

Reading and Writing

33 QUESTIONS

DIRECTIONS

The questions in this section address a number of important reading and writing skills. Each question includes one or more passages, which may include a table or graph. Read each passage and question carefully, and then choose the best answer to the question based on the passage(s).

All questions in this section are multiple-choice with four answer choices. Each question has a single best answer.

1

Taking photographs in the mid-1800s was complicated and expensive, but this changed with the 1854 invention of the *carte de visite*, a small photo that cost little to make. *Carte de visite* photos helped to _____ photography: they made it easy and enjoyable for everyday people to have their pictures taken, and people at the time loved exchanging these small photos with friends and family.

Which choice completes the text with the most logical and precise word or phrase?

- A) weaken
- B) praise
- C) popularize
- D) isolate

2

Painter Alma W. Thomas was fascinated by the colors and shapes found in nature. The flowers and trees in the garden at her home in Washington, DC, _____ her work. For example, Thomas's use of broken brushstrokes was inspired by the way that light would shine through the leaves of a tree in front of her house.

Which choice completes the text with the most logical and precise word or phrase?

- A) restricted
- B) announced
- C) distracted
- D) influenced

3

In the 1990s, conservationists began planting more than 500,000 native trees in the habitat of the Azores bullfinch to boost the bird's numbers. This approach was apparently _____: the Azores bullfinch's population size increased from as few as 100 birds at the end of the 1980s to around 1,300 in 2023.

Which choice completes the text with the most logical and precise word or phrase?

- A) amusing
- B) costly
- C) successful
- D) disastrous

4

The recently observed gamma ray burst GRB 230307A lasted for 200 seconds, _____ for a burst generated by the merger of neutron stars. Bursts caused by neutron mergers typically last fewer than 2 seconds.

Which choice completes the text with the most logical and precise word or phrase?

- A) a coincidence
- B) a reprieve
- C) an incident
- D) an oddity

5

In 1776, the United States sent Benjamin Franklin to France to try to win the country's support in the United States' fight for independence from Great Britain. Franklin was very popular in France. This _____ surely helped him to convince France to assist the United States.

Which choice completes the text with the most logical and precise word or phrase?

- A) thoughtfulness
- B) esteem
- C) controversy
- D) sincerity

6

In the 1950s, scientists didn't know much about the ocean floor. Many scientists at the time believed that the ocean floor was mostly flat. But geologist Marie Tharp and her research partner, Bruce Heezen, proved that this idea was wrong. Using sonar data collected from the Atlantic Ocean, Tharp and Heezen showed that the floor was filled with canyons, mountains, and valleys.

Which choice best describes the function of the underlined sentence in the text as a whole?

- A) It identifies a scientific belief that Tharp and Heezen showed to be wrong.
- B) It describes the design of Tharp and Heezen's experiment.
- C) It emphasizes a disagreement between Tharp and Heezen.
- D) It presents data to support a claim that Tharp and Heezen made.

7

In the early days of television in the 1940s, many people thought that US television programs would rely on the financial support of ad agencies and commercial sponsors, much like radio did. But advertisers hesitated to jump into a new space, particularly at a time when the manufacturing of new television sets was stalled due to the US's involvement in World War II. Broadcasters, like the National Broadcasting Company (NBC), needed to persuade advertisers to support their programming despite not knowing whether there would be a robust television audience to begin with.

Which choice best describes the function of the underlined phrase in the text as a whole?

- A) It compares the beginnings of radio programming with the beginnings of television programming in the United States.
- B) It identifies a specific reason behind some advertisers' hesitance to support television.
- C) It describes how broadcasters attempted to convince advertisers to support television.
- D) It explains why a type of television programming was popular at the time.

8

The Bayeux Tapestry, from eleventh-century France, depicts 75 scenes over 250 feet of fabric. It was likely produced by workers embroidering in sections and then joining the resulting panels together. It's plausible that the workshop that produced the tapestry had never produced one so large, and some researchers claim that a close examination of the joins—the places where the panels are stitched together—suggests that the workers developed and refined their joining process over the course of production. For example, the first join the workers completed exhibits a clear misalignment of the borders of the two panels, whereas the later joins are virtually invisible.

