

토마토

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TEST BOOK

TOEFL iBT

ACTUAL TEST READING LEVEL 2



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Actual Test

01

iBT TOEFL Reading

Section Directions

This section measures your ability to understand academic passages in English.

The Reading section is divided into 2 separately timed parts.

Most questions are worth 1 point but the last question in each set is worth more than 1 point. The directions indicate how many points you may receive.

Some passages include a word or phrase that is underlined in blue. Click on the word or phrase to see a definition or an explanation.

Within each part, you can go to the next question by clicking **Next**. You may skip questions and go back to them later. If you want to return to previous questions, click on **Back**. You can click on **Review** at any time and the review screen will show you which questions you have answered and which you have not answered. From this review screen, you may go directly to any question you have already seen in the Reading section.

You may now begin the Reading section. In this part you will read 1 passage. You will have 20 minutes to read the passage and answer the questions.

Click on **Continue** to go on.

1. In paragraph 1, the author states that the intention of the New Deal was to
- (A) keep stock prices stable
 - (B) reduce the U.S. population
 - (C) find jobs for the unemployed
 - (D) change presidential election rules

Paragraph 1 is marked with an arrow [➡].

2. The word **platform** in the passage is closest in meaning to
- (A) success
 - (B) policy
 - (C) comment
 - (D) area

3. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.
- (A) Those employed in WPA programs had the opportunity to develop the unique skills they already possessed.
 - (B) While carrying out projects for the good of the public, WPA employees were expected to share their own specific talents with their coworkers.
 - (C) The WPA was intended to create employment that would benefit the individual workers in addition to the general public.
 - (D) Recognizing that fulfilled workers performed better, those in charge of the WPA assigned people to jobs best matching their experience.

WPA Art Projects

- ➡ The U.S. stock-market crash of 1929 quickly led to unemployment and poverty for a sizable portion of the country. By 1932, there were between 8 and 17 million workers unemployed out of a total U.S. population of 125 million. In the same year, Franklin Roosevelt was elected president on his **platform** of New Deal reforms aimed at curbing the Great Depression and putting people back to work. In 1935, he established the Works Progress Administration (WPA), the largest New Deal agency. Over time, this single entity created jobs for about one-third of the nation's unemployed.
- The stated goal of the WPA was to provide people with jobs that would not only serve the public good but would allow those workers involved to utilize their specific talents and skills and receive a sense of fulfillment as well.
- Previous New Deal programs had focused almost solely on construction projects, for which some of the more specialized segments of the population were unsuited. Artists, teachers, office workers, writers, performers, and musicians—many of whom were hit hardest by the Depression—also needed work.

While the WPA continued to finance projects in construction and other blue-collar industries, its most novel initiatives were those belonging to Federal Project Number One, or "Federal One." Consisting of five different programs, it had employed 40,000 various cultural workers within one year of its inception. Federal One came to represent

continued ➡

4. The word **inception** in the passage is closest in meaning to
 (A) launch
 (B) service
 (C) reaction
 (D) evidence
5. It can be inferred from paragraph 4 that the largest proportion of workers in the Federal Art Project
 (A) had previously studied American art history
 (B) were involved in producing sculptures
 (C) taught in community centers throughout the country
 (D) participated in the actual creation of art
- Paragraph 4 is marked with an arrow [→].
6. The word **it** in the passage refers to
 (A) program
 (B) country
 (C) Federal Art Project
 (D) Federal Theatre Project
7. What can be inferred from paragraph 6 about the Federal Writers Project?
 (A) It hired more writers, librarians, and archivists than any other program.
 (B) It was at one time responsible for preserving old public documents.
 (C) It received most of its funding from the sale of its publications.
 (D) It had a branch office located in every U.S. state and territory.
- Paragraph 6 is marked with an arrow [→].
8. According to the passage, all of the Federal One projects addressed some form of American history EXCEPT
 (A) the Federal Writers Project
 (B) the Federal Theatre Project
 (C) the Federal Art Project
 (D) the Federal Music Project

35 the American government's first and perhaps most substantial investment in cultural development.

→ One of those five programs was the Federal Art Project, which concentrated
 40 roughly half its resources on the production of art. Many paintings, including large, public murals, were completed, as were thousands of sculptures and posters, and public exhibitions were organized. Another ten to twenty-five
 45 percent of its budget went to art education. Artists were hired to teach children's classes and conduct clinics in community centers nationwide, a few of which still operate to this day. Finally, the remainder of Federal Art
 50 Project funds was put towards documenting the history of American art. At its peak in 1936, the program employed 5,300 people.

Even larger was the Federal Music Project, which had more than 15,000 registered
 55 employees in the same year. **A** This program divided its resources between education and performance, and thousands of local concerts were held all over the country. **B** Like the Federal Art Project, it carried out the
 60 documentation of older, sometimes obscure sources of American music, including regional folk songs. **C** With only slightly fewer employees, the Federal Theatre Project also produced a variety of performances, putting
 65 on more than 1,200 plays in four years. **D** However, while it experienced some success at rejuvenating struggling theatres in large cities, it was never able to establish a nationwide presence as other Federal One programs did.

70 → The Federal Writers Project, which in

continued →

9. According to the passage, which Federal One program employed the most people at a single time?

- (A) The Federal Theatre Project
- (B) The Historical Records Survey
- (C) The Federal Music Project
- (D) The Federal Writers Project

10. The word **outright** in the passage is closest in meaning to

- (A) entirely
- (B) closely
- (C) largely
- (D) fairly

11. Why does the author mention **wartime industries** in paragraph 7?

- (A) To explain why the WPA was no longer needed
- (B) To identify who provided money for the state-run programs
- (C) To suggest a reason for the Federal Theatre Project's elimination
- (D) To describe the modern legacy of Federal One

Paragraph 7 is marked with an arrow [➡].

12. The word **procure** in the passage is closest in meaning to

- (A) sustain
- (B) detain
- (C) obtain
- (D) retain

1936 provided employment to 6,700 writers, journalists, lawyers, teachers, and librarians, was best known for its *American Guide Series*.

These publications were intended as travel

75 guides for the U.S. states and territories, but they also included large amounts of information on the history, folklore, and contemporary issues of each area. Originally included in the Federal Writers Project was the
80 Historical Records Survey, which later broke away to become its own organization. The smallest of the Federal One projects, it hired out-of-work writers, librarians, and archivists to catalogue and preserve old government
85 documents and other public records.

➡ Despite the general popularity of Federal One, it was often attacked by critics—political, entrepreneurial, or otherwise. In 1939, these forces succeeded in persuading Congress to
90 reorganize the WPA. Its emphasis was shifted even further toward construction projects, and the Federal One agency was dismantled. As a result, the Federal Theatre Project was eliminated **outright**, and most of the control

95 over the other programs was transferred to the states, where they were forced to **procure** a quarter of their funding from non-federal sources. Yet, the remaining projects continued to hire workers and carry out their various
100 functions. It was not until 1942, when large numbers of the unemployed had found work in the **wartime industries**, that the WPA was dissolved altogether. Its legacy, including that of the Federal One programs, is still present
105 throughout the U.S.

13. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

The high number probably reflected the fact that two-thirds of musicians were unemployed during the Great Depression.

Where would the sentence best fit?

Click on a square [■] to add the sentence to the passage.

14. **Directions:** An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. ***This question is worth 2 points.***

During the Great Depression, the American government created cultural jobs for unemployed professional workers through the Federal One agency of the WPA.

-
-
-

Answer Choices

- | | |
|--|--|
| (A) At the time, the Federal One agency was the nation's largest-ever government program to be solely dedicated to cultural development. | (B) Federal One addressed the needs of people not accustomed to construction jobs, employing 40,000 such workers in various programs in its first year. |
| (C) Along with the Federal Music Project, the Federal Theatre Project put on thousands of performances for audiences all around the United States. | (D) Most Federal One programs focused not only on the creation of cultural products but also on the preservation of historical American culture. |
| (E) The Federal Theatre Project ended in 1939 after Congress decided that the WPA should use more of its resources for construction at the expense of Federal One. | (F) Four of the five Federal One programs continued for a few years even after Congress cut their budgets, and they left a lasting influence on the country. |

Drag your answer choices to the spaces where they belong. To remove an answer choice, click on it. To review the passage, click **View Text**.

15. In paragraph 1, why does the author mention iron?

- (A) To give an example of early metal-producing industries in the United States
- (B) To compare the benefits of metal with other materials, like wood
- (C) To introduce the drawbacks of steel by contrasting it with iron
- (D) To explain that steel is derived from a material that was historically useful

Paragraph 1 is marked with an arrow [➡].

16. According to paragraph 1, what can be inferred about the availability of iron?

- (A) It is present in many parts of the world.
- (B) It is highly concentrated in Africa.
- (C) It is easy to obtain through trade.
- (D) It is more common than wood.

Paragraph 1 is marked with an arrow [➡].

17. According to paragraph 1, iron is changed into steel by

- (A) heating it slowly for long periods of time
- (B) purifying it and regulating the carbon content
- (C) melting the metal at a low temperature
- (D) combining the melted metal with copper

Paragraph 1 is marked with an arrow [➡].

18. According to paragraph 2, the Bessemer converter was important because it

- (A) was the only way to make steel
- (B) made steel quickly and cheaply
- (C) was a famous American invention
- (D) made commercial iron production possible

Paragraph 2 is marked with an arrow [➡].

The Early American Steel Industry

01 ➡ The discovery of iron tools in Egypt that date back to 3,000 B.C. demonstrates that human civilizations have relied on this metal for millennia. Iron's historical importance is
05 due to several reasons—it is common in the planet's crust, it can be easily shaped when heated, and it is more durable than wood or copper. In addition, iron can be made into an even stronger material by removing the
10 impurities and controlling its carbon content. The resulting material is known as steel.

➡ Before 1856, the process used to produce steel was so expensive and time-consuming that large-scale production was impractical. It
15 was British engineer Henry Bessemer who, in 1855, patented a process for adding oxygen to melted iron in order to purify and raise the temperature of the metal. The Bessemer process required only a half an hour to
20 accomplish what had previously taken weeks, and the cost involved was greatly reduced. In 1856, with the invention of the Bessemer converter (a machine that performed this new process), Bessemer forever changed
25 commercial steel production.

➡ Soon after, Andrew Carnegie, a successful businessman in America, traveled to Bessemer's steel factory in England, where he was inspired by the potential he
30 recognized in Bessemer's invention. After returning to America, Carnegie began to invest in the expansion of his Freedom Iron Company. Carnegie was extremely driven and was determined to gain an edge over his

continued ➡

19. According to paragraph 3, vertical integration means
- (A) investing in companies in order to expand them
 - (B) increasing an employee's wage every year
 - (C) overseeing all steps in the production process
 - (D) paying all production costs to middlemen

Paragraph 3 is marked with an arrow [➡].

20. In paragraph 3, why does the author mention Andrew Carnegie?

- (A) To disagree with the idea that middlemen were unnecessary
- (B) To describe a business innovation that affected the American steel industry
- (C) To contrast the American steel industry with the British steel industry
- (D) To explain each step in the process of manufacturing steel

Paragraph 3 is marked with an arrow [➡].

21. The word **those** in the passage refers to

- (A) costs
- (B) mills
- (C) supplies
- (D) prices

22. The word **primary** in the passage is closest in meaning to

- (A) main
- (B) cheapest
- (C) easiest
- (D) national

23. The word **transformation** in the passage is closest in meaning to

- (A) event
- (B) growth
- (C) change
- (D) tragedy

35 competitors in the steel industry. In order to achieve this goal, he managed his business using an ambitious strategy called "vertical integration," meaning that he attempted to control every stage of the steel production
40 process. Carnegie owned the mines that produced the raw iron ore, the ships and railroads used in transportation of the product, and the mills that manufactured the steel. Because he was in charge of all the steps in
45 the process, Carnegie did not have to pay fees to middlemen and was therefore able to reduce his production costs. As a result, he was able to increase the efficiency of his mills and sell steel supplies for prices cheaper than
50 **those** of his competitors.

These low steel prices contributed to American economic growth, and the development of the industry provided many new jobs. In this way, Carnegie's influence
55 helped revolutionize the United States steel industry, which rapidly expanded as steel replaced iron as the **primary** manufacturing material. Used in construction and for railroad tracks, steel was soon in high
60 demand worldwide, and America became the largest steel producer, raising its output from 1.25 million tons in 1880 to more than 24 million tons by 1910.

However, the growth of the United States
65 economy was not the only effect of the steel industry. Unfortunately, there were negative results of this **transformation** as well. The early steel industry's focus on maximizing production and minimizing costs often came at
70 the expense of the workers. The many dangers

continued ➡

24. What can be inferred from paragraph 6 about Carnegie's decision to hire Frick?
- (A) Carnegie was not aware of Frick's position regarding the labor movement.
 - (B) Carnegie intended to use Frick to prevent pro-labor activity among employees.
 - (C) Carnegie did not believe that Frick's position on labor would affect the mill.
 - (D) Carnegie wanted to help his employees organize a steel workers' union.

Paragraph 6 is marked with an arrow [➡].

25. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.
- (A) The early steel industry benefited business owners and the American economy, but it also revealed problems in the corporate world.
 - (B) Andrew Carnegie took advantage of the opportunity to expand his business into the steel industry.
 - (C) American laborers resented the businesspeople they worked for and disliked the power of the early steel industry.
 - (D) In the United States, national economic growth depended on the efforts of laborers who were employed in steel mills.

inherent in steel mills were made even more hazardous by long working hours without breaks and a lack of protective equipment. In response to these dangerous working
75 conditions, labor unions were formed to help establish safety regulations that would protect steel workers.

➡ In spite of his claims of supporting the rights of laborers, Carnegie kept his workers' wages around the poverty line. In public he supported unions, but in practice he employed the adamantly anti-labor Henry Frick to oversee operations at the Homestead Works, one of Carnegie's steel mills. In fact, it was
80 at this mill that one of the most infamous labor disputes in U.S. history occurred. **A** In 1892, when the Carnegie Steel Company tried to lower workers' wages, the steel workers' union was unwilling to accept this
85 pay cut. **B** In response, the management locked its employees out of the factory, and the confrontation continued for almost five months. **C** When Frick hired three hundred security guards to stop the strike, ten people
90 were killed, and the National Guard of Pennsylvania was called in to control the situation. **D**

While the early U.S. steel industry helped the economy expand and enabled some
100 businesspeople, such as Andrew Carnegie, to acquire great wealth, it also highlighted the uneasy relationship that was growing between American laborers and the corporations they worked under. As the steel industry inspired
105 some people with dreams of becoming rich, it alerted others to the need for unions to

continued ➡

26. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

This tragedy demonstrated a serious difference of interests between factory owners and employees—a discrepancy that was becoming a national trend.

Where would the sentence best fit?

Click on a square [■] to add the sentence to the passage.

protect laborers from the kind of exploitation demonstrated by the Carnegie Steel Company.

27. **Directions:** An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. ***This question is worth 2 points.***

In American society, there were important changes that resulted when steel replaced iron as a construction material.

-
-
-

Answer Choices

- | | |
|--|---|
| (A) Andrew Carnegie and Henry Bessemer collaborated to create a more efficient process for changing iron into steel. | (B) In America, the steel industry created jobs and boosted the economy, and by 1910 the country had become the worldwide leader in steel production. |
| (C) The poor working conditions that resulted from the American steel industry's motivation to increase production and profits created a need for labor unions and safety regulations. | (D) Employees of the steel mills often had to work in dangerous conditions and were not allowed ample time to rest. |
| (E) Henry Frick was employed by Andrew Carnegie to minimize the influence of labor unions and insure that production in the mills remained constant. | (F) The United States steel industry gave factory owners the chance to make tremendous profits, while demonstrating the value of labor unions to workers. |

Drag your answer choices to the spaces where they belong. To remove an answer choice, click on it. To review the passage, click **View Text**.

28. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.

- (A) The oil industry would not have thrived if the cost of extracting the fuel were any higher than it is currently.
- (B) The relatively low cost of extracting oil and the ease of transporting the fuel have helped create a global oil industry.
- (C) Oil has been sold, distributed, and produced internationally as a cheap, effective fuel that can be easily stored and transported.
- (D) An international business system like the oil industry becomes successful if its main product can be distributed and marketed cheaply.

29. According to paragraph 1, which of the following is true about extracting oil from the ground?

- (A) It must be drawn out of the ground from subterranean pools.
- (B) It must be gathered carefully because of its carbon dioxide content.
- (C) It must be liquefied before it can be easily removed.
- (D) It must be transported immediately after it reaches the surface.

Paragraph 1 is marked with an arrow [➡].

30. What can be inferred from paragraph 2 about coal?

- (A) It was most widely used when it powered steam engines.
- (B) It is currently the most commonly used fossil fuel.
- (C) Its usage is declining because it causes pollution problems.
- (D) It was the first fuel used to generate electricity.

Paragraph 2 is marked with an arrow [➡].

Three Major Fossil Fuels

➡ Globally, the most commonly consumed source of energy is oil, which is estimated to make up approximately 40 percent of the world's energy demand. Found in natural underground reservoirs, oil is a thick, dark liquid that is recovered from the ground through pumping and drilling processes. It has been profitably extracted from many sites across the globe, and its liquid form makes it relatively easy to transport; these two characteristics of oil have contributed to the development of an enormous international industry based on the production and distribution of this fuel. Oil is an extremely valuable commodity, used to create plastics, chemicals, and 90 percent of the fuel that powers vehicles. Unfortunately, the combustion of oil releases carbon dioxide pollutants into the environment.

