

## **Passage 01 - Determining the Ages of the Planets and the Universe**

【Paragraph 3】[A] Some meteorites consist of rocky material and, accordingly, are called stony meteorites. [B] Others are metallic and have been designated iron meteorites even though they contain lesser amounts of elements other than iron. [C] Still others consist of mixtures of rocky and metallic material and thus are called stony-iron meteorites. [D] Meteors come in all sizes, from small particles to the small planets known as asteroids; no asteroid, however, has struck Earth during recorded human history. Many meteorites appear to be fragments of larger bodies that have undergone collisions and broken into pieces. Iron meteorites are fragments of the interiors of these bodies, comparable to Earth's core, and stony meteorites are from outer portions of these bodies, comparable to Earth's mantle (the layer between the core and outer crust).

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

Several varieties of meteorites have been observed.

Where would the sentence best fit?

10. [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 answer choices 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.

There is strong evidence that all the planets of our solar system were formed from the same disk of matter at the same time.

### **Answer Choices**

- A. Determining the age of the planets by examining rocks on Earth is difficult because Earth's crust is constantly changing.
- B. Meteorites found on Earth and rocks from the Moon's surface are the best evidence for estimating the age of the planets.
- C. The expansion of the universe makes it possible to estimate its age by measuring the amount of the redshift of light coming from distant galaxies.
- D. All three kinds of meteorites are similar in composition to Earth in that they have

an inner core, a rocky mantle, and an outer crust.

E. Radiometric dating of meteorites recovered from the Moon shows that they are older than those that are found on Earth.

F. The redshift phenomenon measures the rate at which the stars in a galaxy are moving away from each other.

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## Passage 02 - Alaska and Bark Beetles

【Paragraph 4】[A] Ecosystem changes always hurt some living creatures and help others. It's hard to say, therefore, whether a change is good or bad overall. [B] Instead, ecologists (people who study ecosystems) often focus on the impacts on a single species: for instance, us. [C] In the short term, the Alaskan spruce beetle epidemic supplied a lot of people with firewood, but only by destroying tons of otherwise valuable timber and threatening the livelihoods of loggers. [D] And no one knows for sure what the long-term impacts on the forest will be. Ecosystems tend to return to their previous states after disturbances like pest outbreaks, fires, or major storm events, but if the Alaskan spruce ecosystem is disturbed too often or too much, it might shift to a different type of forest, a woodland, or a grassland instead.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

But even from this limited perspective, the answer is not completely straightforward.

Where would the sentence best fit?

10. [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.

Over the twentieth century, global temperatures increased by an average of about 0.7 degrees Celsius.

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### Answer Choices

- A. Some changes in ecosystems have been massive, like the explosion of bark beetles in Alaska, while others have been subtle.
- B. The spruce bark beetle epidemic in Alaska shows that the effects of climate

change can ripple throughout an ecosystem and affect virtually every population of living organisms.

- C. The spruce bark beetle population exploded when a multi-year drought reduced the number of trees available for the beetles to attack.
- D. Ecosystem changes hurt some living creatures and help others, so ecologists often focus on the impacts on a single species, such as humans.
- E. If an ecosystem is disturbed too often or too much, it might collapse and become an area with very little life, like a dead zone in the ocean.
- F. The spruce bark beetle epidemic in Alaska had negative effects on animals like hawks and owls but positive effects on animals like moose and elk.

## Passage 03 - Milankovitch Cycles and Glaciation

【Paragraph 5】A problem with Milankovitch's explanation of glaciation arises from the fact that the variations in Earth's orbit, and hence the Milankovitch cycles, have existed for billions of years. [A] Thus we might expect that glaciation would have been a cyclic event throughout geologic time. In fact, periods of glaciation are rare. [B] So there must be another factor acting together with the Milankovitch cycles that causes periods of glaciation. [C] Once this additional factor makes the temperature low enough, the cyclic variations of the Milankovitch cycles will force the planet into and out of glacial epochs with a fixed regularity. [D]

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

This factor must precede an ice age and have the effect of slightly lowering Earth's temperature.

Where would the sentence best fit?

10. [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 answer choices 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 the 1920s and 1930s, Milutin Milankovitch worked out an account of the cause of Earth's glaciations.