Which choice best describes the function of the underlined sentence in the text as a whole?

- A) It identifies the people and events depicted in the Bayeux Tapestry.
- B) It supports an argument about the workers who produced the Bayeux Tapestry.
- C) It compares the Bayeux Tapestry with other tapestries from eleventh-century France.
- D) It describes how researchers determined where the Bayeux Tapestry was produced.

9

Text 1

Little is known about how plate tectonics—wherein slabs of Earth’s crust move over, under, away from, and against one another—began. Some researchers contend that tectonic movements began around 3 billion years ago, often noting that computer models of Earth’s mantle temperature at the time indicate that the mantle would have been sufficiently molten to enable the plates to move.

Text 2

Ultimately, any plausible claim about the inception of tectonic movement must rest on empirical evidence from the geological record. Researcher Wriju Chowdhury and his team analyzed the geochemistry of zircon crystals to gain insight into the chemical composition of the magma from which the crystals formed and, based on the data, compellingly argue that plate tectonics may have been occurring as early as 4.2 billion years ago.

Based on the texts, how would the author of Text 2 most likely respond to what “some researchers contend” as described in Text 1?

- A) By suggesting that the temperature of Earth’s mantle 3 billion years ago was likely insufficient to allow for the level of tectonic movement predicted by computer models
- B) By distinguishing between computer models of Earth’s mantle temperature that reliably predict the onset of plate tectonics and those that do not
- C) By indicating that computer models of Earth’s mantle temperature are still being improved such that new models tend to be much more reliable than their predecessors
- D) By asserting that a more definitive form of evidence than the computer models suggests a different timeline for the onset of plate tectonics on Earth

10

Hevea brasiliensis, a tree in the Amazon rainforest, is the world’s main source of natural rubber. The tree produces a milky substance called latex that is used to make rubber. The bark of *Hevea brasiliensis* is helpful for the process of making rubber because it has a unique structure that makes it easy to collect latex. A network of tubes in the tree’s inner bark helps the latex to flow out easily when people make small cuts into the bark.

What feature of *Hevea brasiliensis* does the text say is helpful for the process of making rubber?

- A) Its latex produces rubber of an especially high quality.
- B) Its bark has a unique structure that makes it easy to collect latex.
- C) It is able to grow in a wide variety of climates around the world.
- D) It is one of only two trees in the Amazon that produce latex.

11

Conservationists worldwide are working to protect ecosystems from habitat destruction and biodiversity loss, and in many cases, initiatives that rely on natural features or processes can help address such challenges. In response to a rapidly dwindling population of blueback salmon, the Quinault Indian Nation (a tribe in Washington State) partnered with the conservation organization Wild Salmon Center to restore naturally occurring logjams in the Quinault River. The logjams create shady pools where the blueback salmon can rest and spawn, thus promoting blueback population recovery.

Which choice best states the main idea of the text?

- A) A partnership between the Quinault Indian Nation and Wild Salmon Center shows the importance of collaborative approaches to preserving biodiversity.
- B) Nature-based approaches can be effective ways to achieve conservation goals.
- C) As indicated by a recent project, logjams help the blueback salmon thrive and reproduce.
- D) Scientists now realize that nature-based conservation methods offer better long-term solutions to environmental issues than methods that are not nature-based do.

12

Percentage of Bus Shelters with Shade in a County by Areas' Highest Average Summer Surface Temperature

Highest average surface temperature (Fahrenheit)	Percentage of bus stops with shaded shelter
90.2°	15%
97.7°	22%
102.7°	24%
111.2°	28%
125.6°	29%

A student is researching a bus system in a large county where surface temperatures vary by area and are hot in the summer. The student claims that all areas of the county should have more bus stops with shaded shelter, noting that the highest percentage of bus stops with shaded shelter for any area is only _____

Which choice most effectively uses data from the table to complete the student's claim?