➡ At one time, coal was the world's primary source of fuel. Although it currently accounts for a smaller percentage of global energy consumption than oil, coal is still a major fossil fuel. The extraction process for coal differs from the drilling method of extraction used for oil because coal is a sedimentary rock, as opposed to a liquid, and therefore must be mined. More abundant than any other fossil fuel, coal has been a major source of energy for many years, contributing significantly to the technological advances of the Industrial Revolution. Although the applications of coal have changed since the introduction of the internal combustion engine

continued ➡

31. The word **it** in the passage refers to
 (A) internal combustion engine
 (B) coal
 (C) steam engine
 (D) oil
32. The word **Comprising** in the passage is closest in meaning to
 (A) Constituting
 (B) Absorbing
 (C) Exhausting
 (D) Acquiring
33. In paragraph 3, the author explains that natural gas is cleaner than other fossil fuels by
 (A) stating the percentage of global energy consumption each fossil fuel accounts for
 (B) comparing its primary uses with the uses of coal and oil
 (C) describing the extraction processes for oil, coal, and natural gas
 (D) contrasting its carbon dioxide emissions with the emissions of oil and coal

Paragraph 3 is marked with an arrow [➡].

34. What can be inferred from paragraph 3 about natural gas?
 (A) Its gaseous form makes it difficult to transport.
 (B) It does not release pollutants when burned.
 (C) Its assorted applications make it expensive.
 (D) It was discovered recently.

Paragraph 3 is marked with an arrow [➡].

35 decreased the need for coal to power steam engines, it is still a heavily exploited energy source. In the United States, it powers 50 percent of the electricity the country uses, whereas oil generates only 2 percent of the country's electricity. However, compared to oil, coal is a heavier pollutant, releasing more carbon dioxide per unit of energy.

➡ **Comprising** a percentage of global energy consumption similar to coal, natural gas is a fossil fuel that occurs in a gaseous form. Natural gas is recovered from underground reservoirs when pockets of gas are drilled into and pressure is applied in order to force it to the surface. Because it is a gas, this form of fossil fuel has not been as widely utilized as coal and oil, and for some time it was considered to be nothing more than a byproduct of oil; until recently, transporting natural gas was expensive and required complex pipeline systems that limited the potential transportation range. However, new technology has made it possible to cool natural gas into a liquid form (LNG). As a liquid, natural gas can be distributed using systems similar to those used for oil. **A** As an energy source, natural gas can be used in diverse ways. **B** It helps produce electricity, fuels vehicles, and meets household energy needs—for example in cooking and heating. **C** In terms of pollution, natural gas is a cleaner fossil fuel; when burned it releases 30 percent less carbon dioxide than oil and 45 percent less carbon dioxide than coal. **D**

➡ In spite of these differences, oil, coal, and natural gas can be grouped in a single

continued ➡

35. The word **diverse** in the passage is closest in meaning to
 (A) various
 (B) technological
 (C) unanticipated
 (D) industrial
36. The word **finite** in the passage is closest in meaning to
 (A) localized
 (B) limited
 (C) promising
 (D) accessible
37. In paragraph 4, why does the author mention **coal dust**?
 (A) To illustrate that the three major fossil fuels are similar in form
 (B) To support the point that fossil fuels have the potential to damage people's health
 (C) To explain that some fossil-fuel producing countries are beginning to experience energy shortages
 (D) To emphasize that fossil fuels are difficult to extract and are not economical sources of energy

Paragraph 4 is marked with an arrow [➡].

38. The word **intrinsic** in the passage is closest in meaning to
 (A) undeniable
 (B) distressing
 (C) fundamental
 (D) reported

category as fossil fuels and, as such, share many similarities. Two problematic issues common to oil, coal, and natural gas are related to the **finite** supplies of fossil fuels
 75 and the health risks associated with these fuel sources. As the three major sources of global energy, oil, coal, and natural gas account for approximately 87 percent of the world's energy consumption. Because global
 80 energy demands are constantly rising while these nonrenewable fossil fuel reserves are depleted, in the future, humanity will be facing severe energy crises if it does not change the way resources like natural gas, coal, and oil
 85 are consumed. Another drawback of fossil-fuel use is the **intrinsic** health risk. Oil, for example, contains carcinogenic chemicals, a serious problem when populated areas are contaminated with petroleum. In the coal
 90 industry, miners face many health risks: **coal dust** causes a lung disease known as "**black lung**."

39. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

In addition to these uses of natural gas, there are many potential applications that have not been fully realized yet.

Where would the sentence best fit?

Click on a square [■] to add the sentence to the passage.

● GLOSSARY

***black lung:** a respiratory disease caused by breathing in coal dust over a long period of time.

40. **Directions:** Complete the table by matching the phrases below.

Select the appropriate phrases from the answer choices and match them to the type of fossil fuel to which they relate. TWO of the answer choices will NOT be used. ***This question is worth 4 points.***

Drag your answer choices to the spaces where they belong. To remove an answer choice, click on it. To review the passage, click **View Text**.

Answer Choices		Oil
(A) Is no longer the world's dominant fuel source	●	
(B) Is the most plentiful kind of fossil fuel	●	
(C) Was once considered a mere byproduct		Coal
(D) Emits more carbon dioxide than other fossil fuels	●	
(E) Can be transported in either liquid or gaseous form	●	
(F) Is the predominant transportation fuel	●	
(G) Is most commonly found in the U.S.		Natural Gas
(H) Is the most widely used energy source	●	
(I) Is classified as a renewable resource	●	

Actual Test

02

iBT TOEFL Reading

Section Directions

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You may now begin the Reading section. In this part you will read 1 passage. You will have 20 minutes to read the passage and answer the questions.

Click on **Continue** to go on.

1. According to paragraph 1, which of the following best explains why Greek pottery is valuable to historians?

- (A) It shows distinct changes in pottery painting over time.
- (B) It is a source of information that survives in large quantities.
- (C) It depicts images of everyday activities and people in Greek society.
- (D) It is not broken by the natural forces that destroy other cultural artifacts.

Paragraph 1 is marked with an arrow (➡).

2. The word **it** in the passage refers to

- (A) Analysis
- (B) pottery
- (C) period
- (D) style

3. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.

- (A) Greek pottery paintings primarily focused on the culture's mythology, the heroes and gods it admired most.
- (B) Changes in Greek society included a new fascination with their own daily lives and routines, which replaced their interest in mythology.
- (C) Changes in pottery painting that showed the new artistic interest in everyday life came from changes in the way Greek society viewed itself.
- (D) Greek pottery paintings eventually became less significant as mythology grew in popularity and became the culture's dominant art form.

Two Styles of Greek Pottery Painting

➡ A tradition as old as the civilization itself, Greek pottery can be studied as a chronicle of ancient Greek society. It was designed to fulfill a functional rather than decorative purpose, so Greek pottery was fundamentally related to everyday life, not separated from it. Furthermore, the Greeks' pottery is an essential source of historical information because so much of it survives today. Although vessels may be broken, even these remnants of pottery contribute to contemporary historians' understanding of ancient Greek culture. Thus, today's archaeologists and art historians enjoy a rich record of Greece's cultural progress and significant insight into the routines of people's daily lives in this civilization.

➡ Analysis of ancient Greek pottery paintings shows several distinct periods, each capitalizing on and advancing the style that preceded it. This gradual progression parallels developments in other areas of Greek society—how their cultural interest shifted from a mythology of gods and heroes to the events of their own lives, as they replaced the mythological figures in their pottery paintings with images of everyday Greeks. **A** Early pottery decorations were composed of abstract shapes and lines that did not represent human activities. **B** Then, as cultural influences from trade with Middle Eastern regions were introduced, the Greeks began to decorate their pottery using more realistically painted human and animal figures. **C** It was not until Greek artists began producing black-figure-style

continued ➡

4. Why does the author mention abstract shapes in paragraph 2?
- (A) To provide a point of origin for describing the development of Greek pottery painting styles
- (B) To suggest that the Greeks were influenced by the civilizations with whom they frequently traded
- (C) To demonstrate that the Greeks considered pottery painting an essential part of their culture
- (D) To provide an example of the helpful information that pottery painting provides contemporary historians

Paragraph 2 is marked with an arrow [➡].

5. The word imposed in the passage is closest in meaning to
- (A) established
- (B) allowed
- (C) favored
- (D) delivered
6. According to paragraph 4, what is the main weakness of the black-figure style?
- (A) The etching tools used to add details
- (B) The figures painted as black silhouettes
- (C) The range of colored slip available
- (D) The kind of clay used as a base

Paragraph 4 is marked with an arrow [➡].

7. The word visualize in the passage is closest in meaning to
- (A) draw
- (B) imagine
- (C) develop
- (D) explore

paintings, however, that Greek pottery gained maturity as a fine art. **D**

The black-figure style of decorating pottery emerged around 700 BC. It soon evolved into a narrative technique that focused on the stories of mythical gods, heroes, and demons. Abandoning the practice of drawing outlined images, artists working in the black-figure style created silhouettes, figures that were completely black except for small details drawn in contrasting red or white. By creating solid figures and using added details, artists working in the black-figure style created human forms that were much more realistic than those of previous styles. However, their figure drawing was still limited to one perspective—a flat side view. In the black-figure style, human poses were always captured in two-dimensional profiles. That is, the images never possessed any feeling of depth, no sense of background or foreground.

➡ To paint pottery in the black-figure style, artists first used slip, a mixture of water and clay, to paint silhouettes on a clay vessel. Then, by etching details into the silhouettes painted in slip, artists exposed the clay beneath. Depending on the type of clay, the etched lines developed into a white, ochre, or red as the pot was fired. The primary drawback of the black-figure style was the constraints imposed by the tools used to etch designs in the black slip, a limitation that the red-figure style, developed in 530 BC, was able to overcome.

Centuries of experimentation with figure painting peaked with the red-figure style's achievements of accurately representing

continued ➡

8. According to paragraph 6, what was the most significant achievement of the red-figure style?
- (A) It etched details into the clay instead of the slip.
- (B) It used a black background to make figures more visible.
- (C) It used red clay that gave more natural-colored skin tones.
- (D) It developed realistically painted human figures.

Paragraph 6 is marked with an arrow [➡].

9. According to the passage, a sense of depth in pottery paintings
- (A) was not considered important by Greek artists
- (B) was attempted but never achieved by Greek artists
- (C) was incorporated by artists of the red-figure style
- (D) was mastered by Greek artists who studied Middle Eastern art
10. The word **apex** in the passage is closest in meaning to
- (A) termination
- (B) objective
- (C) precision
- (D) summit

11. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

This shift from abstract decoration to the first human figure drawing was important in the evolution toward the more sophisticated styles of pottery painting that appeared later.

Where would the sentence best fit?

Click on a square [■] to add the sentence to the passage.

the body. Developments in Greek sculpture around the same time helped painters visualize figures as three-dimensional forms occupying three-dimensional spaces. Artists began to create an illusion of depth on a two-dimensional surface through a technique known as "foreshortening." They suggested distance by changing the proportions of objects in the foreground and background of the composition. By 500 BC, Greek artists were no longer limited to two-dimensional profiles in creating human figures and incorporated three-quarters frontal poses that demonstrated their mastery of the style. By painting figures that are turned slightly toward or away from the viewer, the artists incorporated a sense of depth that was absent in the black-figure style.

➡ In essentially the reverse of the black-figure-style process, red-figure-style artists painted the backgrounds of their pictures black and let the red clay show through as shapes in the foreground. By then painting details directly on the red clay instead of etching lines to remove slip, artists were able to make finer, more precise accents that increased the realism of figures' hair, muscles, and skin. This style's potential for naturalism led to a focus on facial expressions and motion that enriched the narrative, advancing Greek pottery design to its apex.

12. Directions: Complete the table by matching the phrases below.

Select the appropriate phrases from the answer choices and match them to the style of pottery painting to which they relate. TWO of the answer choices will NOT be used. ***This question is worth 4 points.***

Drag your answer choices to the spaces where they belong. To remove an answer choice, click on it. To review the passage, click **View Text**.

Answer Choices

- (A) Was practically the reverse of the style that preceded it
- (B) Featured solid black silhouettes rather than outlined figures
- (C) Employed a technique that created a sense of depth on a flat surface
- (D) Was influenced by regions introduced to the Greeks through commerce
- (E) Produced images by painting the background but not the figures
- (F) Is considered the finest development in Greek pottery painting
- (G) Used images that did not relate to human activities
- (H) Created details by carving into slip to expose a clay surface
- (I) Required etching tools for drawing images on the pottery

Black-figure Style

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Red-figure Style

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13. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.

- (A) Archaeological excavations have uncovered clay containers that contain recipes for soap.
- (B) Carvings on clay containers holding a soap-like material show that Babylonians made a kind of soap.
- (C) In ancient times, soap was made by combining animal fats with ashes and heating the mixture in clay containers.
- (D) Excavations in Babylon uncovered bathtubs that were once used for bathing with soap.

14. The word **administered** in the passage is closest in meaning to

- (A) given
- (B) tested
- (C) labeled
- (D) saved

15. The word **authenticity** in the passage is closest in meaning to

- (A) science
- (B) circumstance
- (C) legend
- (D) truth

The History of Soap

01 The history of soap is long but ambiguous, beginning by some estimates as far back as 2800 BC in ancient Babylon. Archaeological findings suggest that various ingredients 05 including fats, oils, and greases were involved in the making of early soaps. Specific evidence was discovered during the excavation of ancient Babylon (modern-day Iraq), when ancient soapy matter was 10 found in clay containers bearing inscriptions that indicated the contents were made by boiling fats with ashes—a method of soap making. Archaeological evidence from other ancient civilizations, like Egypt and Phoenicia, 15 suggests that many cultures were using soaps to clean raw textiles before dyeing them. Early soaps were not commonly used for bathing, and different cultures used the products in different capacities—among other uses, soap 20 was administered as a wound medicament and applied as a hair dye. There is no definitive evidence proving exactly where soap originated; it seems to have been discovered independently by several civilizations— 25 Arabs, Celts, and Romans were all early users of soap-like substances.

➔ One popular legend ascribes the discovery of the cleansing properties of soap to a fortunate coincidence: long ago, people 30 washing their clothes in a river near a site for sacrificial offerings noticed that when they washed their laundry in that specific area, their clothes became particularly clean. They realized that the combination of ash and

continued ➔

16. Why does the author mention the legend in paragraph 2?

- (A) To present evidence about the origin of soap
- (B) To explain the origin of the word "soap"
- (C) To emphasize the idea that soap was spiritually significant
- (D) To support the idea that the origin of soap is uncertain

Paragraph 2 is marked with an arrow (➡).

17. What can be inferred from paragraph 4 about epidemics in the Middle Ages?

- (A) They generally affected populations of lower- and middle-class people more than communities of upper-class people.
- (B) Their disastrous consequences would have been lessened if people had practiced better hygiene.
- (C) They changed the way people thought about municipal sanitation and personal cleanliness.
- (D) They were spread through contact with contaminated sources of water, especially public baths.

Paragraph 4 is marked with an arrow (➡).

18. The word **its** in the passage refers to

- (A) olive oil
- (B) castile soap
- (C) Spain
- (D) Europe

19. What can be inferred from paragraph 5 about Castile?

- (A) Its merchants had access to plenty of olive oil.
- (B) It was located near a coastline.
- (C) Its citizens were concerned about hygiene.
- (D) It had a shortage of animals.

Paragraph 5 is marked with an arrow (➡).

35 animal fat produced by the burnt offerings created an effective laundering aid. Although this legend presents an interesting account of the origin of soap, there is no way to verify the authenticity of the story. As a result, it is
40 considered by some to be a myth.

The first written documentation of soap appears in the writings of Gaius Plinius Secundus, a Roman writer and philosopher who had traveled throughout Western Europe, 45 visiting several other cultures. He wrote about a substance made from a mixture of ash and animal fat—a simple soap that the Celts used as a hair product.

➡ The craft of soap making had spread 50 throughout Europe and reached England by the eleventh century, but in spite of its prevalence, soap was rarely used for bathing and personal hygiene. In fact, the devastating plagues of the Middle Ages—including the 55 Black Death of the fourteenth century—are attributed to a lack of basic cleanliness.

➡ Over time, cultures experimented with soap-making recipes and eventually discovered that the animal fat they used could 60 be replaced by vegetable oils. Virtually any vegetable oil could be used to make soap—palm, coconut, and almond oil were some of the more popular choices. **A** In particular, soap made from olive oil came to be regarded 65 as a superior product. **B** During the sixteenth century, one kind of olive-oil soap—castile soap, believed to be named for the region in Spain where it originated—was widely exported throughout Europe, becoming 70 famous for its quality. **C** Even today, "castile

continued ➡

20. The word **Regulations** in the passage is closest in meaning to

- (A) Governments
- (B) Officials
- (C) Rules
- (D) Industries

21. According to paragraph 6, soap in England was not initially available to the masses because

- (A) soap was not allowed to be sold in London
- (B) they were prohibited by law from buying soap
- (C) it was produced mainly in rural townships
- (D) restrictions and duties made it difficult for many people to purchase

Paragraph 6 is marked with an arrow [➡].

22. What can be inferred from paragraph 7 about colonists' attitudes toward soap before the Civil War?

- (A) They did not consider it an effective cleanser.
- (B) They disliked it because it was difficult to make.
- (C) They preferred to use it for washing laundry.
- (D) They did not care about its cleansing properties.

Paragraph 7 is marked with an arrow [➡].

23. The word **concerns** in the passage is closest in meaning to

- (A) principles
- (B) affairs
- (C) opinions
- (D) accomplishments

soap" is a term used to refer to soaps that are made primarily of olive oil. **D**

➡ As soap became an increasingly popular trading commodity, British authorities recognized that control of the soap industry would give them significant economic influence. In the seventeenth century, the king of England enforced restrictions on the location of soap-making companies, demanding that they be based in London. **Regulations** and taxation made soap an expensive luxury that was not accessible to most people. It was not until the removal of the soap tax in the middle of the nineteenth century that it became possible for commoners to purchase this popular item.