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### Answer Choices

- A. Milankovitch argued that glaciations would result when three cycles that affect

- characteristics of Earth's orbit combined in a certain way.
- B. Milankovitch's predictions have been shown to be in agreement with periods of glaciation over the past 65 million years.
- C. Since ice ages are much less frequent than Milankovitch's explanation predicts, some factor, such as low levels of atmospheric carbon dioxide, must also be involved in triggering glaciation.
- D. Milankovitch showed that changes in Earth's orbit periodically lengthen cold seasons and shorten warm ones so that glaciers build up.
- E. Other explanations, such as variations in the Sun's energy output and volcanic dust, have been ruled out as primary causes of ice ages.
- F. Studies of gas bubbles preserved in the Greenland ice cap strongly suggest that Milankovitch cycles may also influence atmospheric carbon dioxide levels.
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## Passage 04 - Japan's Climate

【Paragraph 4】This yearly cycle has played a key role in shaping Japanese civilization. [A] It has assured the islands ample precipitation, ranging irregularly from more than 200 centimeters annually in parts of the southwest to about 100 in the northeast and averaging 180 for the country as a whole. [B] The moisture enables the islands to support uncommonly lush forest cover, but the combination of precipitous slopes and heavy rainfall also gives the islands one of the world's highest rates of natural erosion, intensified by both human activity and the natural shocks of earthquakes and volcanism. [C] These factors have given Japan its wealth of sedimentary basins, but they have also made mountainsides extremely susceptible to erosion and landslides and hence generally unsuitable for agricultural manipulation. The island chain's mountainous backbone and great length from north to south produce climatic diversity that has contributed to regional differences. [D]

9. Look at the four squares [A], [B], [C], [D] that indicates where the following sentence could be added to the passage.

Such a large amount of rainfall has both positive and negative effects on the environment of Japanese islands.

Where would the sentence best fit?

10. [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 answer choices 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.

Japan's yearly weather cycled influences settlement patterns and agriculture across the islands.

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#### Answer choices

- A. The yamase effects has a great impact on rice growth in northern Japan but does not affect cultivation in southern Japan, where precipitation comes in the forms of rain rather than snow.
  - B. Agriculture practices that stabilize sediments have reduced erosion and landscape allowed the growth of lush forests in Japan.
  - C. Climate changes during the last two millennia have caused the Japanese to move their settlements towards the northeast, where the climate is more favorable to agriculture.
  - D. Japan's yearly weather cycle makes farming possible only in the summer, as the effects of the Siberia air mass result in winters that are too cold and snowy for agriculture.
  - E. Cold westerly winds from Siberia and cyclonic airflows from the Pacific Ocean provide ample rainfall for farming but contribute to high rates of erosion.
  - F. Settlements are most concentrated along the Pacific seaboard to the south where climate and topography are more suitable for crop cultivation than along the Sea of Japan.
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## Passage 05 - Saving Soil and Cropland

【Paragraph 3】[D] One of the time- tested methods of dealing with water erosion is terracing - creating hill- side ridges - to reduce runoff. [B] Another newer, highly effective tool in the soil conservation tool kit is conservation tillage, which includes both no tillage and minimum tillage. [C] In conventional farming, land is plowed, disked, or harrowed to prepare the seeded, seed is drilled into the soil with a planter, and row crops are cultivated with a mechanical cultivator two or three times to control weeds. [D] With minimum tillage, farmers simply drill seeds directly into the soil. The only tillage is a one- time disturbance in a narrow band of soil where the seeds are inserted, leaving the remainder of the soil undisturbed, covered by crop residues and thus resistant to both water and wind erosion.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

These methods differ from traditional farming practices.

Where would the sentence best fit?

10. 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.

Agricultural output all over the world is being reduced due to soil erosion and an increased use of cropland for nonfarming purposes.

Answer Choices

- A. Terracing, probably one of the oldest methods for controlling soil erosion, led to the creation of the more sophisticated and more efficient conservation practices used in contemporary farming.
  - B. The United States has successfully instituted programs that encourage conservation tillage and the retirement of highly erodible land.
  - C. City governments in the United States and Japan developed conservation programs that encourage farmers near big cities to cultivate crops that minimize soil erosion.
  - D. After the 1930s Dust Bowl, the United States made significant changes to its agricultural practices, including the planting of tree shelterbelts and strip cropping.
  - E. The conservation Reserve Program created in the United States in 1985 is gradually being adopted in other areas at the world such as Europe, Africa, and Asia.
  - F. Saving cropland is sometimes difficult because it involves dealing with commercial forces, but some efforts like those in Tokyo and Oregon have been successful.
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## Passage 06 - Continental Drift

【Paragraph 5】Alexander Du Toit, a South African geologist was one of Wegener's ardent supporters. [A] He noted that fossils of the Permian freshwater reptile "Mesosaurus" occur in rocks of the same age in both Brazil and South Africa. [B] Because the physiology of freshwater and marine animals is completely different, it is hard to imagine how a freshwater reptile could have swum across the Atlantic Ocean and then found a freshwater environment nearly identical to its former habitat. [C] Furthermore, if Mesosaurus could have swum across the ocean, its fossil remains should occur in other localities besides Brazil and South Africa. [D] It is more logical to assume that Mesosaurus lived in lakes in what are now adjacent areas of South America and Africa but were then united in a single continent.

