

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.

A Necessary Resource for Science

In the winter of 1968, scientists David Schindler and Gregg Brunskill poured nitrates and phosphates into Lake **1** 227, this is one of the 58 freshwater bodies that compose Canada's remotely located Experimental Lakes Area. Schindler and Brunskill were contaminating the water not out of malice but in the name of research. While deliberately adding chemical compounds to a lake may seem **2** destructive and irresponsible, this method of experimenting is sometimes the most effective way to influence policy and save the environment from even more damaging pollution.

1

- A) NO CHANGE
- B) 227. Which is one
- C) 227. One
- D) 227, one

2

- A) NO CHANGE
- B) destructive, and irresponsible this method
- C) destructive and, irresponsible, this method
- D) destructive and irresponsible this method,

Schindler and Brunskill were investigating possible causes for the large blooms of blue-green algae, or cyanobacteria, that had been affecting bodies of water such as Lake Erie. **3** In addition to being unsightly and odorous, these algal blooms cause oxygen depletion. Oxygen depletion kills fish and other wildlife in the lakes. Just weeks after the scientists added the nitrates and phosphates, the water in Lake 227 turned bright **4** green. It was thick with: the same type of algal blooms that had plagued Lake Erie.

3

Which choice most effectively combines the underlined sentences?

- A) In addition to being unsightly and odorous, these algal blooms cause oxygen depletion: the result being that it kills fish and other wildlife in the lakes.
- B) In addition to being unsightly and odorous, these algal blooms cause oxygen depletion; the algal blooms cause oxygen depletion that kills fish and other wildlife in the lakes.
- C) In addition to being unsightly and odorous, these algal blooms cause oxygen depletion, and oxygen depletion caused by the algal blooms kills fish and other wildlife in the lakes.
- D) In addition to being unsightly and odorous, these algal blooms cause oxygen depletion, which kills fish and other wildlife in the lakes.

4

- A) NO CHANGE
- B) green: it was thick with
- C) green. It was thick with—
- D) green, it was thick with

5 One mission of the Experimental Lakes Area is to conduct research that helps people better understand threats to the environment. The scientists divided the lake in half by placing a nylon barrier through the narrowest part of its figure-eight shape. In one half of Lake 226, they added phosphates, nitrates, and a source of carbon; in the other, they added just nitrates 6 and a source of carbon was added. Schindler and Brunskill hypothesized that phosphates were responsible for the growth of cyanobacteria. The experiment confirmed their suspicions when the half of the lake containing the phosphates 7 was teeming with blue-green algae.

5

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

- A) NO CHANGE
- B) The Experimental Lakes Area is located in a sparsely inhabited region that experiences few effects of human and industrial activity.
- C) To isolate the cause of the algae, Schindler and Brunskill performed another experiment, this time using Lake 226.
- D) The process by which water becomes enriched by dissolved nutrients, such as phosphates, is called eutrophication.

6

- A) NO CHANGE
- B) and a source of carbon.
- C) plus also a source of carbon.
- D) but also adding a source of carbon.

7

- A) NO CHANGE
- B) were teeming
- C) are teeming
- D) teems

Schindler and Brunskill's findings were **8** shown off by the journal *Science*. The research demonstrated a clear correlation between introducing phosphates and the growth of blue-green algae. **9** For example, legislators in Canada passed laws banning phosphates in laundry detergents, which had been entering the water supply. **10**

8

- A) NO CHANGE
- B) put in the spotlight of
- C) published in
- D) put into

9

- A) NO CHANGE
- B) Similarly,
- C) However,
- D) Subsequently,

10

At this point, the writer wants to add a second policy outcome of the research described. Which choice best accomplishes this goal?

- A) Lake 226 continued to develop blooms of blue-green algae for eight consecutive years after the experiment took place.
- B) In the United States, many individual states have also adopted legislation to eliminate, or at least reduce, phosphorous content in laundry detergents.
- C) In 1974, Schindler initiated a study of the effects of acid rain, using Lake 223 to examine how sulfuric acid altered aquatic ecosystems.
- D) Aerial photos of the lakes taken before and during algal blooms helped convey the effects of phosphates in water to the public.

Experiments like these can help people understand the unintended consequences of using certain household products. **11** Of course, regulating the use of certain chemical compounds can be a controversial issue.

Selectively establishing remote study locations, such as the Experimental Lakes Area, can provide scientists with opportunities to safely conduct controlled research. This research can generate evidence solid enough to persuade policy makers to take action in favor of protecting the larger environment.

11

Which choice most effectively anticipates and addresses a relevant counterargument to the argument in favor of the types of experiments described in the passage?