➡ Although soap making was a firmly established craft in Europe, early colonists in North America practiced soap making almost exclusively as a household chore, and there were few professional soap makers in the colonies. For some time, personal hygiene was considered a low priority, as the colonists were occupied with other **concerns**. Ideas about hygiene began to change during the Civil War, when improvements in hospital hygiene introduced Americans to the benefits of personal cleanliness. This resulted in a change in the way society viewed sanitation issues, leading to the installation of indoor bathrooms and sinks and introducing a demand for soap. The revolution in Americans' attitudes toward hygiene was complete when twentieth-century soap makers began employing expensive, large-scale advertising strategies to increase their sales and expand their industry.

24. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

Soaps made with oils such as these were gentler on the skin than soaps made with animal fats, so vegetable-oil soaps quickly became desirable products.

Where would the sentence best fit?

Click on a square [■] to add the sentence to the passage.

25. **Directions:** An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. ***This question is worth 2 points.***

Believed to date back thousands of years, the origin of soap is not entirely known, but it is clear that throughout its history, soap has varied in both composition and application depending on the cultures who used it.

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Answer Choices

- | | |
|--|---|
| (A) Early soaps consisted of ingredients not easily found today and were used for practices now considered outdated. | (B) The first soaps were made from ash and animal fat, but later soaps used different types of vegetable oils. |
| (C) Some historians believe that the earliest soaps were used mainly for medicinal and cosmetic purposes. | (D) In ancient times, soap was valued as a precious commodity, so its creation and usage was limited to sacred occasions. |
| (E) Unlike soap makers of the past, modern soap producers use more organic materials and focus more on hygiene. | (F) Gradually, soap became the product it is today, a cleanser used for bathing and for personal hygiene. |

Drag your answer choices to the spaces where they belong. To remove an answer choice, click on it. To review the passage, click **View Text**.

26. The word **ejected** in the passage is closest in meaning to

- (A) torn
- (B) piled
- (C) worn
- (D) thrown

27. What can be inferred from paragraph 1 about Earth's core temperature?

- (A) It has decreased over time, but it will increase again in the future.
- (B) Tectonic activity and earthquakes have no relation to core temperature.
- (C) It must be above 5,000 degrees Celsius to produce volcanoes.
- (D) Hotter temperatures produced more intense volcanic events.

Paragraph 1 is marked with an arrow [➡].

28. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.

- (A) Scientists knew that Io was a rock-based body because of all the meteor craters and other marks that were found on its surface.
- (B) Most rocky bodies in the solar system are covered with collision craters, and researchers were expecting to see these on Io.
- (C) Rock-based planets and moons usually have numerous impact marks because they are constantly colliding with small meteors and other particles.
- (D) Even before scientists saw images of Io's surface, they could predict the amount of craters and impact marks that would be visible there.

Io's Volcanoes

➡ In earlier periods of Earth's history, the surface of our planet was a much more violent place than it is today. The core of the Earth is estimated to currently be between 3,000 and 5,000 degrees Celsius, but its temperature was even greater millions of years ago. This intense internal heat and pressure has been responsible for many of the processes that have shaped the surface of our planet over the millennia, such as tectonic shifts, earthquakes, and volcanoes. In a volcanic eruption, molten rock from deep inside the Earth is **ejected** out onto the surrounding landscape, significantly altering the physical and chemical makeup of the environment. Scientists believe events like this were much more common and powerful in prehistoric times, and they study modern volcanic activity to better understand how Earth was shaped and formed.

A However, these processes are not unique to our world. **B** In fact, Io, one of the largest moons orbiting the planet Jupiter, is the most volcanically active celestial body known to exist. **C** The discovery of this fact has provided researchers with a new window into what our early planet may have looked like. **D**

➡ It was not until the late 1970s that scientists were able to gather definitive information about the surface features of Io. **Probes** launched by NASA around this time passed near the moon on their way to study Jupiter, Saturn, and the other outer planets. This provided the opportunity to

continued ➡

29. Why does the author mention **Probes** in paragraph 3?
- (A) To explain how important discoveries about Io were made
 - (B) To describe the level of NASA's interest in Jupiter's moons
 - (C) To introduce similarities between Io and the outer planets
 - (D) To illustrate an outdated method of collecting data in space

Paragraph 3 is marked with an arrow [➡].

30. According to paragraph 3, how do scientists determine the ages of rock-based moons?
- (A) By comparing them with planets of known ages
 - (B) By measuring the circumference of the celestial body
 - (C) By observing the frequency of impact marks
 - (D) By analyzing the composition of the crust

Paragraph 3 is marked with an arrow [➡].

31. The word **traces** in the passage is closest in meaning to
- (A) sizes
 - (B) regions
 - (C) evidence
 - (D) combinations

32. Why does the author mention **lava flows** and **volcanic geysers** in paragraph 5?
- (A) To discuss some characteristics shared by all rock-based moons and planets
 - (B) To state the features of Io's surface that the probes were sent to photograph
 - (C) To explain that some natural processes are more powerful than volcanic eruptions
 - (D) To list observations that enabled scientists to determine the nature of the cores of other moons and planets

Paragraph 5 is marked with an arrow [➡].

35 capture photographs and take other kinds of measurements of Io. The probes' detailed pictures of the moon revealed what turned out to be a very important, unexpected discovery. Scientists had anticipated that Io's surface, 40 like those of most other rock-based bodies that inhabit our solar system, would display the typical craters and impact marks from countless collisions over time with meteors and other objects adrift in space. They planned 45 to use those marks to estimate the age of the moon's surface by recording the amount of craters—the more craters, the older the surface. When scientists saw the probes' images, however, they were shocked to see an 50 absence of impact craters. As it turns out, Io's surface is not very old, less than one million years.

Fortunately, the scientists were also able to observe the reason for this peculiarity: 55 Io's surface is covered with volcanoes. It is constantly changing as new volcanoes emerge, others become extinct, and magma deposits accumulate or disappear. Just like on Earth, these processes continually renew 60 the moon's surface, redistributing molten material from the interior to the exterior and subsequently covering all **traces** of impact marks. Io's volcanic features are the reason for its youthful face.

65 ➡ The existence of volcanoes on Io was not the only interesting discovery. Photographs of the surface showed the volcanic activity to be extremely intense, with some eruptions spewing material as high as 300 kilometers.

70 And, in addition to volcanoes, Io is covered by

continued ➡

33. The word **speculated** in the passage is closest in meaning to
- (A) written
 - (B) proved
 - (C) imagined
 - (D) understood
34. The word **them** in the passage refers to
- (A) lakes
 - (B) cores
 - (C) moons
 - (D) planets
35. According to paragraph 6, what is responsible for Io's molten core?
- (A) The gravitational pull of the surrounding bodies
 - (B) The heat present when Io orbits close to the sun
 - (C) The moon's own intense gravitational forces
 - (D) The volcanoes that heat and melt Io's surface

Paragraph 6 is marked with an arrow [➡].

36. What can be inferred from paragraph 6 about Io?
- (A) It is larger than the two moons that orbit closest to it.
 - (B) It is the only moon in the solar system that has volcanoes.
 - (C) It orbits closer to Jupiter than some of the other moons.
 - (D) Its core measures less than 100 meters in diameter.

Paragraph 6 is marked with an arrow [➡].

lava flows, volcanic geysers, and molten lakes. Taken together, these observations allowed scientists to confirm what had previously only been **speculated** about the cores of other
75 moons and planets: like Earth's, some of **them** are hot.

➡ Part of the reason for its fiery interior, and hence also for its volcanic activity, has to do with Io's somewhat unique orbital position.

80 During its orbit around Jupiter, the moon is constantly pulled by the gravity of that enormous planet. However, at some points, Io is also pulled in the opposite direction by the gravity of two other large moons whose orbits
85 sometimes put Io between them and Jupiter. These immense gravitational forces stretch and squish Io by as much as 100 meters. This motion generates internal friction, and the resulting heat melts Io's interior, giving rise to
90 its spectacular displays of volcanic activity.

Needless to say, the size and intensity of Io's volcanoes are of great interest to scientists who believe that similar conditions may once have existed on Earth. By better understanding
95 the nature of such conditions, we will have a better grasp of the formative processes that shaped our planet. Io thus offers scientists a rare opportunity to study an important aspect of Earth's distant past.

37. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

Most of the rocky planets and moons in our solar system experience similar events.

Where would the sentence best fit?

Click on a square [■] to add the sentence to the passage.

38. **Directions:** An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. ***This question is worth 2 points.***

Since the discovery that Io is the most volcanically active location in our solar system, scientists have been using it to learn about conditions on the early Earth.

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Answer Choices

- | | |
|---|---|
| (A) Instead of observing craters on Io's surface, NASA's probes revealed the presence of volcanic activity on the moon. | (B) The volcanic activity on Io is so intense that the moon's surface is constantly being recycled and renewed, similar to theories about what happened on Earth. |
| (C) It is impossible to determine the ages of planets and moons with active volcanoes because their surfaces are constantly changing. | (D) Before scientists launched probes to photograph Io, they assumed that they would be able to estimate the moon's age by observing its volcanoes. |
| (E) Many of the volcanoes currently active on Earth are similar to those on Io in terms of size. | (F) Because of the peculiarities in the orbiting patterns of Jupiter's moons, Io experiences intense gravitational forces that heat its core. |

Drag your answer choices to the spaces where they belong. To remove an answer choice, click on it. To review the passage, click **View Text**.

Actual Test

03

iBT TOEFL Reading

Section Directions

This section measures your ability to understand academic passages in English.

The Reading section is divided into 2 separately timed parts.

Most questions are worth 1 point but the last question in each set is worth more than 1 point. The directions indicate how many points you may receive.

Some passages include a word or phrase that is underlined in blue. Click on the word or phrase to see a definition or an explanation.

Within each part, you can go to the next question by clicking **Next**. You may skip questions and go back to them later. If you want to return to previous questions, click on **Back**. You can click on **Review** at any time and the review screen will show you which questions you have answered and which you have not answered. From this review screen, you may go directly to any question you have already seen in the Reading section.

You may now begin the Reading section. In this part you will read 1 passage. You will have 20 minutes to read the passage and answer the questions.

Click on **Continue** to go on.

1. The word **evolving** in the passage is closest in meaning to
(A) developing
(B) surprising
(C) understanding
(D) knowing

2. In paragraph 2, the author explains Piaget's stages of childhood development by
(A) narrating stories about children in different developmental stages
(B) explaining how he first realized that children think differently than adults
(C) comparing the behaviors of adults with the behaviors of children
(D) describing the behavioral characteristics and approximate ages of each stage

Paragraph 2 is marked with an arrow [➡].

3. The word **they** in the passage refers to
(A) children
(B) substages
(C) objectives
(D) steps
4. According to paragraph 2, what can be inferred about a child's method of problem solving before the concrete operational stage?
(A) It is based on rational conclusions.
(B) It is not based on the child's experiences.
(C) It focuses on others' perspectives.
(D) It is based on a narrow view of the problem.

Paragraph 2 is marked with an arrow [➡].

5. The word **abstract** in the passage is closest in meaning to
(A) incomplete
(B) conceptual
(C) mature
(D) popular

Piaget's Theory

01 Jean Piaget's cognitive development theory stems from the assumption that childhood development can be examined as a series of distinct stages representing a child's **evolving**
05 ability to perceive the world around him or her. He proposed that as a child progresses from one developmental stage to the next, his or her way of thinking changes.

➡ Piaget conceived four stages of
10 childhood development and described the level of awareness of the external world children exhibit at each stage. At birth, children are in the first stage of development—the sensorimotor stage—exercising their
15 reflexes by grasping objects with their hands, following movements with their eyes, and sucking on objects in their mouths. Until about the age of two, children remain in the sensorimotor stage, progressing through
20 substages until **they** have developed the ability to accomplish objectives by planning steps toward a goal. Between the ages of two and seven, children progress through the preoperational stage, where they learn to use
25 symbols as representations of physical things. In this stage, children's understanding of the world is based on egocentrism, limited to their own perception and unable to consider others' points of view. In the following stage—the
30 concrete operational stage—children begin to apply consistent logic to the world around them, solving problems by considering more than one aspect of a problem at a time, identifying and organizing objects with shared
35 characteristics, and discovering that other

continued ➡

6. According to paragraph 2, the formal operational stage
- (A) occurs between the ages of seven and twelve
 - (B) can be seen in female children before male children
 - (C) is a person's most advanced way of thinking
 - (D) is a period of egocentrism and limited perspective

Paragraph 2 is marked with an arrow [➡].

7. According to paragraph 2, the developmental stage when a child's reflexes are most important is
- (A) the sensorimotor stage
 - (B) the preoperational stage
 - (C) the concrete operational stage
 - (D) the formal operational stage

Paragraph 2 is marked with an arrow [➡].

8. The word **absorbed** in the passage is closest in meaning to
- (A) accepted
 - (B) explained
 - (C) checked
 - (D) found

9. Why does the author mention **cats** in paragraph 3?
- (A) To suggest that children have different ways of thinking than adults
 - (B) To imply that children's psychological development is slow
 - (C) To give an example of the process of assimilation and accommodation
 - (D) To explain why children have incorrect ideas about their environment

Paragraph 3 is marked with an arrow [➡].

people's perspectives differ from theirs. This stage lasts until children are about twelve years old. At approximately this age, children progress to the final stage of development, the formal operational stage, which lasts through adulthood. Children in this stage begin to think like adults, acquiring the skills to refine their social interactions and to understand abstract ideas like love and moral values. According to Piaget's theory, this stage represents a person's way of thinking at its most sophisticated.

➡ A child's progress through these stages is determined by a process of learning that Piaget described in two basic steps: assimilation, the incorporation of new information into existing thought patterns— notions about how the world operates; and accommodation, the alteration of present cognitive structures to accommodate the new information. **A** Piaget reasoned that a biological drive motivates children to make sense of their environments and then develop ideas about how the world operates. **B** In early childhood, children are constantly bombarded with new information, and they use that information to develop expectations about their environments. **C** However, because of their limited experience, children often find that the new information they have received conflicts with some of their existing ideas about the world. **D** When a child discovers this kind of conflict, he or she experiences what Piaget considered an upset in equilibrium, which lasts until the new information can be absorbed, returning a sense of balance to the child's view of the world. For example, if a child learns that a cat is a small, four-legged animal, he or she may

continued ➡

10. Why does the author mention the 1920s in paragraph 4?

- (A) To emphasize the length of time Piaget's theory has persisted
- (B) To admit that Piaget's theory is outdated
- (C) To explain why some people disagree with Piaget's theory
- (D) To indicate that Piaget's theory had little impact

Paragraph 4 is marked with an arrow [➡].

11. According to paragraph 4, some psychologists have criticized Piaget's theory

- (A) because they are not certain that children develop in the stages he identified
- (B) because it has remained unchanged for more than eighty years
- (C) because children are not born into the sensorimotor stage
- (D) because it is based on old-fashioned ideas

Paragraph 4 is marked with an arrow [➡].

12. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.

- (A) Because Piaget was not certain whether all children experienced the formal operational stage, some psychologists criticize his theory.
- (B) Piaget's theory became less popular after receiving criticism from experts in the field of developmental psychology.
- (C) Some people still have questions about the stages in Piaget's theory, but overall his theory continues to be important.
- (D) Piaget's theory was important when it was created, and it is still at the foundation of modern developmental psychology.

assume that all small, four-legged animals are cats, an assumption that would be challenged,

75 however, if a child pointed out an animal he or she considered to be a cat and then learned that it was actually a puppy. In this example, the child would need to adjust his or her idea of what a cat is, and in so doing, he or she
80 would be accommodating the new knowledge, changing an existing thought pattern in order to return to equilibrium.

➡ Piaget has remained an influential figure in the field of developmental psychology for
85 decades. In fact, many of the central ideas in his cognitive development theory had been proposed as early as the 1920s. Although there has been some criticism of his work—some psychologists have questioned whether
90 children actually go through stages as Piaget conceptualized them, and others have added that some people never attain the final stage, the formal operational stage—Piaget's theories still remain relevant and persuasive in
95 modern developmental psychology.

13. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

These two steps allow children to develop working theories about their surroundings that help them to properly adapt.

Where would the sentence best fit?

Click on a square [■] to add the sentence to the passage.

14. **Directions:** An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. **This question is worth 2 points.**

Piaget's cognitive development theory suggests that childhood development progresses through distinct stages.

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Answer Choices

- | | |
|--|--|
| (A) During childhood, children take in huge amounts of information because they are starting without any preconceived notions about the world. | (B) In the concrete operational stage, children first discover that other people do not have the same perspectives they do, and they develop the ability to consider others' points of view. |
| (C) The characteristic behaviors of the four stages begin with babies' reflexes in the sensorimotor stage and develop into sophisticated interactions in the formal operational stage. | (D) Some critics of Piaget's theory suggest that some people never actually reach the fourth stage of development described in the cognitive development theory. |
| (E) Children learn new things through a learning process that involves assimilating and accommodating information about the world around them. | (F) Although some people have doubted that children develop in stages like Piaget proposed, his cognitive development theory continues to be a central idea in psychology. |

Drag your answer choices to the spaces where they belong. To remove an answer choice, click on it. To review the passage, click **View Text**.

15. The word **composites** in the passage is closest in meaning to
- (A) signs
 - (B) blends
 - (C) relatives
 - (D) examples
16. According to paragraph 1, which relationship is true?
- (A) Rocks are made of minerals, which combine to form elements.
 - (B) Minerals are made of rocks, which are composed of one or more elements.
 - (C) Elements are made of minerals, which combine to form rocks.
 - (D) Rocks are made of minerals, which are composed of one or more elements.

Paragraph 1 is marked with an arrow [➡].