9. Look at the four squares [A], [B], [C], [D] that indicates where the following sentence could be added to the passage.

In addition to supplying new geological evidence for continental drift, he crafted convincing arguments based on ancient life forms.

Where would the sentence best fit?

10. [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.

Several theories involving the movement of continents were proposed in the nineteenth and early twentieth centuries.

Answer Choices

- A. Early maps showing the coastlines of South America and Africa inspired Eduard Suess to search for fossil evidence that today's southern continents had once been joined in a single landmass.
- B. To Eduard Suess, continental drift accounted for the presence of the same types of fossils on different continents that had at times been connected by land bridges.
- C. Du Toit's study of the freshwater reptile Mesosaurus added to the already considerable body of evidence that Alfred Wegener had gathered in support of the idea of continental drift.
- D. Frank Taylor expanded on Eduard Suess's theory of continental drift by arguing that tidal forces 100 million years ago had broken continents apart and caused the rise of the Mid-Atlantic Ridge.
- E. Alfred Wegener, who first developed the theory of continental drift argued that all landmasses were originally part of a supercontinent that broke up into separate continents.
- F. Early theories of continental drift were not widely accepted at the time because they failed to explain why continents moved.

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## Passage 07 - Soil Formation

【Paragraph 5】Topography is a major factor in soil development. [A] More water runs off and less enters the soil on steep slopes than on relatively level land. [B] Water draining from slopes enters the soil on low and flat land. [C] Thus soils and soil material tend to be dry on slopes and moist on wet on the low land. [D] Steep slopes are subject to surface erosion and soil creep- the downslope movement of soil material, which accumulates on lower slopes and lowlands.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence can be added to the passage.

Its role is demonstrated by the contrast between what happens on steep slopes and what happens on the lower-lying land at the bottom of those slopes.

Where would the sentence best fit?

10. [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 answer choices 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.

There are a variety of elements that influence soil development.

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#### Answer Choices

- A. By analyzing the chemical composition of developed soil, it is possible to determine the location of the geological substrate from which the parent material was originally derived.
  - B. Both topography and the types of organisms present in the soil as it develops determine its nutrient level.
  - C. The length of time that it takes to develop high-quality soil is determined by humidity levels, the makeup of parent materials, and patterns of water flow and erosion.
  - D. The weathering process is strongly influenced by temperature and its variation, the nature of the water flow, and by the acids carried in the water.
  - E. Where soil material is regularly subject to rapid and extreme variations in temperature and water content, certain biogeochemical reactions necessary for soil formation cannot take place.
  - F. Because high humidity speeds up both leaching processes and erosion, soils in humid regions take much longer to reach equilibrium than soils in dry regions, and are seldom as fertile.
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## Passage 08 - Earthquake Prediction

【Paragraph 5】[A] The precursor phenomena can be grouped into stages according to the dilatancy model. Stage I consists of a gradual stress buildup along the fault. Stages II and III are correlated with dilatancy and water influx. Stage IV is the major

earthquake, and stage V is the aftermath of the event. [B] If every earthquake followed the sequence with uniform stage duration, earthquake prediction would be a simple matter. [C] Instead of following the same patterns, each earthquake is unique in terms of specific precursor behavior patterns and length of precursor stages. A magnitude 6.9 North American earthquake in 1989 was preceded by a substantially smaller magnitude 5 earthquake fifteen months before the event. Another foreshock of similar size occurred two months before the event. In each case, a public advisory was issued stating that those smaller earthquakes could be foreshocks to a stronger earthquake within five days. However, the fault did not cooperate, and those predictions were not successful. [D] Continued research and study of future earthquakes will certainly lead to refinement of the dilatancy model or to a replacement model with more accurate predictive capabilities.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

But the reality of earthquake forecasting is considerably more complex.

Where would the sentence best fit?

10. [Directions] 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.

Two types of earthquake prediction are theoretically possible: long-term forecasting and short-term forecasting.

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#### Answer Choices

- A. Short-term forecasting has been used more widely than long-term forecasting in the prediction of earthquakes.
- B. Long-term forecasting of earthquakes uses data on past seismic activity to determine the likelihood that an earthquake will occur in a certain area within a certain time period.
- C. Short-term forecasting research has studied earthquake precursors such as volume increases in rocks and unusual movements in underground water that occur shortly before an earthquake takes place.
- D. The dilatancy model has been used to successfully forecast some recent earthquakes.
- E. Attempts to improve forecasting by using five stages of earthquake predictors have been unsuccessful because each earthquake has unique precursor patterns

and durations.