- A) NO CHANGE
- B) Many companies now offer phosphate-free alternatives for household cleaning products.
- C) Obviously, scientists should not be allowed to randomly perform experiments on just any body of water.
- D) Phosphates are sometimes used in agricultural fertilizers, in addition to being used in cleaning products.

Questions 12-22 are based on the following passage.

A Little to the Left, but Not Too Much!

Italy's Tower of Pisa has been leaning southward since the initial **12** stages of its construction over 800 years ago. **13** Indeed, if the tower's construction had not taken two centuries and involved significant breaks due to war and civil unrest, which allowed the ground beneath the tower to settle, the tower would likely have collapsed before it was completed.

12

- A) NO CHANGE
- B) stage's of its'
- C) stage's of it's
- D) stages of its

13

- A) NO CHANGE
- B) Therefore,
- C) Nevertheless,
- D) However,

Luckily, the tower survived, and its tilt has made it an Italian **14** icon, it attracts visitors from all over who flock to Pisa to see one of the greatest architectural **15** weirdnesses in the world. **16** By the late twentieth century, the angle of the tower's tilt had reached an astonishing 5.5 degrees; in **17** 1990, Italy's government closed the tower to visitors and appointed a committee to find a way to save it.

14

- A) NO CHANGE
- B) icon, attracting
- C) icon, its attracting
- D) icon; attracting

15

- A) NO CHANGE
- B) deviations
- C) oddities
- D) abnormalities

16

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

Unfortunately, the tower's tilt has steadily increased over the centuries, placing the structure in danger of collapse.

Should the writer make this addition here?

- A) Yes, because it provides an important restatement of the main claim in the previous sentence.
- B) Yes, because it establishes an important shift in emphasis in the paragraph's discussion about the tower's tilt.
- C) No, because it interrupts the paragraph's discussion with irrelevant information.
- D) No, because it repeats information that is already presented in the first paragraph.

17

- A) NO CHANGE
- B) 1990, Italy's government, closed
- C) 1990 Italy's government, closed,
- D) 1990: Italy's government closed

The committee was charged with saving the tower without ruining its aesthetic, **18** which no one had yet managed to achieve. The committee's first attempt to reduce the angle of the tower's tilt—placing 600 tons of iron ingots (molded pieces of metal) on the tower's north side to create a counterweight—was derided because the bulky weights ruined the tower's appearance. The attempt at a less visible solution—sinking anchors into the ground below the tower—almost caused the tower to fall.

18

Which choice best supports the main point of the paragraph?

- A) NO CHANGE
- B) although not everyone on the committee agreed completely about what that aesthetic was.
- C) which meant somehow preserving the tower's tilt while preventing that tilt from increasing and toppling the tower.
- D) which included the pristine white marble finish that has come to be widely associated with the tower's beauty.

[1] Enter committee member John Burland, **19** he is a geotechnical engineer from England who saved London's clock tower Big Ben from collapse. [2] Burland began a years-long process of drilling out small amounts of soil from under the tower **20** that took several years to complete and then monitoring the tower's resulting movement. [3] Twice daily, Burland evaluated these movements and made recommendations as to how much soil should be removed in the next drilling. [4] By 2001, almost 77 tons of soil had been removed, and the tower's tilt had decreased by over 1.5 degrees; the ugly iron weights were removed, and the tower was reopened to visitors. [5] Burland **21** advocated using soil extraction: removing small amounts of soil from under the tower's north side, opposite its tilt, to enable gravity to straighten the tower. **22**

The tower's tilt has not increased since, and the committee is confident that the tower will be safe for another 200 years. Burland is now working on a more permanent solution for keeping the tower upright, but he is adamant that the tower never be completely straightened. In an interview with PBS's *Nova*, Burland explained that it is very important "that we don't really change the character of the monument. That would be quite wrong and quite inappropriate."

19

- A) NO CHANGE
- B) Burland is
- C) his being
- D) DELETE the underlined portion.

20

- A) NO CHANGE
- B) —taking several years to complete—
- C) that took him several years to complete
- D) DELETE the underlined portion.

21

- A) NO CHANGE
- B) advocated to use
- C) advocated the using of
- D) advocating to use

22

To make this paragraph most logical, sentence 5 should be

- A) placed after sentence 1.
- B) placed after sentence 2.
- C) placed after sentence 3.
- D) DELETED from the paragraph.