17. The word **its** in the passage refers to
- (A) system
 - (B) multitude
 - (C) rock
 - (D) planet
18. Why does the author repeat the term “volcanic” in paragraph 3?
- (A) To fully explain a complicated geological concept
 - (B) To focus on the similarities between igneous and metamorphic rocks
 - (C) To emphasize the specific information that the name provides
 - (D) To illustrate the uniqueness of igneous rocks that form underwater

Paragraph 3 is marked with an arrow [➡].

Classifying Earth's Rocks

- 01 ➡ Our Earth is made up of a great variety of organic and inorganic compounds. At a fundamental level, though, its physical structure is primarily composed of rock.
- 05 Deep within the Earth, rock exists at intense temperatures as liquid magma; closer to the surface, we find the solid rocks we are accustomed to seeing in the landscapes that surround us. These solid rocks are **composites**
- 10 of different minerals, at times with some organic materials mixed in. Minerals are crystallized structures made up of either a single pure element or a mixture of elements. There are over 4,000 known species of
- 15 minerals in our world, combining in various ways to create more than 100 different kinds of rocks.

One method of classifying rocks labels them according to the kinds of minerals

20 they contain: silicates, carbonates, sulfates, etc. However, there is an even more basic system for categorizing the multitude of rock types. Every rock on the planet can be put into one of three distinct groups based on

25 the processes that were responsible for **its** creation. These are the igneous, sedimentary, and metamorphic categories.

➡ Igneous rocks make up the majority of the Earth's crust. They form when magma

30 is able to cool and solidify. Sometimes this happens below the Earth's surface, when conditions change in a way that allows the ordinarily scalding subterranean temperatures to drop. The resulting igneous rocks are called

continued ➡

19. The word **discern** in the passage is closest in meaning to
- (A) offer
 - (B) study
 - (C) mistake
 - (D) determine

20. According to paragraph 3, how are igneous rocks separated into two categories?
- (A) By the type of volcano from which they are ejected
 - (B) By whether they form at high or low temperatures
 - (C) By the characteristics of the minerals they contain
 - (D) By whether they form above or below the surface

Paragraph 3 is marked with an arrow [➡].

21. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.
- (A) Lithification occurs when a sediment mixture turns to solid rock as a result of the pressure it experiences when buried.
 - (B) As loose debris accumulates on the Earth's surface, older sediments become more and more submerged until they change to rock.
 - (C) When sediments undergo the process of lithification, they form thin layers of solid rock beneath the ground.
 - (D) It is the pressure exerted by the weight of overlying materials that alters the physical properties of underground rocks.

35 intrusive, or plutonic. In other circumstances, magma manages to travel all the way to the crust, where it is ejected and then solidifies above the surface, creating extrusive, or volcanic, igneous rocks. From the term
40 "volcanic," it is easy to **discern** where such rocks may be found. Other places where magma comes to the surface to form extrusive igneous rocks include tectonic divergence zones, which are usually active deep
45 underwater on the ocean floor. An igneous rock's physical features depend on the location and duration of its cooling process in addition to its mineral composition.

While igneous rocks begin far beneath
50 the crust as magma, sedimentary rocks form much closer to the surface. As the name implies, they are composed of numerous individual sediments, packed tightly together and forced into a fused state. Most of
55 these sediments come from other rocks—igneous, metamorphic, or sedimentary—slowly broken apart by the weathering forces that occur on the Earth's surface. Pieces of organic material, such as the shells of marine
60 creatures or decaying plant matter, can be included in the mixture as well. Layers of these sediments are deposited in an area by wind or water and are slowly buried over time. As
65 more and more debris accumulates on top of these layers, the underlying materials are subjected to increasing degrees of pressure, and this force eventually cements the once loose sediments into a thin, solid layer of rock, a physical change referred to as lithification.
70 The characteristics of rocks of this type are influenced mostly by the size, shape, and

continued ➡

22. The word **coalesce** in the passage is closest in meaning to

- (A) join
- (B) wait
- (C) move
- (D) change

23. According to the passage, it can be inferred that plant and animal fossils are most commonly observed in

- (A) crystallized minerals
- (B) metamorphic rocks
- (C) sedimentary rocks
- (D) igneous rocks

24. What can be inferred about metamorphic rocks from paragraph 5?

- (A) They melt before undergoing chemical changes.
- (B) Their formation cannot be directly observed.
- (C) There are not many specimens known to exist.
- (D) They are the cause of Earth's tectonic activity.

Paragraph 5 is marked with an arrow [➡].

25. According to paragraph 5, what plays the biggest role in determining the characteristics of metamorphic rocks?

- (A) The amounts of heat and pressure
- (B) The content of the surrounding magma
- (C) The chemicals in the original rocks
- (D) The depth where formation occurs

Paragraph 5 is marked with an arrow [➡].

26. The word **radical** in the passage is closest in meaning to

- (A) necessary
- (B) extreme
- (C) delayed
- (D) diverse

mineral makeup of the sediments that **coalesce** to form them.

➡ Metamorphic rocks can only develop
75 deep underground—up to 20 kilometers below the Earth's crust. Tectonic activity is constantly pulling some landmasses down into the Earth while thrusting others up to the surface. Subducted rocks, which can belong
80 to any of the three types, sometimes reach depths where the conditions of temperature and pressure are far different from the places where they were originally formed. Certain chemical changes result, producing new rocks
85 that now fall into the metamorphic category.

Though the temperatures and pressures that create metamorphic specimens must be intense enough to bring about such changes, they are not so great that the rocks melt and
90 become magma. The specific strengths of these forces are the primary factors dictating what physical properties a metamorphic rock will display.

It is not difficult to see that all three types
95 of rock are interconnected. **A** Igneous rocks at the surface are slowly weathered away, creating the building blocks for sedimentary rocks. **B** Once formed, these sedimentary rocks may be submerged to the point
100 where they become metamorphic. **C** Some metamorphic rocks then reach depths with temperatures that can liquefy them, creating magma and beginning the entire process again. **D** In this way, the minerals and other
105 materials that make up the Earth have been undergoing **radical** transformations for millennia.

27. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

Indeed, the materials involved in rock formation are part of a gradual yet continuous cycle that is constantly redistributing the matter of the Earth.

Where would the sentence best fit?

Click on a square [■] to add the sentence to the passage.

28. **Directions:** Complete the table by matching the phrases below.

Select the appropriate phrases from the answer choices and match them to the type of rock to which they relate. TWO of the answer choices will NOT be used. ***This question is worth 4 points.***

Drag your answer choices to the spaces where they belong. To remove an answer choice, click on it. To review the passage, click **View Text**.

Answer Choices

- (A) Can contain particles of organic matter
- (B) Form when solid rocks are chemically altered
- (C) Are composed of pure carbonate
- (D) Form from accumulations of weathered debris
- (E) Are the most common rocks in the crust
- (F) Occur after materials are deeply submerged
- (G) Retain the physical features of their constituent parts
- (H) Occur anywhere that hot magma becomes solid
- (I) Form when two different magma types merge

Igneous Rocks

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-

Sedimentary Rocks

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-
-

Metamorphic Rocks

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-

29. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.

- (A) Fruit and vegetable plants no longer require the assistance of wild bees and other flying animals to become pollinated.
- (B) Birds, butterflies, bats, and bees are used in agricultural operations to help pollinate food crops.
- (C) Wild bees were once able to move enough pollen to ensure the reproduction of food crops.
- (D) Pollination is the process of transferring pollen from male flower parts to female flower parts.

30. The word **solely** in the passage is closest in meaning to

- (A) only
- (B) partially
- (C) usually
- (D) eventually

31. Why does the author mention the change in the number of wild bee species in paragraph 2?

- (A) To show that wild bee species exist in the same habitats as humans
- (B) To give an example of reasons why people clear forests
- (C) To show the effect of land degradation on wild bees
- (D) To demonstrate that the habitat of wild bees has recently changed

Paragraph 2 is marked with an arrow [➡].

Decline of Wild Bee Populations

01 At one time, wild bee populations—
with the help of other natural pollinators like
birds, butterflies, and bats—were sufficient
to pollinate food crops, transferring pollen
05 from what is referred to as the male part of
the flower (the anther) to the female part (the
stigma), in a crucial part of plant reproduction
that enables crops to produce fruits and
vegetables. Although agricultural production
10 has grown too large to rely solely on wild bees
for pollination, these pollinators still play a
role in crop pollination and, in some cases,
are more effective than the domesticated bees
that are used in U.S. agriculture. Therefore,
15 it is alarming that wild bee populations are
shrinking.

➡ Wild bees are threatened by a number
of factors, including habitat degradation,
pesticides, and parasites. Habitat degradation
20 is a serious problem for wild bee populations.
When land is cleared for logging or farming
purposes, ecological diversity in the area
decreases, and this may cause food-supply
and habitat losses for the species that once
25 lived in the area. For example, the loss of
hardwood blossoms and hollow trees results
in a loss of wild bees. Over the course of a
fourteen-year period, habitat degradation in
Costa Rica caused the number of wild bee
30 species to drop from seventy to thirty-seven.
All over the world, human activities threaten
the natural habitats of wild bees.

➡ **A** The effect of pesticides has been an
environmental issue for decades, and many

continued ➡

32. It can be inferred from paragraph 2 that hardwood blossoms and hollow trees
- (A) are not destroyed when a forest is cleared for farming purposes
 - (B) are used by wild bees as food and shelter
 - (C) are found in all regions of the world
 - (D) are abundant in Costa Rica

Paragraph 2 is marked with an arrow [➡].

33. What can be inferred from paragraph 3 about commercial bees?
- (A) Their populations are larger than wild bee populations.
 - (B) They have evolved a resistance to agricultural chemicals.
 - (C) They are not harmed by pesticides as much as wild bees.
 - (D) They play a minimal role in crop pollination.

Paragraph 3 is marked with an arrow [➡].

34. Why does the author mention the Canadian blueberry crops in paragraph 3?
- (A) To show the importance of wild pollinators in Canadian agriculture
 - (B) To explain the commercial value of wild pollinators
 - (C) To indicate the effect of pesticides on wild bees
 - (D) To demonstrate the effectiveness of chemical pesticides

Paragraph 3 is marked with an arrow [➡].

35. The word **defense** in the passage is closest in meaning to
- (A) protection
 - (B) action
 - (C) expectation
 - (D) survival

35 species have been harmed by agricultural chemical spraying. **B** Although both commercial and wild bees play a role in crop pollination, commercial bees remain in pesticide-sprayed fields only long enough to pollinate them, but wild bees inhabit those fields and spend all their time there. **C** For example, native bumblebees that feed on the blossoms of cotton crops receive large, harmful doses of pesticides as cotton fields are sprayed with chemicals while the bees are feeding on the blooming flowers. **D** During the 1970s, pesticide spraying in Canada was so harmful to bee populations that the yields from blueberry crops—pollinated by native bees—were reduced for four years.

➡ Parasites and diseases have become more of a threat as international trade spreads foreign pests to places where native species have developed no resistance to or defense against the invaders. In the American South, fire ants imported from South America in the early twentieth century have caused problems by destroying wild bee populations that make their nests in the ground. Some diseases, like **foulbrood** and **chalkbrood**, have recently spread internationally, and parasites like the African hive beetle and the Varroa mite have traveled beyond the continents of their origins.

➡ Of all the threats to wild bees, the greatest is the parasitic mite Varroa destructor. The Varroa mite, originally from Asia, has had an alarmingly damaging impact on the Western honeybee. When contact is made, adult female Varroa mites fasten themselves to the bee between its abdominal segments,

continued ➡

36. According to paragraph 4, why is international trade problematic for wild bees?
- (A) They seldom survive overseas journeys.
 - (B) They are vulnerable to diseases from overseas.
 - (C) There are few international laws to protect endangered species.
 - (D) They are exported to places with unsuitable habitats.

Paragraph 4 is marked with an arrow [➡].

37. The word **their** in the passage is closest in meaning to
- (A) Varroa mites
 - (B) segments
 - (C) hosts
 - (D) bees

38. The word **assault** in the passage is closest in meaning to
- (A) attack
 - (B) encounter
 - (C) dread
 - (D) track

39. According to paragraph 5, Varroa mites affect bees by
- (A) causing physical defects
 - (B) spreading lethal diseases
 - (C) impairing their reproductive capabilities
 - (D) destroying their food sources

Paragraph 5 is marked with an arrow [➡].

40. The word **dwindle** in the passage is closest in meaning to
- (A) shrink
 - (B) weaken
 - (C) sicken
 - (D) remain

an ideal site that makes **their** detection very difficult and allows the mites to easily suck the blood of their hosts. Varroa mites **assault** bees at every stage of development, from
 75 formative stages to adulthood. Female mites lay their eggs with bee larvae so that the young bees will become hosts for the mites. Consequences for the hosts include deformed abdomen, abnormal wings, and misshapen
 80 legs. In colonies of Western honeybees, Varroa mite infestations, if untreated, generally cause the death of the colony. In the United States, Varroa infestations have nearly eradicated wild honeybee colonies.

85 Unfortunately, if the problems currently threatening wild bee populations are not resolved, there may be troubling results. If the number of wild bees continues to **dwindle**, it is likely that some of the fruits and vegetables
 90 being enjoyed today may simply vanish from supermarket shelves in the not-too-distant future.

41. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

Wild bees are particularly susceptible to the damages caused by pesticides because of their constant exposure to agricultural chemicals.

Where would the sentence best fit?

Click on a square [■] to add the sentence to the passage.

● GLOSSARY

- ***foulbrood**: a disease that is caused by certain types of bacteria and affects bee larvae
- ***chalkbrood**: a disease that is caused by a particular type of fungus and affects bee larvae

42. **Directions:** An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. ***This question is worth 2 points.***

Wild bee populations are declining because they are facing several serious threats.

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-
-

Answer Choices

- | | |
|---|---|
| (A) By depriving them of food and shelter, loss of habitat has severely reduced the number of wild bee species in some areas. | (B) Pesticides endanger wild bees because they are constantly exposed to the chemicals that are applied to crop fields. |
| (C) Bumblebees are poisoned by pesticides because the cotton fields they live in are heavily sprayed with chemicals. | (D) Blueberries are a crop that requires significant amounts of pesticides in order to thrive. |
| (E) Fire ants from South America have endangered ground-nesting bees in the southern United States. | (F) Parasites and diseases are a very severe problem for wild bee populations, which have nearly been destroyed by this menace. |

Drag your answer choices to the spaces where they belong. To remove an answer choice, click on it. To review the passage, click **View Text**.

Actual Test 04

iBT TOEFL Reading

Section Directions

This section measures your ability to understand academic passages in English.

The Reading section is divided into 2 separately timed parts.

Most questions are worth 1 point but the last question in each set is worth more than 1 point. The directions indicate how many points you may receive.

Some passages include a word or phrase that is underlined in blue. Click on the word or phrase to see a definition or an explanation.

Within each part, you can go to the next question by clicking **Next**. You may skip questions and go back to them later. If you want to return to previous questions, click on **Back**. You can click on **Review** at any time and the review screen will show you which questions you have answered and which you have not answered. From this review screen, you may go directly to any question you have already seen in the Reading section.

You may now begin the Reading section. In this part you will read 1 passage. You will have 20 minutes to read the passage and answer the questions.

Click on **Continue** to go on.

1. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.

- (A) Romance languages are derived from Latin and include French, Italian, and Spanish.
- (B) Germanic and Romance languages significantly influenced the development of English.
- (C) Two European language families broke into many languages that are currently spoken throughout Europe.
- (D) English evolved from a mixture of many languages, such as French, Italian, and Spanish.

2. According to paragraph 1 and paragraph 2, which of the following is true about the English language?

- (A) It is more closely related to Sanskrit than Hungarian.
- (B) It is considered a Romance language, like Spanish.
- (C) It is more closely related to French than German.
- (D) It is not considered an Indo-European language.

Paragraph 1 and paragraph 2 are marked with arrows [➡].

3. According to paragraph 3, which of the following is true about Old English?

- (A) It was most influenced by the Celtic and Viking languages.
- (B) It was widely used prior to the fifth and sixth centuries AD.
- (C) It was similar to the language spoken by the original inhabitants of England.
- (D) It was a combination of two groups of the West Germanic language family.

Paragraph 3 is marked with an arrow [➡].

The History of the English Language

➡ The English language is part of the Indo-European family of languages. Most modern European languages (but not, for example, Hungarian) and some Asian languages, like Hindi and Sanskrit, are members of this family as well. Two European branches of Indo-European are particularly important to consider when looking at the history of how English developed: Germanic languages and the Romance languages, such as French, Italian, and Spanish, which have their roots in Latin.

➡ English is in the Germanic branch of Indo-European languages. This branch of languages came into existence about three thousand years ago in an area around the Elbe River in what is now Germany. Around the second century BC, what had begun as one Germanic language split off into three disparate groups. One of these groups eventually evolved to become the German language spoken today. Another group was known as West Germanic.

➡ In the fifth and sixth centuries AD, West Germanic invaders called the Angles and the Saxons came to the British Isles. They spoke two dialects of West Germanic that were similar to one another, and these dialects merged into what we today call Old English, which was very similar to West Germanic. These invaders pushed the original Celtic-speaking inhabitants out of what is now England. There are still a few Celtic words in English, though. The English language of that period was also influenced by the Vikings.

continued ➡

4. The word **This** in the passage refers to
 (A) Old French
 (B) Anglo-Norman
 (C) Germanic
 (D) Old English
5. The word **sever** in the passage is closest in meaning to
 (A) break
 (B) define
 (C) change
 (D) support
6. In paragraph 4, the author states that
 (A) immediately following the Norman Conquest, the residents of England spoke Middle English
 (B) the nobility spoke a different language than the common people for more than a century in England
 (C) the loss of Normandy to France began a period of cultural interchange between England and France
 (D) Middle English texts would be impossible for modern English speakers to read and understand
- Paragraph 4 is marked with an arrow (➡).
7. Why does the author discuss current English speakers in paragraph 4?
 (A) To compare the modern British population with that of 1204
 (B) To clarify the relationship between the Normans and the Anglo-Saxons
 (C) To emphasize how long English has been the official language of England
 (D) To highlight a difference between Old English and Middle English

Paragraph 4 is marked with an arrow (➡).

