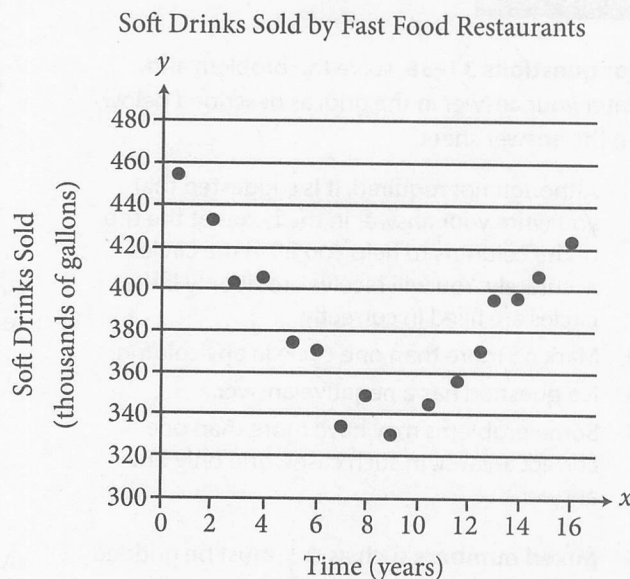
Of the following equations, which best models the data in the scatterplot?

A) $y = 2.138x^2 - 38.44x + 483.27$

B) $y = 2.138x^2 + 38.44x - 483.27$

C) $y = -2.138x^2 - 38.44x - 483.27$

D) $y = -2.138x^2 - 38.44x + 483.27$

30

On a number line, two different points are both 5 units from the point with coordinate −6. The solution to which of the following equations gives the coordinates of both points?

A) $|y - 6| = 5$

B) $|y + 6| = 5$

C) $|y - 5| = 6$

D) $|y + 5| = 6$

CONTINUE

DIRECTIONS

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

1. Although not required, it is suggested that you write your answer in the boxes at the top of the columns to help you fill in the circles accurately. You will receive credit only if the circles are filled in correctly.

2. Mark no more than one circle in any column.

3. No question has a negative answer.

4. Some problems may have more than one correct answer. In such cases, grid only one answer.

5. **Mixed numbers** such as $3\frac{1}{2}$ must be gridded as 3.5 or 7/2. (If [3 1 / 2] is entered into the grid, it will be interpreted as $\frac{31}{2}$, not as $3\frac{1}{2}$.)

6. **Decimal Answers:** If you obtain a decimal answer with more digits than the grid can accommodate, it may be either rounded or truncated, but it must fill the entire grid.

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

Write answer in boxes.

Fraction line

Grid in result.

Answer: 2.5

Decimal point

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

A baking company produces ice cream cones, each with an internal radius at the opening of 4 centimeters and an internal height between 14.75 centimeters and 15 centimeters. What is one possible volume, rounded to the nearest cubic centimeter, of an ice cream cone produced by this company?

32

A group of coworkers decided to buy their boss a $400 birthday gift and to split the cost equally among themselves. When three of the coworkers decided not to contribute, those remaining still divided the $400 birthday gift equally, but each coworker's share of the cost increased by $30. How many coworkers were in the group originally?

33

$$3(4k - 10) - (26 + 5k) = 21$$
What value of k satisfies the equation above?

34

The line with the equation $-\dfrac{3}{4}x + \dfrac{5}{6}y = 1$ is graphed in the xy-plane. What is the y-coordinate of the y-intercept of the line?

CONTINUE

35

	Height (feet)				
Robert	3.9	6.1	4.4	5.3	5.8
Louis	h	4.5	5.7	4.2	3.8

Robert and Louis each have five rose bushes, and the heights of the bushes are shown in the table above. The mean of the heights of Robert's rose bushes is 0.3 feet greater than the mean of the heights of Louis's rose bushes. What is the value of h ?

36

In the xy-plane, the graph of $y = -4x^2 + 25x$ intersects the graph of $y = x$ at the points $(0, 0)$ and (c, c). What is the value of c ?

37

John is analyzing the monthly expenditures of his business to determine whether his expenses exceeded his predicted budget. Of the money he spent this month, 10% was for office supplies, 40% was for employee salaries, 35% was for rent, and the remaining $450 was for utilities. How much more money, in dollars, did John spend on rent than on office supplies? (Ignore the dollar sign when gridding your response.)

38

An elementary school had k kindergarten students enrolled at the beginning of the 2011 school year. The number of kindergarten students enrolled tripled each year until 2014, when the elementary school had 540 kindergarten students enrolled. What is the value of k ?

END OF TEST

DO NOT RETURN TO A PREVIOUS SECTION.