- A) 50%.
- B) 15%.
- C) 90%.
- D) 29%.

13

Total Areas and 2022 Populations of Smallest Arabian Peninsula Countries

Country	Total area (square miles)	Population
Kuwait	6,880	4,268,873
Bahrain	304	1,472,233
Qatar	4,471	2,695,122

In terms of area and population, the three smallest Arabian Peninsula countries are Bahrain, Qatar, and Kuwait.

According to the table, what is the total area of Bahrain?

- A) 4,268,873 square miles
- B) 4,471 square miles
- C) 304 square miles
- D) 6,880 square miles

14

Janet Echelman is a sculptor and fiber artist. She has installed giant sculptures all over the world. Echelman uses bright and flowing materials, which mimic the wind. However, while her sculptures appear as delicate as a breeze, they are actually very durable.

Which quotation from an article about Echelman's sculptures, if true, would most effectively illustrate the underlined claim?

- A) "Echelman uses a special program that makes a 3D model of the sculpture."
- B) "The first part of planning a new sculpture is done using paper and pencil, and then a digital program is used to finalize the design."
- C) "The materials that Echelman uses to build her sculptures are both flexible and strong."
- D) "Each sculpture is designed to reflect local landmarks from the area in which it is eventually installed."

15

Early Earth is thought to have been characterized by a stagnant lid tectonic regime, in which the upper lithosphere (the outer rocky layer) was essentially immobile and there was no interaction between the lithosphere and the underlying mantle. Researchers investigated the timing of the transition from a stagnant lid regime to a tectonic plate regime, in which the lithosphere is fractured into dynamic plates that in turn allow lithospheric and mantle material to mix. Examining chemical data from lithospheric and mantle-derived rocks ranging from 285 million to 3.8 billion years old, the researchers dated the transition to 3.2 billion years ago.

Which finding, if true, would most directly support the researchers' conclusion?

- A) Among rocks known to be older than 3.2 billion years, significantly more are mantle derived than lithospheric, but the opposite is true for the rocks younger than 3.2 billion years.
- B) Mantle-derived rocks older than 3.2 billion years show significantly more compositional diversity than lithospheric rocks older than 3.2 billion years do.
- C) There is a positive correlation between the age of lithospheric rocks and their chemical similarity to mantle-derived rocks, and that correlation increases significantly in strength at around 3.2 billion years old.
- D) Mantle-derived rocks younger than 3.2 billion years contain some material that is not found in older mantle-derived rocks but is found in older and contemporaneous lithospheric rocks.

16

The Uto-Aztecan language family is divided into a northern branch, which includes the Shoshone language of present-day Idaho and Utah, and a southern one, whose best-known representative is Nahuatl, the language of the Aztec Empire in Mexico. Lexical similarities across the family, including of botanical terms, confirm descent from a single language spoken millennia ago, and the family's geographical distribution suggests an origin in what is now the US Southwest. However, vocabulary pertaining to maize isn't shared between northern and southern branches, despite the crop's universal cultivation among Uto-Aztecan tribes. Given archaeological evidence that maize originated in Mexico and diffused northward into what became the US Southwest, some linguists reason that _____

Which choice most logically completes the text?

- A) northern Uto-Aztecan tribes likely obtained the crop directly from a southern Uto-Aztecan tribe rather than from a non-Uto-Aztecan tribe.
- B) variation in maize-related vocabulary within each branch of the Uto-Aztecan family likely reflects regionally specific methods for cultivating the crop.
- C) southern Uto-Aztecan tribes likely acquired maize at roughly the same time as northern Uto-Aztecan tribes did, though from different sources.
- D) the family's division into northern and southern branches likely preceded the acquisition of the crop by the Uto-Aztecan tribes.