➡ Old English lasted until 1100, about the time of the Norman Conquest. When the Normans, residents of what is now a region of France, invaded and conquered England, the English language was forever changed. **A** The Normans spoke a dialect of Old French known as Anglo-Norman, which had both French and Germanic influences. **B** **This** became the chosen language of the upper class of England, the Normans, for more than one hundred years, while the majority of people continued to speak Old English. **C** However, the loss of Normandy to France in 1204 changed this situation. **D** The Norman nobles started to **sever** their connections with France and speak a modified version of Anglo-Norman. This new language, which was a combination of Anglo-Norman and Old English, is now known as Middle English. While modern speakers of English would not be able to read or understand Old English, they could, with some difficulty, read Middle English. By 1362, English had become the official language of England.

➡ The alterations that marked these early periods of English were not the end of its transformation, however. During the Renaissance, English changed again. One reason for this was that many Latin and Greek words were introduced into English as scholars rediscovered important ancient works written in those languages. In addition, many other completely original words were introduced into English, and the famous playwright William Shakespeare is credited with having either created or recorded over two thousand of these words.

continued ➡

8. The word **proliferation** in the passage is closest in meaning to
- (A) writing style
 - (B) rapid creation
 - (C) modern design
 - (D) unintended effect
9. In paragraph 6, the author describes the "Great Vowel Shift" by
- (A) discussing the standardization of spelling, grammar, and usage
 - (B) citing a specific example of a pronunciation divergence
 - (C) explaining the results of the innovation of the printing press
 - (D) defining the difference between spoken and written Middle English

Paragraph 6 is marked with an arrow [➡].

10. Based on the information in paragraph 5 and paragraph 6, what can be inferred about how Middle English changed into Modern English?
- (A) The transition was a smooth one because Middle English sounded very similar to Modern English.
 - (B) The transformation occurred as a result of developments in English society.
 - (C) Modern English created a precedent by pronouncing vowels that had been silent in Middle English.
 - (D) Playwrights played a larger role in developing the language than most people realize.

Paragraph 5 and paragraph 6 are marked with arrows [➡].

11. In paragraph 7, why does the author mention **computers**?
- (A) To provide an example of a word that is derived from Middle English
 - (B) To show how English has not changed much since the Renaissance
 - (C) To identify a foreign-language word that has become part of English
 - (D) To illustrate a modern creation that has resulted in new English words

Paragraph 7 is marked with an arrow [➡].

➡ There were two other major influences in the transformation of Middle English into Modern English. One is called the "Great Vowel Shift." This term refers to a change in pronunciation that began around 1400. Though a Modern English reader could make sense of something written in Middle English, it would sound completely foreign. One example of the change in pronunciation is that the letter "e" at the end of many English words became silent. Middle English speakers would have pronounced it. The other influence in the development of Modern English was the invention of the printing press and the subsequent proliferation of books. Prior to the printing press, spelling, grammar, and even usage were very flexible. However, with the advent of printed texts, these elements of the language became standardized, so there has been far less variability in Modern English than there was in earlier forms.

➡ Changes since the time of Shakespeare have been mainly in the category of vocabulary. Technological advances have made necessary the creation of words to describe new objects, processes, and ideas. Industry, **computers**, and space travel all required new descriptive terms. Words can also fall out of usage from one generation to the next. Another reason for the evolving vocabularies has been the increasing communication between and migration of people all over the world. Words from foreign places have been absorbed into the language. For example, the common word "shampoo" comes from the Hindi language. Overall, it

continued ➡

12. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

What emerged was in many ways a new language with few ties to the old.

Where would the sentence best fit?

Click on a square [■] to add the sentence to the passage.

can be seen that English has undergone great transformations since its origin, over three thousand years ago, on the shores of the Elbe River.

13. **Directions:** An introductory sentence for a brief summary of the passage is provided below.

Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. ***This question is worth 2 points.***

The history of English, from the origins of the Germanic tongues to the language we speak today, has been marked by many changes.

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Answer Choices

- | | |
|---|---|
| (A) Three thousand years ago near Germany's Elbe River, the Old English ancestral language family split into three groups. | (B) Anglo-Saxon invaders of Britain in the fifth and sixth centuries combined two versions of West Germanic to create Old English. |
| (C) English common people in the 1100s spoke Old English, but the Norman noble classes introduced them to Middle English. | (D) Old English mixed with a dialect called Anglo-Norman to produce Middle English, which eventually became the official language of Britain. |
| (E) Modern English emerged as a result of various phonological, technological, and social changes and has continued to absorb new vocabulary. | (F) Modern English contains many new and foreign words that show the influence of technology in today's English-speaking societies. |

Drag your answer choices to the spaces where they belong. To remove an answer choice, click on it. To review the passage, click **View Text**.

14. The word **configuration** in the passage is closest in meaning to
 (A) material
 (B) solution
 (C) arrangement
 (D) connection
15. The word **dismissed** in the passage is closest in meaning to
 (A) destroyed
 (B) altered
 (C) stolen
 (D) rejected
16. According to paragraph 2, maps played a role in the development of the plate tectonics theory by
 (A) showing the paths of the moving continents
 (B) helping scientists record the locations of different fossils
 (C) stimulating curiosity about the parallels between coastlines
 (D) outlining the locations of underwater land bridges

Paragraph 2 is marked with an arrow [➡].

17. Why does the author mention fossils of tropical plants found in the Arctic in paragraph 3?
 (A) To provide an example of evidence that undermined an accepted theory
 (B) To explain why the continental drift theory was not accepted at first
 (C) To show how earlier scientists misunderstood the effects of Earth's climate
 (D) To demonstrate the problems encountered by Wegener during his research

Paragraph 3 is marked with an arrow [➡].

Plate Tectonics Theory

- 01 From our fleeting human perspective, the **configuration** of Earth's continents and oceans seems quite stable, and it is easy to assume that our world has always looked the same.
- 05 For hundreds of years, scientists believed this to be true, but in the mid-twentieth century, evidence emerged proving that the Earth's crust—oceans as well as continents—is slowly moving. While this is now accepted as
- 10 fact, it was not always so. The first thinkers to suggest such concepts were ridiculed and their revolutionary ideas **dismissed**.

➡ With the creation of accurate global maps, many people began to wonder about

15 the remarkable relationship between the coastlines of eastern South America and western Africa. It appears that the two continents, if joined, would fit together perfectly. **A** This was essentially the birth of

20 what would eventually become the theory of plate tectonics. **B** Of course, the shape of the continents was not the only peculiarity that encouraged speculation on this topic. **C** Some scientists were intrigued by the close

25 similarities in fossil remains found on separate continents—for example, in the northeastern United States and Scotland. **D** In the nineteenth and early twentieth centuries, the mainstream scientific community explained

30 these findings by arguing that changing ocean levels sometimes exposed land bridges that connected the continents, allowing the overland migration of species.

➡ Alfred Wegener, a German meteorologist

continued ➡

18. According to the information in paragraph 3 and paragraph 4, how did Wegener's theory explain the existence of similar fossils on different continents?

- (A) By describing how the continents moved through the crust
- (B) By suggesting that land bridges were present beneath the ocean
- (C) By describing the migration patterns of the ancient species
- (D) By suggesting that the continents were locked together at one time

Paragraph 3 and paragraph 4 are marked with arrows (➡).

19. The phrase **account for** in the passage is closest in meaning to

- (A) conform to
- (B) resolve
- (C) stand by
- (D) deny

20. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.

- (A) Wegener's theory stated that there was no known force capable of causing the movement of the Earth's crust.
- (B) It was not logical to assume that landmasses could break through the thick crust found at the bottom of the ocean.
- (C) Scientists were unable to identify any phenomenon that could cause the extraordinary continental movement described in Wegener's theory.
- (D) If Earth's continents moved separately from the rest of the crust, there would have to be an incredibly powerful force at work.

35 with an interest in geology, found this theory lacking. He felt that land bridges could not adequately explain the close fossil matches discovered on opposite shores of the ocean. His curiosity on the subject led him to
40 accumulate as much data as possible about rock and fossil samples uncovered throughout the world. In doing so, he encountered facts that further called the predominant theory into question. For example, fossils of various
45 tropical plants had been discovered in lands that now lie in the Arctic.

➡ Wegener's research led him in 1915 to introduce his theory of "continental drift," the primary forerunner of plate tectonics. It
50 stated that the continents had at one time been joined together in a huge supercontinent, and that this great landmass had broken apart and the separate continents had been drifting away from one another ever since. At the time,
55 however, the idea received little support. Critics emphasized the failure of Wegener's theory to sufficiently **account for** the means and causes of continental movement. **His theory proposed that the landmasses moved independently**
60 **of the rest of Earth's crust, simply smashing through the solid rock of the seafloor, and no one, including Wegener, could come up with a force that would be great enough to drive this type of movement.**

65 ➡ It was not until the 1950s and '60s, when new technologies enabled scientists to study the ocean floor, that the main concept of Wegener's theory was proven correct. In perhaps the most important discovery,
70 researchers observed that, at some points on

continued ➡

21. According to paragraph 5, it can be inferred that the scientific study of Earth's crust before 1950

- (A) led to major discoveries about plate movement
- (B) lacked information about the seafloor
- (C) disproved the theory of continental drift
- (D) made use of the latest technologies

Paragraph 5 is marked with an arrow [➡].

22. The word **Their** in the passage refers to

- (A) plates
- (B) speeds
- (C) oceans
- (D) continents

23. The word **dynamic** in the passage is closest in meaning to

- (A) active
- (B) hidden
- (C) central
- (D) heated

24. According to paragraph 6, scientists determined that the forces responsible for plate movement originate

- (A) within oceanic plates
- (B) at earthquake sites
- (C) in the Earth's mantle
- (D) near active volcanoes

Paragraph 6 is marked with an arrow [➡].

25. Which of the following statements most accurately reflects the author's opinion about science as expressed in paragraph 7?

- (A) The evolution of a theory can be as educational as the theory itself.
- (B) Most new ideas turn out to be major scientific innovations.
- (C) Students should learn more about the history of science in school.
- (D) Scientists should be less skeptical when considering new theories.

Paragraph 7 is marked with an arrow [➡].

the seafloor, there were areas where it seemed like two sections of crust were moving apart from each other. In 1968 three American scientists used this discovery, along with other
75 significant findings, to develop the theory of plate tectonics.

➡ The theory holds that all of Earth's crust is divided into several different plates, which are continuously moving at speeds of
80 between two and nine centimeters a year. Some are entirely underwater, while others comprise both oceans and continents. **Their** movement is caused by the Earth's **dynamic** mantle, where molten material is constantly
85 rising and pushing on the plates. Geologists now believe that, over the millennia, these forces have caused Earth's continents to come together numerous times to form supercontinents and then break apart again.

90 Because the plate tectonics theory provides such a comprehensive explanation of the mechanics of the Earth, it allows scientists to understand the causes of many natural phenomena. Earthquakes, volcanic eruptions,
95 and the formation of mountains, for example, are all the results of plate movement.

➡ Today, children learn about the plate tectonics theory in school, and most people take it for granted. However, it is beneficial to
100 reflect on the long history of its progression. We should remember that revolutionary scientific ideas usually meet with heavy skepticism at first, but they sometimes prove to be major turning points in the
105 understanding of our world.

26. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

It was hard to believe that the exact same animal and plant species would have existed simultaneously on such distant lands.

Where would the sentence best fit?

Click on a square [■] to add the sentence to the passage.

27. **Directions:** An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. ***This question is worth 2 points.***

Though widely accepted today, it took many years for the basic concepts of the theory of plate tectonics to be established as fact.

-
-
-

Answer Choices

- | | |
|--|--|
| (A) First inspired by the shapes of the continents as seen on maps, some scientists began to consider the idea of continental movement. | (B) Matching fossils found on separate continents were used as evidence to suggest that the position of the continents was stable. |
| (C) Wegener's theory of continental drift was an important step towards discovering plate tectonics, but it misunderstood the exact nature of the crust's movement. | (D) Some technologies developed in the middle of the twentieth century gave researchers the means to gather information about the ocean floor. |
| (E) After observing the seafloor and discovering the importance of the mantle, scientists finally proved the existence of continental drift with the plate tectonics theory. | (F) Before the establishment of the plate tectonics theory, phenomena such as earthquakes and volcanoes were not adequately explained by scientists. |

Drag your answer choices to the spaces where they belong. To remove an answer choice, click on it. To review the passage, click **View Text**.

28. The word **diameter** in the passage is closest in meaning to

- (A) thickness
- (B) firmness
- (C) length
- (D) flexibility

29. According to paragraph 1, what is the function of the spinneret?

- (A) It stores liquid silk produced by the spider.
- (B) It prevents the spider from sticking to its web.
- (C) It turns liquid silk into strands of solid silk.
- (D) It protects eggs from being eaten by predators.

Paragraph 1 is marked with an arrow [➡].

30. The word **anchored** in the passage is closest in meaning to

- (A) related
- (B) attached
- (C) passed
- (D) communicated

31. Why does the author mention the elasticity of minor ampullate silk in paragraph 2?

- (A) To indicate that all kinds of spiders' silk are similar
- (B) To explain how spiders are able to trap their prey
- (C) To contrast the properties of two types of spiders' silk
- (D) To give an example of a drawback of natural spiders' silk

Paragraph 2 is marked with an arrow [➡].

The Silk of Spiders' Webs

01 ➡ **A** Spiders possess the extraordinary ability to produce silk, which they use in a variety of ways—to create egg sacs, to catch and hold insects, and to construct homes. **B**

05 An assortment of specialized glands, each responsible for forming a distinct kind of silk, is located within the spider's abdomen and enables the spider to produce the different types of silk that it uses for those diverse

10 purposes. **C** Among the known species of spiders, scientists have identified at least ten distinct kinds of glands that manufacture silks of varying strength, elasticity, and viscosity. **D**

15 In the process of silk production, silk begins as a liquid in special silk glands in the spider's abdomen. The liquid silk is excreted from the silk glands in liquid form, but, as it passes through the round spigots on a special organ—the spinneret—at the rear of the abdomen,

20 it becomes solid. The spinneret determines the **diameter** of the final silk fiber. Depending on the species, spiders may have between one and four pairs of silk-releasing spinnerets.

➡ Different types of silk are produced to

25 perform different functions. When a spider begins constructing its web, the first threads it uses must be particularly durable, capable of supporting the weight of the spider while serving as a foundation for the web. These

30 foundation threads, known as draglines, are composed of major ampullate silk, a sturdy, non-sticky, elastic material. In fact, major ampullate silk is the strongest silk a spider produces; its tensile strength—the maximum

continued ➡

32. The word **it** in the passage refers to

- (A) web
- (B) swathing silk
- (C) victim
- (D) cocoon

33. What can be inferred from paragraph 3 about female spiders?

- (A) They are not responsible for caring for offspring.
- (B) They do not share parenting responsibilities with male spiders.
- (C) They produce a kind of silk that male spiders do not make.
- (D) They are more vulnerable in harsh climates than male spiders.

Paragraph 3 is marked with an arrow [➡].

34. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.

- (A) The lightness and flexibility of spiders' silk are properties that scientists want to use in future technology.
- (B) The scientific community is interested in research that will improve defense and medical technology.
- (C) The scientific community is curious about silk that is lightweight and very flexible.
- (D) Scientists are curious about how spiders' silk has been used by doctors and by the military.

35. The word **versatile** in the passage is closest in meaning to

- (A) unique
- (B) specific
- (C) adaptable
- (D) unchangeable

35 force a material can resist without tearing—is similar to that of **Kevlar**. Draglines serve not only as the skeletal structure to which all other silks are **anchored**, but also as safetylines with which a spider can make a speedy exit from an unexpected predator. Similar to major ampullate silk, minor ampullate silk is also used in web construction, but as supporting threads rather than main draglines. Like major ampullate silk, this silk is strong and non-
40 sticky, but it does not have the same elastic characteristics. When minor ampullate silk is stretched, it remains permanently misshapen.

➡ The threads that form the spiral core of a spider's web are made of flagelliform silk, the
50 sticky netting that ensnares a spider's insect prey. When a spider senses the vibrations of an insect trapped in its web, it releases another kind of silk, swathing silk, that completely binds a victim by encapsulating **it** in a cocoon.
55 Female spiders produce an additional kind of silk that is used for spinning protective egg sacs that shield their eggs from harsh weather and from predators.

➡ Historically, spiders' silk has been
60 useful in a variety of applications, from medicine to warfare. Ancient Greeks applied spider webs to wounds in order to decrease bleeding. Pre-WWII telescopes, microscopes, and guidance systems used
65 strands of spiders' silk as crosshair sights. **Because it is extremely lightweight and very resilient, and because it offers significant potential for diverse applications in fields like medicine and defense, spiders' silk has,**
70 **not surprisingly, been the subject of intense**

continued ➡

36. What can be inferred from paragraph 4 about people's interest in the properties of spiders' silk?

- (A) It began with doctors in the military.
- (B) It is based on a cultural love of spiders.
- (C) It has been around for centuries.
- (D) It is motivated purely by money.

Paragraph 4 is marked with an arrow [➡].