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

The Physician Assistant Will See You Now

23 The term “paramedics” refers to health care workers who provide routine and clinical services. While the pressures of an aging population, insurance reforms, and health epidemics have increased demand for care, the supply of physicians is not expected to **24** keep pace. The Association of American Medical Colleges predicts a shortage of over 90,000 physicians by 2020; by 2025, that number could climb to more than 130,000. In some parts of the country, shortages are already a sad fact of life. A 2009 report by the Bureau of Health Professions notes that although a fifth of the US population lives in rural areas, less than a tenth of US physicians serves that population. Because a traditionalist response to the crisis—**25** amping up medical-college enrollments and expanding physician training programs—is too slow and costly to address the near-term problem, alternatives are being explored. One promising avenue has been greater reliance on physician assistants (PAs).

23

Which choice is the best introduction to the paragraph?

- A) NO CHANGE
- B) For many Americans, finding a physician is likely to become a growing challenge.
- C) Getting treatment for an illness usually requires seeing either a general practitioner or a specialist.
- D) Worldwide the costs of health care are increasing at an alarming rate.

24

- A) NO CHANGE
- B) maintain the tempo.
- C) get in line.
- D) move along.

25

- A) NO CHANGE
- B) bolstering
- C) arousing
- D) revving up

26 By virtue of 27 there medical training, PAs can perform many of the jobs traditionally done by doctors, including treating chronic and acute conditions, performing minor 28 surgeries: and prescribing some medications. However, although well 29 compensated earning in 2012 a median annual salary of \$90,930, PAs cost health care providers less than do the physicians who

26

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

Several factors argue in favor of such an expanded role.

Should the writer make this addition here?

- A) Yes, because it introduces a counterargument for balance.
- B) Yes, because it frames the points that the paragraph will examine.
- C) No, because it does not specify the education required to be a PA.
- D) No, because it presents information that is only tangential to the main argument.

27

- A) NO CHANGE
- B) they're
- C) their
- D) his or her

28

- A) NO CHANGE
- B) surgeries; and
- C) surgeries, and,
- D) surgeries, and

29

- A) NO CHANGE
- B) compensated (earning in 2012 a median annual salary of \$90,930),
- C) compensated, earning in 2012 a median annual salary of \$90,930
- D) compensated: earning in 2012 a median annual salary of \$90,930,

might otherwise undertake these tasks. Moreover, the training period for PAs is markedly shorter than **30** those for physicians—two to three years versus the seven to eleven required for physicians.

Physician assistants already offer vital primary care in many locations. Some 90,000 PAs were employed nationwide in 2012. Over and above their value in partially compensating for the general physician shortage has been their extraordinary contribution to rural health care. A recent review of the scholarly literature by Texas researchers found that PAs lend cost-efficient, widely appreciated services in underserved areas.

31 In addition, rural-based PAs often provide a broader spectrum of such services than do their urban and suburban counterparts, possibly as a consequence of the limited pool of rural-based physicians.

30

- A) NO CHANGE
- B) that compared with
- C) that for
- D) DELETE the underlined portion.

31

- A) NO CHANGE
- B) Thus,
- C) Despite this,
- D) On the other hand,

Increasingly, PAs and other such medical practitioners have become a critical complement to physicians. A 2013 RAND Corporation report estimates that while the number of primary care physicians will increase slowly from 2010 to 2025, the number of physician assistants and nurse-practitioners in primary care will grow at much faster rates. **32** Both by merit and from necessity, PAs are likely to greet more **33** patience than ever before.

Supply of Physicians, Physician Assistants,
and Nurse-Practitioners in Primary Care
Clinical Practice in 2010 and 2025

Provider type	2010		2025 (predicted)	
	Number	Percent of total	Number	Percent of total
Physicians	210,000	71	216,000	60
Physician assistants	30,000	10	42,000	12
Nurse-practitioners	56,000	19	103,000	28
Total	296,000	100	361,000	100

Adapted from David I. Auerbach et al., "Nurse-Managed Health Centers and Patient-Centered Medical Homes Could Mitigate Expected Primary Care Physician Shortage." ©2013 by Project HOPE: The People-to-People Health Foundation, Inc.

32

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

In fact, according to the data presented in the table, physician assistants will likely outnumber physicians by 2025.

Should the writer make this addition here?

- A) Yes, because it provides additional support for the main point of the paragraph.
- B) Yes, because it addresses a possible counterargument to the writer's main claim.
- C) No, because it is not an accurate interpretation of the data.
- D) No, because it introduces irrelevant information that interrupts the flow of the passage.

33

- A) NO CHANGE
- B) patience, than
- C) patients then
- D) patients than

Questions 34-44 are based on the following passage.