17

Data collected by the Mars rover *Curiosity* at the Gale Crater's Murray Formation are suggestive of hydrological deposition of sediment in the distant past. To characterize the nature of the depositional environment, Frances Rivera-Hernández et al. analyzed the grain size of Murray Formation sediment, finding that although there are intervals of coarse grains, most of the sediment consists of fine grains that show signs of cracking due to episodic desiccation. Rivera-Hernández et al. concluded that the coarse grains are sandstone, which tends to be deposited by flowing water, whereas the fine grains are mudstone, which is slowly deposited by settling out of suspension in low-flow water, leading the researchers to posit that _____

Which choice most logically completes the text?

- A) although the area of the Murray Formation experienced a prolonged period of dryness that prevented a lake from forming, water flowing from a distant source was present.
- B) a lake existed at the Murray Formation for a prolonged period, though the lake occasionally experienced drying and there were periods in which one or more streams were present.
- C) one or more streams existed at the Murray Formation for an extended period until being replaced by a lake that persisted for only a brief period before permanently drying.
- D) a stream-fed lake was present at the Murray Formation for an extended period, and although the streams experienced occasional drying, the lake did not.

18

An analysis by Alain Elayi and colleagues of coins minted in Sidon in the fifth and fourth centuries BCE reveals a change in their composition over time: while a coin from circa 450 BCE contains about 98% silver and 1% copper, a coin from 367 BCE (the end of Ba'alšilem II's reign) contains 74.2% silver and 24.7% copper, giving it a relatively yellowish appearance that traders would have noticed. Because coins with a silver content below 80% were widely considered unsuitable for trade, Elayi et al. speculate that a crisis in confidence in the currency occurred in Sidon around 367 BCE, which was likely relieved—despite Sidon's persistent oppressive financial obligations—as a result of Ba'alšilem II's successor Abd'aštart I's decision to _____

Which choice most logically completes the text?

- A) proclaim that the percentage of silver in coins suitable for trade would be raised to a threshold higher than 80%.
- B) keep the amount of silver in Sidonian coins consistent with that in coins minted in 367 BCE but decrease their weight.
- C) begin minting heavier coins with a proportion of silver to copper similar to that in coins minted in 367 BCE.
- D) fund the mining of some copper deposits that were not available to Ba'alšilem II.

19

Nowadays, tug-of-war is usually seen as an informal game one might play at a picnic or in gym class. Surprisingly, the Olympic committee once decided _____ tug-of-war as an official Olympic event! Nations competed in the event at the Olympic Games from 1900 to 1920.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A) included
- B) including
- C) include
- D) to include

20

The Globe Theatre in London is a reconstruction of the famed venue where many of Shakespeare's plays were first performed. In 1613, a prop cannon _____ during a performance and ignited the Globe's thatched roof. No one was hurt, but in two hours the original Globe was gone.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A) malfunctions
- B) will malfunction
- C) has malfunctioned
- D) malfunctioned

21

Nigerian American artist Toyin Ojih Odutola uses black-ink pens to create highly detailed drawings of human figures. Her portrait of novelist Zadie _____ is displayed in the National Portrait Gallery in London.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A) Smith:
- B) Smith—
- C) Smith
- D) Smith,

22

When a given industry—water and electricity are two well-known examples—carries high infrastructural start-up costs and other barriers that discourage competition, _____ of just one or two suppliers per municipality. Such industries are known as natural monopolies.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A) these often consist
- B) they often consist
- C) it often consists
- D) this often consists

23

As the fourteenth US librarian of Congress, Carla Hayden has many responsibilities. These include overseeing the Library of Congress's collections, which boast more than 162 million _____ the US Copyright Office, which registers copyright claims and advises Congress on copyright law; and appointing the US poet laureate.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A) items managing
- B) items, managing
- C) items; managing
- D) items. Managing

24

Digital artist Jung (Lulu) Chen primarily uses a suite of software tools to create illustrations for children's books. To manifest the warm and welcoming atmospheres that are a signature of her _____ she occasionally relies on more traditional art techniques, such as painting with watercolors.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A) work, though,
- B) work, though
- C) work; though,
- D) work, though;