37. All of the following are mentioned in the passage as characteristics of spiders' silk EXCEPT

- (A) the capability to resist tears
- (B) the ability to repair itself
- (C) different degrees of elasticity
- (D) strength and lightness

38. Why does the author mention **crosshair sights** in paragraph 4?

- (A) To suggest that some technology based on spiders' silk may be negative
- (B) To contrast the medical uses of spiders' silk with the military uses of the material
- (C) To suggest that synthetic spiders' silk will be better than natural silk
- (D) To give an example of how spiders' silk has been used in the past

Paragraph 4 is marked with an arrow [➡].

39. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

This creature, which may be smaller than a millimeter, is capable of producing a strong, flexible material that humans have not been able to replicate.

~ Where would the sentence best fit?

Click on a square [■] to add the sentence to the passage.

curiosity among members of the scientific community. However, in spite of researchers' best efforts, humans have not been able to exactly duplicate the beneficial properties of spiders' versatile silk. Efforts continue, though, as it is hoped that in the future spiders' silk will contribute to advancements in medical technology, perhaps improving sutures in microsurgery, refining plaster for broken bones, and developing artificial ligaments and tendons to be used as surgical implants. Scientists anticipate that synthetic spiders' silk would revolutionize military technology by providing lightweight, long-lasting protective body coverings. In this respect, spiders' silk would have broad applications for law enforcement and the armed forces. Commercially, spiders' silk could be used to manufacture more durable ropes, fishing nets, seatbelts, and car bumpers. Having the ability to synthesize spiders' silk would provide scientists with numerous possibilities for technological developments.

● GLOSSARY

***Kevlar:** Trademark name for a brand of aramid fiber—a material used in bulletproof vests

40. Directions: Complete the table by matching the phrases below.

Select the appropriate phrases from the answer choices and match them to the type of silk to which they relate. TWO of the answer choices will NOT be used. ***This question is worth 4 points.***

Drag your answer choices to the spaces where they belong. To remove an answer choice, click on it. To review the passage, click **View Text**.

Answer Choices

- (A) Retains its shape when stretched out
- (B) Is a sticky silk used to trap prey in the center of a web
- (C) Is stronger than all the other silks produced by a spider
- (D) Is used in web construction
- (E) Does not spring back into its original form when expanded
- (F) Forms safetylines that help spiders escape from predators
- (G) Performs a reinforcing rather than foundational function
- (H) Is produced by female spiders and is used to make egg sacs
- (I) Is a non-sticky form of silk

Major Ampullate Silk

-
-
-

Minor Ampullate Silk

-
-

Both

-
-

Actual Test

05

iBT TOEFL Reading

Section Directions

This section measures your ability to understand academic passages in English.

The Reading section is divided into 2 separately timed parts.

Most questions are worth 1 point but the last question in each set is worth more than 1 point. The directions indicate how many points you may receive.

Some passages include a word or phrase that is underlined in blue. Click on the word or phrase to see a definition or an explanation.

Within each part, you can go to the next question by clicking **Next**. You may skip questions and go back to them later. If you want to return to previous questions, click on **Back**. You can click on **Review** at any time and the review screen will show you which questions you have answered and which you have not answered. From this review screen, you may go directly to any question you have already seen in the Reading section.

You may now begin the Reading section. In this part you will read 1 passage. You will have 20 minutes to read the passage and answer the questions.

Click on **Continue** to go on.

1. The word **them** in the passage refers to
 - (A) farmers
 - (B) seasonal changes
 - (C) constellations
 - (D) crops
2. According to paragraph 1, why did the Greeks originally observe constellations?
 - (A) To enlarge their cultural understanding of astronomy
 - (B) To refine their collective knowledge of timekeeping
 - (C) To predict the best times for farming activities
 - (D) To discover whether constellations changed over time

Paragraph 1 is marked with an arrow [➡].

3. The word **Impelled** in the passage is closest in meaning to
 - (A) Driven
 - (B) Surprised
 - (C) Discouraged
 - (D) Tested
4. In paragraph 3, why does the author mention that Philolaus was a Pythagorean?
 - (A) To name a follower of Pythagoras who developed valid astronomical theories
 - (B) To demonstrate that astronomy was highly respected in Greek society
 - (C) To argue that the Greeks formed many of the precepts of modern astronomy
 - (D) To emphasize the value of Pythagoras's own astronomical theories

Paragraph 3 is marked with an arrow [➡].

Figures in Ancient Greek Astronomy

➡ Around 700 BC, Greek astronomy was something of an offshoot of timekeeping—the Greeks relied on cyclical astronomical events to mark the passage of time. Knowing the length of a year was important for farmers, who relied on seasonal changes in constellations to help **them** determine when to plant their crops. For centuries, farmers used constellations as a guide for food production, but over time the Greek's study of astronomy diversified; there were many astronomers who were instrumental in the expansion of this science.

Pythagoras was an early figure in Greek astronomy. Although none of his original writings have survived, the central doctrines of Pythagoras's astronomy have been preserved in the work of his followers, the Pythagoreans. Pythagoras's most notable astronomical theory was his conception of the Earth as a spherical celestial body. While his prediction about Earth's shape eventually proved to be fairly accurate, the method that led Pythagoras to that conclusion was probably relatively unscientific, rooted in a personal ideology that blended mysticism and mathematics. **Impelled** by his impression that numbers could describe the universe, he likely based his hypothesis on his philosophical belief that spheres were more mathematically perfect than any other shape. Nonetheless, though Pythagoras himself may have only minimally impacted Greek astronomy, his followers forged ahead and occasionally generated legitimate theories about the nature of the universe.

continued ➡

5. The word **conjecture** in the passage is closest in meaning to
 (A) demonstrate
 (B) guess
 (C) prove
 (D) learn
6. The word **elucidate** in the passage is closest in meaning to
 (A) clarify
 (B) discredit
 (C) reinvent
 (D) double-check
7. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.
 (A) Unfortunately, much of Aristotle's research was poorly reviewed, and generations of Greek scientists disregarded his theories about astronomy.
 (B) When Aristotle began to develop ideas about astronomy, he was elevated to a prominent position in Greek society.
 (C) Aristotle was not a particularly strong astronomer, and, unfortunately, many of his concepts were completely incorrect.
 (D) Because he was well respected, Aristotle faced little criticism, and his inaccurate ideas about astronomy led many others astray.
8. The phrase **held in esteem** in the passage is closest in meaning to
 (A) known
 (B) respected
 (C) studied
 (D) doubted

➔ Philolaus was one of those Pythagoreans whose ideas about astronomy, though not popular during his time, were eventually proven to be correct. Contradicting his contemporaries' models of the universe, the model proposed by Philolaus removed the Earth from its position at the center of the universe. In addition, Philolaus was the first to **conjecture** that the Earth moved, and he recognized that the planet's **diurnal** motion differed from its annual movement. Without going as far as adopting a **heliocentric** model of the solar system, Philolaus laid the framework for major improvements in Greek astronomers' understanding of the heavens. Unfortunately this visionary redefinition of the universe was delayed for centuries because prominent philosophers like Aristotle continued to advocate the appealing, albeit incorrect, Earth-centered model of the universe.

Basing his theories about astronomy exclusively on plainly observable phenomena, Aristotle inevitably developed flawed theories about the universe. Speculation dominated much of his writings about astronomy, which argued that the Earth was motionless, occupying the center of a universe that was composed of shells encompassing the Earth in nested, spherical layers. Each layer contained components of the universe: some contained water, some air, some planets, and some stars. This theory of spheres was meant to **elucidate** and improve upon a model of the universe submitted by another astronomer, Callippus, but modern astronomers suspect that Aristotle's revision introduced more

continued ➔

9. What can be inferred about the Greek predecessors of Hipparchus mentioned in paragraph 5?
- (A) Some of their theories were based on research that was deficient or unreliable.
 - (B) They did not contribute as much to the field of astronomy as their followers did.
 - (C) They did not refer to the information collected by astronomers in other cultures.
 - (D) Most of their theories sought to calculate the movements of the sun and moon.

Paragraph 5 is marked with an arrow (➡).

10. According to paragraph 5, what was one of the major flaws in Hipparchus's theories?
- (A) His lack of applicable research
 - (B) His use of Aristotle's model of the universe
 - (C) His adherence to the scientific method
 - (D) His incorporation of Babylonian mathematics

Paragraph 5 is marked with an arrow (➡).

11. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

This helped reduce the influence that the various specious arguments polluting contemporary scientific thought had on his findings.

Where would the sentence best fit?

Click on a square [■] to add the sentence to the passage.

questions than it resolved. However, the most damaging consequences of Aristotle's musings in astronomy were not so much the concepts themselves as the role they played in misdirecting generations of Greek scientists, for, as a cultural leader, Aristotle's opinions were simultaneously highly regarded and leniently analyzed.

➡ The person credited with making the most cogent contributions to the development of ancient Greek astronomy was Hipparchus, a scientist still held in esteem by many modern-day astronomers. Hipparchus drew much of his information about astronomy from Babylonian sources, studying the culture's accumulated records of eclipses and star coordinates and borrowing some of its ideas about mathematics—trigonometry in particular. Hipparchus founded his work on thorough observations—a fact that lends his work a special credibility absent in some of the works of his Greek predecessors.

Adhering to the scientific method, Hipparchus gathered data, analyzed the collected information, applied theories to his facts, and refrained from proposing theories to explain phenomena about which he did not have enough data. **A** Hipparchus's achievements included the creation of what some argue is the first accurate star map, the calculation of eclipses, the description of lunar and solar motion, and the computation of the length of a year. **B** These theories represent the maturation of the Greek's ancient astronomy. **C** Although Hipparchus was unable to free himself from the influence of Aristotle's geocentric interpretation of the universe, he

continued ➡

110 managed to supply some durable theories to the field of astronomy. **D**

● GLOSSARY

***diurnal**: having a twenty-four-hour cycle

***heliocentric**: a model of the solar system that positions the sun at the center

- 12. Directions:** An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. ***This question is worth 2 points.***

It is possible to understand the development of ancient Greek astronomy by looking at some of its central figures.

-
-
-

Answer Choices

- | | |
|---|--|
| (A) When Pythagoras began to hypothesize about the heavens, he became the most important astronomer in Greek history. | (B) Developing Pythagoras's idea of a spherical Earth, Philolaus suggested that it was not located at the center of the universe. |
| (C) Unfortunately, Philolaus's unorthodox research processes led to his expulsion from the scientific community and caused a slump in the advancement of Greek astronomy. | (D) The evolution of Greek astronomy was delayed by Aristotle's Earth-centered theory, which persisted for some time because people respected him and accepted his belief. |
| (E) Some of the most important advancements in astronomy were forwarded by Hipparchus, who theorized about eclipses, lunar and solar motion, and the length of a year. | (F) Because of their mastery of mathematics and astronomy, the Babylonians were quite important to ancient Greek astronomers. |

Drag your answer choices to the spaces where they belong. To remove an answer choice, click on it. To review the passage, click **View Text**.

13. The word **distinct** in the passage is closest in meaning to
- (A) unusual
 - (B) intriguing
 - (C) clear
 - (D) surprising

14. What can be inferred from paragraph 1 about the origin of birds?
- (A) Before archaeopteryx there was no evidence that birds and reptiles were related.
 - (B) There is not enough information available to determine how they evolved.
 - (C) Evolutionary biologists have only recently begun to wonder how birds evolved.
 - (D) It is possible to determine birds' evolutionary path by comparing them with reptiles.

Paragraph 1 is marked with an arrow [➡].

15. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.
- (A) Proposed by Gerhard Heilmann, the theropod dinosaur hypothesis stated that birds and dinosaurs evolved from ancient reptiles known as basal archosaurs.
 - (B) In the early twentieth century, Gerhard Heilmann developed an important theory about birds and dinosaurs.
 - (C) The basal archosaur hypothesis about the shared ancestry of birds and dinosaurs became more popular than the theropod dinosaur hypothesis in the early twentieth century.
 - (D) In the early twentieth century, the theropod dinosaur hypothesis fell out of favor with paleontologists.

The Evolution of Birds

➡ Centuries ago it was noted that birds and reptiles shared common characteristics that suggested an evolutionary connection between the two groups. Over the years, paleontological discoveries have provided fossilized evidence that has solidified the belief that birds and reptiles share common origins. In particular, the discovery of archaeopteryx, the oldest fossil universally accepted to be a bird, provided important clues about the evolution of birds. This skeleton, with both **distinct** avian and reptilian features, was considered by many to represent the missing link between modern birds and ancient reptiles, specifically dinosaurs. However, in the absence of conclusive proof, two opposing theories have developed to explain the reptilian origins of birds.

The theropod dinosaur hypothesis contends that birds evolved from dinosaurs around 130 million years ago. Its rival theory, the basal archosaur hypothesis, suggests that birds evolved far earlier—230 million years ago, from a pre-dinosaur reptile. The ancient reptile that birds—along with crocodiles and dinosaurs—are believed to have evolved from is called an archosaur.

After the discovery of an entire archaeopteryx skeleton in 1861, many researchers were fascinated by the combination of reptilian and avian characteristics in a single specimen. Archaeopteryx had feathers, a markedly avian attribute, yet it also **retained** reptilian teeth

continued ➡

16. The word **retained** in the passage is closest in meaning to
 (A) possessed
 (B) claimed
 (C) lacked
 (D) witnessed
17. The word **their** in the passage refers to
 (A) similarities
 (B) evolutionary biologists
 (C) avian characteristics
 (D) theropod dinosaurs
18. All of the following characteristics of theropods are mentioned in paragraph 4 as evidence for the theropod dinosaur hypothesis EXCEPT
 (A) their two-footed posture
 (B) their small size
 (C) the position of their pelvis
 (D) the features of their bones
- Paragraph 4 is marked with an arrow [➡].
19. According to the passage, the two different hypotheses have different ideas about
 (A) the classification of archaeopteryx as a bird
 (B) how bird ancestors evolved into flying animals
 (C) whether birds evolved from reptiles
 (D) when ancient birds evolved into modern birds
20. The word **presume** in the passage is closest in meaning to
 (A) suppose
 (B) know
 (C) report
 (D) prove

35 and jaws that are absent in modern birds. For several decades, evolutionary biologists, inspired by the archaeopteryx specimen, focused on the similarities between birds and theropods—a group of bipedal dinosaurs.

40 The theropod dinosaur hypothesis remained the dominant theory for some time, but it eventually fell out of favor in the early twentieth century when Gerhard Heilmann published an influential argument suggesting

45 that birds did not evolve from dinosaurs; rather, both birds and dinosaurs evolved from a common ancestor—this was the basal archosaur hypothesis.

➡ For fifty years, Heilmann's theory

50 remained popular, but it was eventually replaced by the theropod dinosaur hypothesis, revitalized by John Ostrom's research on small theropods. **A** Through his studies, Ostrom revealed compelling similarities between

55 birds and theropods, and soon others were contributing research that bolstered support for the theropod dinosaur hypothesis. **B** Analyzing the similarities between birds and theropods, evolutionary biologists called

60 attention to the many avian characteristics in theropod dinosaurs, including **their** bipedal stance, their backward-oriented pelvis, their hollow bones, their three-fingered hands, and their three-toed feet. **C**

65 Although the theropod dinosaur hypothesis is currently the favored theory, supporters of the basal archosaur hypothesis continue to present very important arguments that call into question some of the assumptions contained

70 in the theropod dinosaur hypothesis. **D** A

continued ➡

21. The word **criticized** in the passage is closest in meaning to

- (A) praised
- (B) attacked
- (C) studied
- (D) improved

22. What can be inferred from paragraph 7 about ground-dwelling dinosaurs?

- (A) They needed to develop gliding skills.
- (B) They preyed on animals in trees.
- (C) They had no need to evolve feathers.
- (D) They spent most of their time in trees.

Paragraph 7 is marked with an arrow [➡].

23. Why does the author mention **insulation** in paragraph 8?

- (A) To introduce criticism of the trees-down theory of flight
- (B) To provide support for the ground-up theory of flight
- (C) To introduce evidence that contradicts both theories of flight
- (D) To give an example of a question paleontologists have not yet answered

Paragraph 8 is marked with an arrow [➡].

24. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

These attributes were interpreted by many as evidence that dinosaurs and birds were very closely related.

Where would the sentence best fit?

Click on a square [■] to add the sentence to the passage.

significant point of contention is the origin of flight.

Because the theropod dinosaur hypothesis proposes that birds evolved from land-dwelling, two-legged dinosaurs, supporters of this hypothesis **presume** that flight in birds originated "from the ground up"—that is, by feathered pre-bird dinosaurs that evolved flight by running and leaping into the air. The basal archosaur hypothesis conceives of the origins of flight differently. In this hypothesis, early bird-like creatures, which had been evolving from ancient reptiles for millions of years, were already adapted to live in trees.

Therefore, supporters of this hypothesis assume that flight originated "from the trees down." According to this theory, scales evolved into feathers to promote gliding and, later, flight.

➡ In the basal archosaur hypothesis, the trees-down theory of flight adequately explains how modern feathers evolved—they were scales that gradually modified to assist the gliding activities of tree-dwelling creatures.

Supporters of the basal archosaur hypothesis have **criticized** the ground-up theory of flight because it does not clarify why ground-dwelling dinosaurs would have originally evolved feathers, which are perfectly suited for flight and little else.

➡ Advocates of the theropod dinosaur theory have responded by suggesting that pre-bird dinosaurs initially evolved feathers for **insulation**. However, that explanation fails to prove why feathers evolved instead of

continued ➡

fur, which would have been a more effective insulator. Proponents of the basal archosaur theory remain unconvinced. Unfortunately, the lack of fossil evidence means that the true
 110 origin of birds is likely to remain a mystery for some time. For the time being, both the theropod dinosaur hypothesis and the basal archosaur hypothesis can be considered to have valid claims about the evolution of birds.