Gold into Silver: The “Reverse Alchemy” of Superhero Comics History

34 Popular film franchises are often “rebooted” in an effort to make their characters and stories fresh and relevant for new audiences. Superhero comic books are periodically reworked to try to increase their appeal to contemporary readers. This practice is almost as **35** elderly as the medium itself and has in large part established the “ages” that compose comic book history. The shift from the Golden to the Silver Age is probably the most successful **36** example: of publishers responding to changing times and tastes.

34

Which choice most effectively combines the underlined sentences?

- A) In an effort to make their characters and stories fresh and relevant for new audiences, popular film franchises, which are often “rebooted,” are similar to superhero comic books, which are periodically reworked to try to increase their appeal to contemporary readers.
- B) Just as popular film franchises are often “rebooted” in an effort to make their characters and stories fresh and relevant for new audiences, superhero comic books are periodically reworked to try to increase their appeal to contemporary readers.
- C) Superhero comic books are periodically reworked to try to increase their appeal to contemporary readers, while popular film franchises are often “rebooted” in an effort to make their characters and stories fresh and relevant for new audiences.
- D) Superhero comic books are much like popular film franchises in being often “rebooted” in an effort to make their characters and stories fresh and relevant for new audiences and periodically reworked to try to increase their appeal to contemporary readers.

35

- A) NO CHANGE
- B) old
- C) mature
- D) geriatric

36

- A) NO CHANGE
- B) example, of publishers
- C) example of publishers,
- D) example of publishers

The start of the first (“Golden”) age of comic books is often dated to 1938 with the debut of Superman in *Action Comics* #1. Besides beginning the age, Superman in many respects defined it, becoming the model on which many later superheroes were based. His characterization, as established in *Superman* #1 (1939), was relatively simple. He could “hurdle skyscrapers” and “leap an eighth of a mile”; “run faster than a streamline train”; withstand anything less than a “bursting shell”; and **37** lift a car over his head. Sent to Earth from the “doomed planet” Krypton, he was raised by human foster parents, whose love helped infuse him with an unapologetic desire to “benefit mankind.” Admirable but aloof, the Golden Age Superman was arguably more paragon than character, a problem only partially solved by giving him a human alter ego. Other Golden Age superheroes were similarly archetypal: Batman was a crime-fighting millionaire, Wonder Woman a warrior princess from a mythical island.

37

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

- A) NO CHANGE
- B) hold down a regular job as a newspaper reporter.
- C) wear a bright blue costume with a flowing red cape.
- D) live in the big city of Metropolis instead of the small town where he grew up.

By contrast, the second (“Silver”) age of comics was marked by characters that, though somewhat simplistic by today’s standards, **38** were provided with origin stories often involving scientific experiments gone wrong. In addition to super villains, the new, soon-to-be-iconic characters of the **39** age: Spider-Man, the Fantastic Four, and the Hulk among them—had to cope with mundane, real-life problems, including paying the rent, dealing with family squabbles, and facing anger, loneliness, and ostracism. Their interior lives were richer and their motivations more complex. Although sales remained strong for Golden Age stalwarts Superman and, to a lesser extent, Batman, **40** subsequent decades would show the enduring appeal of these characters.

38

Which choice most effectively sets up the main idea of the following two sentences?

- A) NO CHANGE
- B) reflected the increasing conservatism of the United States in the 1950s.
- C) engaged in bizarre adventures frequently inspired by science fiction.
- D) were more “realistic” than their Golden Age counterparts.

39

- A) NO CHANGE
- B) age;
- C) age,
- D) age—

40

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

- A) NO CHANGE
- B) the distinctions between later stages of comic book history are less well defined than the one between the Golden and Silver Ages.
- C) readers increasingly gravitated to the upstarts as the 1960s and the Silver Age drew to a close.
- D) these characters themselves underwent significant changes over the course of the Silver Age.

More transformations would take place in the medium as the Silver Age gave way to the Bronze and Modern (and possibly Postmodern) Ages. Such efforts **41** have yielded diminishing returns, as even the complete relaunch of DC **42** Comics' superhero's, line in 2011 has failed to arrest the steep two-decade decline of comic book sales. For both commercial and, arguably, creative reasons, **43** then, no transition was more successful than **44** those from the Golden to Silver Age.

41

- A) NO CHANGE
- B) would have yielded
- C) were yielding
- D) will yield

42

- A) NO CHANGE
- B) Comic's superhero's
- C) Comics superhero's
- D) Comics' superhero

43

- A) NO CHANGE
- B) however,
- C) nevertheless,
- D) yet,

44

- A) NO CHANGE
- B) these
- C) that
- D) DELETE the underlined portion.

STOP

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