25

Chondrites are stony meteorites that are undifferentiated—that is, their contents have not melted and separated into distinct layers. They are hardly _____ many chondrites experience aqueous alteration as a result of exposure to fluids, as well as fracturing, veining, and localized melting due to collisions with other objects.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A) pristine, though
- B) pristine, though;
- C) pristine; though
- D) pristine, though,

26

That the geographic center of North America lay in the state of North Dakota was conceded by all _____ establishing its precise coordinates proved more divisive.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A) involved:
- B) involved,
- C) involved
- D) involved;

27

Famous for its four-degree tilt, the leaning Garisenda Tower is a popular attraction in Bologna's city center. However, measurements taken in 2023 showed that the tower was rotating in a concerning way. _____ city officials closed the area around the tower so experts could explore solutions to stabilize the historical twelfth-century structure.

Which choice completes the text with the most logical transition?

- A) Similarly,
- B) As a result,
- C) For example,
- D) In comparison,

28

In 2021, a model developed by astrophysicist Catherine Zucker and her research team revealed that the same supernovas responsible for the creation and ongoing expansion of the Local Bubble—a 14-million-year-old cavity in the Milky Way—are likely responsible for the formation of new stars.

_____ this model detailed how the bubble's expansion trapped interstellar clouds of gas and dust that became stars upon their eventual collapse.

Which choice completes the text with the most logical transition?

- A) Hence,
- B) However,
- C) Admittedly,
- D) Specifically,

29

Following the American Revolutionary War, North American foodways underwent a radical transformation, fueled in large part by spiking consumer demand for certain grains. The cultivation, trade, and transportation of maize and wheat, _____ reconfigured the continent's existing regional foodways into a globally oriented food system.

Which choice completes the text with the most logical transition?

- A) in particular,
- B) alternatively,
- C) by comparison,
- D) second of all,

30

When, in 2017, Cambridge University students Lucy Moss and Toby Marlow decided they wanted to develop a musical together, one of their goals was for their female actor friends to have good parts to play. _____ they created the show *Six*, a retelling of the history of King Henry VIII's wives in which each of the six queens has a starring role.

Which choice completes the text with the most logical transition?

- A) In other words,
- B) In summary,
- C) For example,
- D) To that end,

31

Mountain climbing routes that incorporate metal rungs and cables are known as via ferratas, from the Italian phrase for "iron path." As climbing these routes has shifted from a mode of travel to a sporting activity, modern via ferratas are rarely designed to simply reach a summit. _____ new routes favor recreation over utility, aiming to provide a challenging climb or showcase dramatic scenery.

Which choice completes the text with the most logical transition?

- A) Additionally,
- B) On the other hand,
- C) More often,
- D) Nonetheless,

32

While researching a topic, a student has taken the following notes:

- Samuel Delany is a US writer known for his science fiction.
- Delany's science fiction novel *Babel-17* was published in 1966.
- The novel won a Nebula Award in 1967.
- The Nebula Awards are given each year to the best works of science fiction published in the US.

The student wants to indicate the title of a novel that won a Nebula Award. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A) *Babel-17*, by Samuel Delany, won a Nebula Award in 1967.
- B) Samuel Delany published a science fiction novel in 1966.
- C) Samuel Delany is an award-winning US writer known for his science fiction.
- D) One of Samuel Delany's novels was among the best works of science fiction published in the US.

33

While researching a topic, a student has taken the following notes:

- Chiura Obata was a Japanese American artist who lived in California.
- *Yosemite Falls* is a notable painting by Obata.
- It uses a Japanese method of black ink painting called sumi-e.
- This painting was completed in 1930.

The student wants to indicate the year *Yosemite Falls* was completed. Which choice most effectively uses relevant information from the notes to accomplish this goal?

- A) While living in California, Obata created black ink paintings.
- B) Obata, a Japanese American artist, created a notable painting.
- C) *Yosemite Falls* was completed in 1930.
- D) Obata used a Japanese painting method called sumi-e.

STOP

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