25. Directions: Complete the table by matching the phrases below.

Select the appropriate phrases from the answer choices and match them to the theory to which they relate. TWO of the answer choices will NOT be used. ***This question is worth 4 points.***

Drag your answer choices to the spaces where they belong. To remove an answer choice, click on it. To review the passage, click **View Text**.

Answer Choices

- (A) Suggests that birds descended directly from dinosaurs
- (B) Proposes that flight evolved as ancestors of birds ran and leaped into the air
- (C) Asserts that birds and dinosaurs evolved from an ancient reptile
- (D) Cites hands and feet with three digits as evidence
- (E) Contends that feathers evolved from scales that developed for flight
- (F) Describes the origin of flight as a necessity for bird-like creatures that lived in trees
- (G) Challenges the suggestion that archaeopteryx is a bird
- (H) Argues that the evolution of birds is not linked to reptiles
- (I) Suggests that the ancestors of birds once lived on the ground as feathered reptiles

Theropod Dinosaur Hypothesis

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Basal Archosaur Hypothesis

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26. Why does the author mention the Egyptian pyramids in paragraph 1?
- (A) To introduce a theory about why cities developed
 - (B) To give an example of one of the first permanent settlements
 - (C) To emphasize the antiquity of the earliest cities
 - (D) To illustrate the achievements of nomadic cultures

Paragraph 1 is marked with an arrow (➡).

27. The word **concentrated** in the passage is closest in meaning to
- (A) skilled
 - (B) centralized
 - (C) advanced
 - (D) controlled
28. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.
- (A) Since the innovation of agriculture and the development of cities took place around the same time, the former was assumed to have caused the latter.
 - (B) If it had not been for the development of agricultural practices, human populations would never have constructed permanent settlements.
 - (C) The historical time period during which cities first began to appear saw the introduction of many other human activities, such as the practice of agriculture.
 - (D) Historians believe that agricultural and social developments both had a major impact on nomadic societies.

A New Perspective on Early Cities

➡ Archaeologists have found evidence suggesting that 4,500 years before the Egyptian pyramids were built, people living in the Middle East were forming the first cities ever constructed. Uncovered in the region of modern-day Turkey, the remains of a site called Çatalhöyük demonstrate that cities are an ancient form of social organization. At its largest, this urban center may have been home to as many as 10,000 people. The idea of such a large **concentrated** population has intrigued many anthropologists and sparked debate over the reasons why some nomadic cultures eventually settled down and built cities. For many years, scholars had thought they understood why cities developed. However, new interpretations of Çatalhöyük's remains have cast doubt on their assumptions.

Previously, historians and archaeologists believed that the development of agriculture was the primary factor responsible for transforming nomadic populations into societies with permanent settlements because the two events were thought to have occurred in the same general time period. The introduction of agriculture, they say, would have revolutionized societies, bringing people together to live in larger communities based around productive farmlands—a change referred to as the “Neolithic Revolution.”

➡ The main support for this argument came from the archaeological theory that a major climate change preceded the development of agriculture. It was hypothesized that a

continued ➡

29. The word **cultivating** in the passage is closest in meaning to

- (A) sharing
- (B) inhabiting
- (C) preparing
- (D) redesigning

30. What can be inferred from paragraph 3 about ancient nomadic people?

- (A) They relied on people in cities for food.
- (B) They practiced agriculture during rainy times of the year.
- (C) They were vulnerable to changes in natural conditions.
- (D) They helped each other during times of need.

Paragraph 3 is marked with an arrow [➡].

31. Why does the author mention the types of wild plant remains found at Çatalhöyük in paragraph 4?

- (A) To identify the differences between the diets of settled and nomadic populations
- (B) To explain evidence showing that city inhabitants did not depend on domesticated food sources
- (C) To describe some of the features of the houses found at the archaeological site
- (D) To imply that wild food sources would not have provided enough nourishment for an entire city

Paragraph 4 is marked with an arrow [➡].

32. The word **catalyst** in the passage is closest in meaning to

- (A) feature
- (B) program
- (C) motivation
- (D) accomplishment

35 global climate change caused the land to become very dry, and the lack of rainfall forced people to settle down and begin practicing agriculture. **A** They moved closer together in order to help one another survive in an

40 inhospitable, barren environment, **cultivating** farmlands and building irrigation systems to support the plants they relied on for food. **B** This theory, however, has recently come into question, as geologists and botanists now

45 believe that the climate change actually caused the land to become wetter, thereby increasing natural fertility. **C** Without the support of the dry climate theory, the evidence suggesting that agriculture led nomadic cultures to build
50 permanent settlements is very thin. **D**

➡ In fact, analyses of Çatalhöyük have shown that the inhabitants of the city relied extensively on wild plants and animals for food. The geography surrounding Çatalhöyük
55 would have provided plenty of natural, edible plants for the city's population to gather. From organic remains found inside the city's houses, archaeologists have determined that people living in Çatalhöyük ate wild plants
60 such as tubers, hackberries, and acorns.

Because of these naturally occurring food sources, inhabitants of Çatalhöyük would not have needed to practice agriculture in order to survive. Most likely, Çatalhöyük retained the
65 foraging characteristics of a hunter-gatherer society. Thus, it demonstrates the improbability of agriculture being the main **catalyst** for the emergence of the first cities.

➡ Ian Hodder, the director of the Çatalhöyük
70 excavation project, has another theory about

continued ➡

33. According to paragraph 5, Ian Hodder's theory
- (A) focuses on mental rather than physical changes
 - (B) disproves the notion of a Neolithic Revolution
 - (C) deals mostly with environmental factors
 - (D) suggests that cities needed abundant sources of water

Paragraph 5 is marked with an arrow [➡].

34. Why does the author mention Middle Eastern and European sculptures in paragraph 6?
- (A) To explain that early cities were constructed for a variety of reasons
 - (B) To compare the art of nomadic societies to that found in Çatalhöyük
 - (C) To discuss the differences in the art of the two regions
 - (D) To illustrate that symbolic art was not unique to Çatalhöyük

Paragraph 6 is marked with an arrow [➡].

35. The word **Their** in the passage refers to
- (A) sculptures
 - (B) excavations
 - (C) settlements
 - (D) archaeologists

36. According to paragraph 6, artistic pieces found in Çatalhöyük provide evidence of
- (A) agricultural rituals
 - (B) a shared culture
 - (C) the city's existence
 - (D) a nomadic heritage

Paragraph 6 is marked with an arrow [➡].

why cities first began to develop. He agrees with the idea of a Neolithic Revolution that transformed nomadic societies into permanent settlements, but he suggests a very different cause. Hodder believes that, instead of resulting from practical environmental concerns like the land's suitability for crops or the availability of water, urban development was caused by a revolution in human thought and the social needs and interests that subsequently arose.

➡ Hodder's hypothesis takes into consideration the abundance of artistic work that has been discovered in the remains of Çatalhöyük. Murals, sculptures, and figurines found in the city appear to have functioned as ritual symbols that were an important part of Çatalhöyük culture. The introduction of this kind of symbolism in ancient cultures represents a major shift in human mentality. It indicates that people were beginning to interact with their world in different ways. In other parts of the Middle East and in Europe as well, similar sculptures of women and animals found during excavations of ancient cities show that symbolic art was a common theme in the very first permanent settlements. **Their** prevalence has led archaeologists to consider these artifacts in a new way—as the cause behind permanent settlements. Symbolic art can be considered evidence supporting the idea that people's emerging interest in artistic expression and spirituality may actually have been the main factor causing them to settle in larger communities, where they had better opportunities to share and develop these practices.

37. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

This would have facilitated the practice of a nomadic lifestyle, not inhibited it.

Where would the sentence best fit?

Click on a square [■] to add the sentence to the passage.

38. **Directions:** An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. ***This question is worth 2 points.***

In recent years, there has been a change in archaeologists' perspective on the formation of early cities.

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Answer Choices

- | | |
|--|--|
| (A) Wild plants such as tubers, hackberries, and acorns grew in abundance in close proximity to several of the first cities. | (B) The current belief that an ancient climate shift made the land more fertile contradicts the theory that a dependence on agriculture led to permanent settlements. |
| (C) An increase in the land's fertility led to innovations in agriculture, which encouraged societies to create permanent settlements. | (D) The discovery of remains of wild plants at Çatalhöyük supports the idea that early cities were not formed as a result of agriculture. |
| (E) Residents of Çatalhöyük, though not dependent on one another for food, seem to have shared certain artistic and spiritual interests. | (F) Current interpretations of artwork found in early cities have led some archaeologists to believe that permanent settlements resulted from a change in people's ways of thinking. |

Drag your answer choices to the spaces where they belong. To remove an answer choice, click on it. To review the passage, click **View Text**.

Actual Test

06

iBT TOEFL Reading

Section Directions

This section measures your ability to understand academic passages in English.

The Reading section is divided into 2 separately timed parts.

Most questions are worth 1 point but the last question in each set is worth more than 1 point. The directions indicate how many points you may receive.

Some passages include a word or phrase that is underlined in blue. Click on the word or phrase to see a definition or an explanation.

Within each part, you can go to the next question by clicking **Next**. You may skip questions and go back to them later. If you want to return to previous questions, click on **Back**. You can click on **Review** at any time and the review screen will show you which questions you have answered and which you have not answered. From this review screen, you may go directly to any question you have already seen in the Reading section.

You may now begin the Reading section. In this part you will read 1 passage. You will have 20 minutes to read the passage and answer the questions.

Click on **Continue** to go on.

1. The word **domain** in the passage is closest in meaning to
 (A) opinion
 (B) field
 (C) challenge
 (D) history
2. In paragraph 1, the author states that Herman and Prigogine
 (A) overcame the problem of urban traffic congestion
 (B) became noted city planners in the 1960s
 (C) reported that traffic problems could be improved
 (D) used physics to devise the notion of traffic flow
3. The phrase **akin to** in the passage is closest in meaning to
 (A) manageable as
 (B) similar to
 (C) responsible for
 (D) sensitive to
4. In paragraph 2, why does the author give details about **the properties of a gas**?
 (A) To explain why certain types of traffic problems are more dangerous than others
 (B) To describe why different drivers have different desired velocities
 (C) To describe the features of free-flow traffic
 (D) To suggest that it is possible to predict traffic conditions

Paragraph 1 is marked with an arrow [➡].

Paragraph 2 is marked with an arrow [➡].

The Physics of Traffic

➡ Understanding the principles of traffic flow is essential to overcoming the traffic problems experienced by many cities. The study of traffic falls into the **domain** of physicists. Discovering that traffic can be described by the natural laws of physics, physicists have contributed to the contemporary understanding of traffic, helping city planners predict and model highway congestion. In the 1960s, two renowned physicists, Robert Herman and Ilya Prigogine, began to examine traffic patterns through the lens of physics, conceptualizing traffic as the same kind of collective flow that appears in nature.

➡ Traffic flow is “free” when cars are far enough apart to permit drivers to travel at their desired velocities—velocities that vary greatly between vehicles. This low traffic density is quite essential for accommodating diverse velocities because it allows cars to operate independently of one another. At this free-flow stage, the characteristics of traffic flow are **akin to the properties of a gas**: exhibiting fluidic behavior, having a relatively low density, and containing particles that move randomly.

As traffic density increases, vehicles become increasingly constrained by each other, and drivers must regulate their velocities in order to safely navigate around other vehicles. As a result, the flow of traffic is no longer free. Because most cars are traveling at nearly the same average speed, this type of traffic flow is called “synchronized” flow.

continued ➡

5. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.

- (A) In a traffic jam, many cars are affected because waves of deceleration travel through traffic relatively quickly.
- (B) Small traffic jams result when waves of deceleration, exaggerated as they extend from the initial source, affect distant vehicles.
- (C) When one car decreases its velocity, other cars generally begin to form small traffic jams near the source of deceleration.
- (D) The flow of traffic is disrupted by cars, often quite distant from one another, that suddenly change their velocities and decelerate rapidly.

6. The word **overt** in the passage is closest in meaning to

- (A) unrestricted
- (B) obvious
- (C) upright
- (D) academic

7. Based on the information in paragraph 5 and paragraph 6, what can be inferred about spontaneous traffic jams?

- (A) Traffic planners do not have solutions for them.
- (B) They alter the physical layout of a highway system.
- (C) Drivers can prevent them by exercising caution.
- (D) They are caused by the same events as other traffic jams.

Paragraph 5 and paragraph 6 are marked with arrows (➡).

35 Whereas free-flow traffic is comparable to a gas, synchronized-flow traffic is analogous to a liquid.

Due to the interdependent nature of synchronized flow, changes in velocity have far-reaching effects. For example, if one car decelerates, others are forced to respond by changing their velocities. Decreases in velocity amplify as they reverberate through the flow of traffic, and, as these waves of deceleration pass through traffic, vehicles that are quite distant from the source are affected by the initial drop in speed—this is a small traffic jam. Among vehicles in synchronized flow, many small traffic jams occur, sometimes leading to major traffic jams where the flow of traffic stops—solid-state traffic.

➡ **A** At times, traffic jams result from apparent sources. **B** Traffic planners can develop solutions to counteract these causes of traffic jams and have the ability to predict how changes in the geography of a highway will impact the flow of traffic. **C**

➡ However, most of the time the causes of traffic congestion are more elusive, stemming from no apparent source approximately 75 percent of the time. **D** These spontaneous traffic jams, which lack an overt cause, can be particularly frustrating. Research on traffic patterns has shown that in synchronized traffic flow, extremely minimal fluctuations in velocity can lead to spontaneous traffic jams. For example, if someone briefly decelerates while scanning the radio for a weather report, the vehicles behind that car are forced to slow down as well. Based on this principle, one

continued ➡

8. Why does the author discuss **adaptive cruise control** in paragraph 7?

- (A) To present a common theory about the cause of spontaneous traffic jams
- (B) To explain how physicists have contributed to research on traffic flow
- (C) To present a potential method of dealing with traffic problems
- (D) To give evidence about the severity of traffic problems in some cities

Paragraph 7 is marked with an arrow [➡].

9. The word **them** in the passage refers to

- (A) human drivers
- (B) reaction times
- (C) three-quarters of a second
- (D) vehicles

10. The word **dull** in the passage is closest in meaning to

- (A) lessen
- (B) improve
- (C) switch
- (D) endure

11. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

Such causes might include car accidents, construction sites, and lane mergers.

Where would the sentence best fit?

Click on a square [■] to add the sentence to the passage.

erratic car in a flow of synchronized traffic can spontaneously cause heavy traffic congestion that may last for hours after the original incident.

75 ➡ One physicist working on the problem of overloaded highway systems and traffic congestion may have a solution. According to L. Craig Davis, the use of a new kind of cruise-control technology (**adaptive cruise**
80 **control**, or ACC) could considerably reduce, if not eliminate, spontaneous traffic congestion. Human drivers are limited by their reaction times, requiring approximately three-quarters of a second to react when vehicles in front of
85 **them** brake. Because ACC has a much faster reaction time than a human driver, the space between cars can be reduced, a change that would enable highways to support four times more traffic. This increased highway capacity
90 would reduce congestion by expanding the daily volume of traffic that could safely travel through busy arteries. ACC would also **dull** the repercussions of spontaneous speed fluctuations by precisely adjusting to changes
95 in velocities of other vehicles to minimize unnecessary deceleration. Humans have the tendency to overreact when braking in heavy traffic. According to Davis's research, even if only 20 percent of vehicles were driven by
100 ACC, traffic jams would be eliminated.

- 12. Directions:** An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. ***This question is worth 2 points.***

With the principles of physics, it has been possible to analyze traffic patterns, evaluate problems, and propose solutions.

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Answer Choices

- | | |
|---|---|
| (A) In the 1960s, concepts from physics were applied to traffic problems and were used successfully to determine the causes of normal highway congestion. | (B) Traffic patterns can be compared with the behavior of matter in gaseous, liquid, and solid states. |
| (C) Traffic density causes increased traffic congestion in certain areas, particularly when a disruptive event affects the flow of traffic. | (D) Research on traffic patterns has suggested that a single vehicle can be responsible for the phenomenon of spontaneous traffic jams. |
| (E) Research by physicists demonstrates that drivers are far too easily distracted by external influences. | (F) It may be possible to reduce traffic problems by using new cruise-control technology that both decreases vehicles' reaction times and increases highway capacity. |

Drag your answer choices to the spaces where they belong. To remove an answer choice, click on it. To review the passage, click **View Text**.

13. The word **amaze** in the passage is closest in meaning to

- (A) signal
- (B) ease
- (C) attract
- (D) impress

14. Why does the author mention today's blockbuster films in paragraph 1?

- (A) To describe modern special effect techniques
- (B) To make a historical topic seem more relevant
- (C) To emphasize the poor quality of early films
- (D) To identify the work of Georges Méliès's

Paragraph 1 is marked with an arrow [➡].

15. The word **rudimentary** in the passage is closest in meaning to

- (A) basic
- (B) unknown
- (C) acknowledged
- (D) serious

16. According to paragraph 2, what took place at the Theatre Robert-Houdin?

- (A) The shooting and editing of Méliès's films
- (B) A screening of the first motion picture
- (C) The performances of magic shows
- (D) A gathering of renowned filmmakers

Paragraph 2 is marked with an arrow [➡].

17. It can be inferred from paragraph 3 that the earliest films

- (A) did not tell fictional stories
- (B) were created by city officials
- (C) did not attract large audiences
- (D) were screened along with plays

Paragraph 3 is marked with an arrow [➡].

Georges Méliès

➡ Blockbuster films of today often make use of stunning special effects and camera tricks to enhance the narrative as well as **amaze** the audience. While some of the techniques used to develop these effects may require the latest technologies, the idea of creating illusions with the movie camera is as old as the medium itself. The French filmmaker Georges Méliès pioneered many such visual tricks over 100 years ago. Though certainly **rudimentary** by modern standards, his work influenced generations of later filmmakers and continues to be recognized today.

➡ Born in 1861, Méliès displayed a deep interest in theatrical performance, especially magic and illusion acts, during his early years. This led him in 1888 to purchase the Theatre Robert-Houdin in Paris, where he put on a variety of such shows. Then, in 1895, he was invited to attend one of the first-ever motion picture screenings. Méliès was captivated by this new medium, as the rest of the world soon would be. From 1896 to 1912, he focused all his resources on filmmaking, creating a total of over 500 films of varying lengths, formats, and subjects.

➡ Méliès's first works were short and simple. They consisted of a single camera shot that lasted for little more than a minute. In these early days of film, the motion picture camera was viewed more as a tool to document real-life scenes and events than a creative instrument. In early 1896, Méliès, like other filmmakers, used the camera to

continued ➡

18. The word **fortunate** in the passage is closest in meaning to

- (A) sudden
- (B) major
- (C) lucky
- (D) terrible

19. According to paragraph 4, what led to Méliès's creation of stop-action filming?

- (A) A newly introduced camera model
- (B) A traffic incident in Paris
- (C) An experiment he conducted
- (D) An equipment malfunction

Paragraph 4 is marked with an arrow (➡).

20. The word **it** in the passage refers to

- (A) camera
- (B) vehicle
- (C) street
- (D) result

21. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.

- (A) After discovering the transformation illusion, he decided to try using it while recording the movement of carriages and people.
- (B) He saw that his film was worthless because he had stopped the camera at the wrong point.
- (C) There was an interesting visual effect on his film that had been created by the carriages and people.
- (D) He observed that the filmed objects seemed to change locations or shapes because of the time absent from the recording.

35 capture images of city life and dramatic stage performances like plays and magic acts.

Later that year, however, a **fortunate** accident changed everything.

➡ Filming devices of the time were still

40 brand-new and malfunctioned often, and

one day Méliès's camera jammed while he was filming the pedestrian and vehicle traffic of a busy Parisian street. After spending a minute to fix it, he continued filming. **When**

45 he later viewed the final result, he saw that, at the point on the film where he had stopped and then resumed recording, the images of carriages and people suddenly disappeared or changed into other images, creating the

50 illusion of magical transformations. The camera had taken two separate moments in time and joined them into one continuous progression. This became known as the stop-action technique—the very first special effect
55 —and it marked the beginning of a period during which Georges Méliès introduced innovation after innovation to the world of film.

➡ **A** In addition to his discovery of stop-

60 action filming, he created an entire range

of what are known as "in-camera" special effects—alterations made directly to the film or recording equipment that produce various optical illusions. **B** For example, his 1898 film

65 *La Caverne Maudite* contained the first double-exposure shot, where one image appears on top of or within another. **C** The first use of a split screen, which allows a single actor to appear in multiple places at the same time,

70 came in *Un Homme de Tête* the same year. **D**

continued ➡

22. According to paragraph 5, Georges Méliès is credited with all of the following innovations EXCEPT

- (A) the use of split-screen filming
- (B) an improved motion picture camera
- (C) the use of a double-exposure shot
- (D) a method for fading one scene into the next

Paragraph 5 is marked with an arrow [➡].

23. The word **symbolize** in the passage is closest in meaning to

- (A) solve
- (B) overcome
- (C) study
- (D) represent

24. What can be inferred from paragraph 7 about the film industry in 1912?

- (A) Filmmakers were not able to make a lot of money.
- (B) Blockbuster films began to be produced.
- (C) Fantasy films were no longer popular among the public.
- (D) Artists were utilizing new filming techniques.

Paragraph 7 is marked with an arrow [➡].

25. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

With his interest in magic, it is no surprise that Méliès enthusiastically pursued the potentials for illusion that the motion picture camera offered.

Where would the sentence best fit?

Click on a square [■] to add the sentence to the passage.

And Méliès's 1899 *Cendrillon* included the first "dissolve," an effect which allows one scene to fade into the next.

Around the turn of the century, Méliès and his company Star Films were quite successful, releasing dozens of productions a year. Méliès became well known for his fantasy, horror, and science fiction films. The devil was a frequent character in his works, usually played by Méliès himself, and he commonly created the illusions of severed body parts, disappearing and reappearing people, and space travel. His most memorable achievement, *Le Voyage dans la Lune* (A Trip to the Moon), was made in 1902. Images from this film are still used by historians to **symbolize** the accomplishments of the early moviemakers.

➡ As the first decade of the twentieth century went on, the evolution of the film industry continued at an ever-faster pace. Méliès, however, was reluctant to change his methods. By 1912, the public had begun to think of his work as outdated, and as a result of tough competition and some poor financial decisions, his cinematic career came to an end. He has certainly not been forgotten, though. Considered by many to be the "Father of Fantasy Films," Georges Méliès's influence can still be seen today in the special effects of the most popular blockbusters.

- 26. Directions:** An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the **THREE** answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. ***This question is worth 2 points.***

Applying his interest in magic tricks to his films, Georges Méliès created the first special effects and revolutionized the early film industry.

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Answer Choices

- | | |
|---|---|
| (A) Méliès first became interested in the potential of special effects in films when he attended one of the earliest movie screenings. | (B) Stop-action filming, the first special effect used in movies, was invented by Méliès virtually by accident. |
| (C) During the late 1800s and early 1900s, Méliès introduced numerous special effects and illusions in his films of varying genres. | (D) Méliès did not only create the stories and special effects of his films—he acted in them as well. |
| (E) Most of the special effects Méliès invented first appeared in films he made after the turn of the century, like <i>Le Voyage dans la Lune</i> . | (F) Though audiences in the early twentieth century found Méliès's work to be out-of-date, he is widely remembered today for his pioneering use of special effects. |

Drag your answer choices to the spaces where they belong. To remove an answer choice, click on it. To review the passage, click **View Text**.

27. The word **intricate** in the passage is closest in meaning to

- (A) unusual
- (B) complex
- (C) broad
- (D) powerful

28. The author mentions breathing, sleeping, and philosophizing in paragraph 1 to

- (A) list some activities that occur without conscious awareness
- (B) show how different tasks are carried out by different areas of the brain
- (C) explain what is understood about perception and personality
- (D) demonstrate the wide variety of actions governed by the brain

Paragraph 1 is marked with an arrow [➡].

29. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? *Incorrect* choices change the meaning in important ways or leave out essential information.

- (A) The longitudinal fissure runs between the right and left hemispheres in the cerebral cortex, which is what gives it its nearly symmetrical appearance.
- (B) The corpus callosum is a dense cluster of nerves that is situated between the two otherwise separate hemispheres in the cerebral cortex.
- (C) The separation of the right and left hemispheres and the corpus callosum are the two most visible structural features of the cerebral cortex.
- (D) The cerebral cortex is composed of two equally shaped hemispheres that are completely divided by the longitudinal fissure except at the corpus callosum.

The Brain's Two Hemispheres

➡ The brain is probably the most important organ in the human body. It oversees every physical and mental activity, some of which we are aware of but many of which we are not,

from breathing to sleeping to philosophizing.

The structure of the brain is so **intricate** that scientists have only barely begun to understand it, and much remains unknown.

But what has been learned has altered our ideas about perception and personality.

➡ Most of our higher cognitive capabilities originate in the cerebral cortex, the largest part of the brain. **A** This area is divided into four principal regions called lobes, and each lobe

is responsible for different sensory processing tasks. **B** However, the most obvious division within the cerebral cortex is that of the left and right hemispheres, which appear as two symmetrical halves, separated by a central rift

called the longitudinal fissure and connected only by a small bundle of nerves known as the corpus callosum. **C** Despite their similar appearance, the functions performed by the two hemispheres are sometimes quite

different. **D**

➡ First of all, each hemisphere is responsible for controlling only one side of the body. Interestingly, though, the right hemisphere deals with the left, not the right side, and vice versa. Therefore, information received by the right eye is processed by the left hemisphere. And, if the right hemisphere were to suffer damage, as in a stroke, the left side of the body would be at risk for paralysis

continued ➡

30. What is true about the structure of the brain according to paragraph 2?
- (A) It contains components in addition to the cerebral cortex.
 - (B) The cerebral cortex is located next to the left hemisphere.
 - (C) It includes more hemispheres than it does lobes.
 - (D) All of the lobes are approximately the same size.

Paragraph 2 is marked with an arrow [➡].

31. What can be inferred about motor functions from paragraph 3?
- (A) Movement of the left foot is guided by the right hemisphere.
 - (B) Control over eye movement would not be affected by a stroke.
 - (C) Paralysis would not result from damage to the left hemisphere.
 - (D) Movement of the right foot is guided by both hemispheres.

Paragraph 3 is marked with an arrow [➡].

32. The word **localized** in the passage is closest in meaning to
- (A) provided
 - (B) displayed
 - (C) produced
 - (D) gathered

33. The word **quell** in the passage is closest in meaning to
- (A) stop
 - (B) send
 - (C) save
 - (D) study

35 or other negative effects.

But the brain governs much more than simple motor operations and the interpretation of stimuli. It determines our very personalities and ways of thinking, and each hemisphere contributes a different set of attributes. The left is concerned with analytical details and operates on logic. Most of our language and other communicative functions are centered there. The left hemisphere is the practical, organized half of the brain, engendering skills in highly logical fields such as science and mathematics. Memories stored there are primarily in the form of spoken words. The right hemisphere, on the other hand, views situations holistically, generating conceptual, as opposed to language-based, fact-oriented, understanding. Our emotions, musical appreciation, and artistic and creative impulses are **localized** there. Right hemispheric memories are generally made up of visual and auditory information about the environments with which we have interacted.

➡ Many of these revolutionary conclusions were made possible by the work of researcher Robert Sperry, who conducted the "split-brain" experiments in the 1960s. One such experiment involved a patient whose corpus callosum had been cut previously in order to **quell** epileptic seizures. The patient behaved normally after the surgical procedure, except when subjected to experiences in which only one hemisphere was allowed to receive sensory input. For instance, the patient was given an object such as a pencil to hold and look at with the right hand and eye, stimulating

continued ➡

34. In paragraph 5, why does the author give details about the method used to treat the patient's medical problem?
- (A) To demonstrate the dangers involved in scientific research
 - (B) To explain the patient's eligibility for Sperry's experiment
 - (C) To emphasize the seriousness of the patient's condition
 - (D) To illustrate the benefits gained from Sperry's experiment

Paragraph 5 is marked with an arrow [➡].

35. The word **Astoundingly** in the passage is closest in meaning to
- (A) Surprisingly
 - (B) Unfortunately
 - (C) Apparently
 - (D) Obviously

36. The word **it** in the passage refers to
- (A) name
 - (B) pencil
 - (C) object
 - (D) hemisphere

37. According to paragraph 6, when using only the right hemisphere, the patient in Sperry's experiment could not
- (A) hold the pencil
 - (B) describe the pencil's features
 - (C) think of what the pencil was called
 - (D) remember how to use the pencil

Paragraph 6 is marked with an arrow [➡].

38. According to paragraph 7, the two hemispheres of the brain usually
- (A) carry out the exact same functions
 - (B) determine which hand people prefer
 - (C) work in collaboration with one another
 - (D) are used equally by most people

Paragraph 7 is marked with an arrow [➡].

solely the left hemisphere. **Astoundingly**, the patient could provide the correct name for the object, but was unable to demonstrate how to use it.

- 75 ➡ Next, when the isolated right hemisphere was exposed to the stimuli of the pencil, the opposite occurred. The patient knew how to use the object, but could not supply its name. While it was the left hemisphere's focus on
- 80 facts that allowed the patient to summon the term "pencil," only the right hemisphere could enable the patient to recall the pencil's meaning. Sperry's experiment displayed that, with their link severed, each hemisphere
- 85 functioned independently, performing only those tasks it was capable of by itself.

➡ Conversely, in people whose brains function normally, the hemispheres communicate with each other, combining their

90 specializations instead of implementing them separately. Thus, despite their differences, both halves share a large number of functions. It is tempting to view the left and right hemispheres as completely opposite

95 entities with no overlap, but this is not so. For example, scientists once assumed that left-handed people possessed a more dominant right hemisphere, and vice versa. Recently, this has been proven incorrect; preference

100 for one hand or the other is not mirrored by a preference for the corresponding hemisphere. In addition to discouraging the oversimplification of the differences between the two hemispheres, this discovery

105 emphasizes how much we still have to learn about the human brain.

39. Look at the four squares [■] that indicate where the following sentence could be added to the passage.

For example, the occipital lobe receives the input of visual stimuli taken in by our eyes and changes it into meaningful images.

Where would the sentence best fit?

Click on a square [■] to add the sentence to the passage.

40. **Directions:** Complete the table by matching the phrases below.

Select the appropriate phrases from the answer choices and match them to the hemisphere of the brain to which they relate. TWO of the answer choices will NOT be used. ***This question is worth 3 points.***

Drag your answer choices to the spaces where they belong. To remove an answer choice, click on it. To review the passage, click **View Text**.

Answer Choices

- (A) Can impair the ability to make sense of language if damaged
- (B) Acts as the dominant hemisphere in people who are left-handed
- (C) Controls all body movement on the left side of the body
- (D) Helps us remember specific facts and details
- (E) Develops memories comprising mostly verbal communication
- (F) Contributes to our understanding of the larger meaning of situations
- (G) Is sometimes removed in patients suffering from seizures

Left Hemisphere

-
-
-

Right Hemisphere

-
-

Actual Test 01

1. (C) 2. (B) 3. (C) 4. (A) 5. (D) 6. (A) 7. (B) 8. (B) 9. (C) 10. (A) 11. (A) 12. (C) 13. **A** 14. (B), (D), (F) 15. (D) 16. (A) 17. (B) 18. (B) 19. (C) 20. (B) 21. (D) 22. (A) 23. (C) 24. (B) 25. (A) 26. **D** 27. (B), (C), (F) 28. (B) 29. (A) 30. (A) 31. (B) 32. (A) 33. (D) 34. (A) 35. (A) 36. (B) 37. (B) 38. (C) 39. **C** 40. Oil: (F), (H) / Coal: (A), (B), (D) / Natural Gas: (C), (E)

Actual Test 02

1. (B) 2. (C) 3. (C) 4. (A) 5. (A) 6. (A) 7. (B) 8. (D) 9. (C) 10. (D) 11. **C** 12. Black-figure Style: (B), (H), (I) / Red-figure Style: (A), (C), (E), (F) 13. (B) 14. (A) 15. (D) 16. (D) 17. (B) 18. (B) 19. (A) 20. (C) 21. (D) 22. (D) 23. (B) 24. **A** 25. (B), (C), (F) 26. (D) 27. (D) 28. (B) 29. (A) 30. (C) 31. (C) 32. (D) 33. (C) 34. (B) 35. (A) 36. (C) 37. **B** 38. (A), (B), (F)

Actual Test 03

1. (A) 2. (D) 3. (A) 4. (D) 5. (B) 6. (C) 7. (A) 8. (A) 9. (C) 10. (A) 11. (A) 12. (C) 13. **A** 14. (C), (E), (F) 15. (B) 16. (D) 17. (C) 18. (C) 19. (D) 20. (D) 21. (A) 22. (A) 23. (C) 24. (B) 25. (A) 26. (B) 27. **A** 28. Igneous Rocks: (E), (H) / Sedimentary Rocks: (A), (D), (G) / Metamorphic Rocks: (B), (F) 29. (C) 30. (A) 31. (C) 32. (B) 33. (C) 34. (C) 35. (A) 36. (B) 37. (A) 38. (A) 39. (A) 40. (A) 41. **B** 42. (A), (B), (F)

Actual Test 04

1. (B) 2. (A) 3. (D) 4. (B) 5. (A) 6. (B) 7. (D) 8. (B) 9. (B) 10. (B) 11. (D) 12. **A** 13. (B), (D), (E) 14. (C) 15. (D) 16. (C) 17. (A) 18. (D) 19. (B) 20. (C) 21. (B) 22. (A) 23. (A) 24. (C) 25. (A) 26. **D** 27. (A), (C), (E) 28. (A) 29. (C) 30. (B) 31. (C) 32. (C) 33. (C) 34. (A) 35. (C) 36. (C) 37. (B) 38. (D) 39. **B** 40. Major Ampullate Silk: (A), (C), (F) / Minor Ampullate Silk: (E), (G) / Both: (D), (I)

Actual Test 05

1. (A) 2. (C) 3. (A) 4. (A) 5. (B) 6. (A) 7. (D) 8. (B) 9. (A) 10. (B) 11. **A** 12. (B), (D), (E) 13. (C) 14. (B) 15. (C) 16. (A) 17. (D) 18. (B) 19. (B) 20. (A) 21. (B) 22. (C) 23. (B) 24. **C** 25. Theropod Dinosaur Hypothesis: (A), (B), (D), (I) / Basal Archosaur Hypothesis: (C), (E), (F) 26. (C) 27. (B) 28. (A) 29. (C) 30. (C) 31. (B) 32. (C) 33. (A) 34. (D) 35. (A) 36. (B) 37. **C** 38. (B), (D), (F)

Actual Test 06

1. (B) 2. (D) 3. (B) 4. (C) 5. (B) 6. (B) 7. (A) 8. (C) 9. (A) 10. (A) 11. **B** 12. (B), (D), (F) 13. (D) 14. (B) 15. (A) 16. (C) 17. (A) 18. (C) 19. (D) 20. (A) 21. (D) 22. (B) 23. (D) 24. (D) 25. **A** 26. (B), (C), (F) 27. (B) 28. (D) 29. (D) 30. (A) 31. (A) 32. (D) 33. (A) 34. (B) 35. (A) 36. (C) 37. (C) 38. (C) 39. **B** 40. Left Hemisphere: (A), (D), (E) / Right Hemisphere: (C), (F)

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