F. The magnitude 6.9 North American earthquake in 1989 was not successfully predicted because the many foreshocks before the event were too small to measure.

## Passage 09 - Cave and Rock Art

【Paragraph 4】In any history of art, then, the Magdalenian system must occupy a place of importance. Also, of all the forms of art practiced on the planet, it is the one about which we know the least. But we do possess a reasonable amount of knowledge, bearing in mind that the first cave art was only discovered in the 1860s, and it was not until 1902 that it was accepted as a fact by anthropologists and art historians. By the end of the twentieth century, there were 277 agreed examples in Europe. Unfortunately, most cave art works are extremely fragile. When a cave is opened and the conditions that enabled the paintings to survive are altered, deterioration can be rapid. [A] Thus except in places where expensive air-conditioning has been installed, caves are no longer open to the public. [B] Even the Altamira cave in Spain, finest of them all, is now open only to small parties for brief periods. [C] Scholars themselves find it difficult to gain admission. Some of these works are photographed, but the camera gives a poor idea of their nature and quality. [D] Some are difficult to see anyway: the best part of Altamira has to be studied lying down. Hence inaccessibility is a real and growing obstacle to unlocking the secrets of the Magdalenian art system.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

There is a potential for serious damage from the introduction of light, changes in air circulation, and the breath of visitors.

Where would the sentence best fit?

10. [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.

Magdalenian artworks were created during the Upper Paleolithic period.

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#### Answer Choices

- A. Examples of Magdalenian art are found in all parts of Europe, and there is evidence that artists in neighboring regions were influenced by the Magdalenian system.
  - B. Magdalenian artists created a variety of images, including geometric figures, and varied the type of rock chosen for engravings to produce different artistic effects.
  - C. A unifying aspect of the Magdalenian system was the tendency of artists to blend multiple colors together rather than to use colors individually.
  - D. Scholars know a fair amount about Magdalenian cave art, but the need to preserve the fragile works has prevented scholars from studying them as thoroughly as they would like.
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## Passage 10 - European Urban Design

【Paragraph 5】Early in the twentieth century there emerged a different intellectual and artistic reaction to the pressures of industrialization and urbanization. This was the Modern movement, which was based on the idea that buildings and cities should be designed and run like machines. [A] Equally important to the Modernists was that urban design should not simply reflect dominant social and cultural values but, rather, help to create a new moral and social order. [B] The movement's best-known advocate was Le Corbusier, a Paris-based Swiss who provided the inspiration for technocratic urban design. [C] Modernist buildings sought to dramatize technology, exploit industrial production techniques, and use modern materials and unembellished, functional design. Le Corbusier's ideal city featured linear clusters of high-density, medium-rise apartment blocks, elevated on stilts and segregated from industrial districts; high-rise tower office blocks; and transportation routes all separated by broad expanses of public open space. [D]

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

This mechanical analogy was a significant departure from earlier attitudes that emphasized the civilizing influence of cities and their buildings.

Where would the sentence best fit?

10. [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.

European city planning and design have developed over a long history.

Answer Choices

- A. Beginning in fifteenth-century Italy, advances in weaponry led to the redesign of cities, and a new aesthetic of grand design inspired by classical art forms took hold.
  - B. The walls and open spaces typical of Renaissance urban design were re-discovered in the early twentieth century and became a major component of the Modern movement.
  - C. The social changes brought about by the transition to industrial capitalism placed new demands on urban planners that could only be met by adopting new design styles.
  - D. The redevelopment of Paris in the mid-1800s displayed a new idea of urban design to make cities orderly, efficient, and healthier and to positively reflect the new social and economic order.
  - E. The goal of Beaux Arts style architects was to replace the older palaces, cathedrals, and civic buildings that dominated European cities with modern buildings.
  - F. The twentieth-century International Style's boxlike steel, glass, and concrete buildings arose from the Modernist view that buildings and cities should be designed and run like machines.
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## Passage 11 - Mexican Muralism

【Paragraph 4】[A] The Mexican muralist movement is undoubtedly one of the most important manifestations of twentieth-century Mexican culture. [B] Its impact elsewhere in the region, as well as in the United States and Europe, has been enormous. [C] The work of Rivera, Orozco, and Siqueiros triggered a homegrown muralist movement in the United States in cities like New York City, Detroit, Los Angeles, and San Francisco. [D] The influence of the Mexicans on the modern Spanish painter Picasso's first mural and almost his only major explicitly propagandist work of art - his famous Guernica of 1937- is unmistakable even though the artist himself would have denied it. In Latin America, Mexican-influenced muralism has recurred whenever artists have felt the need to make a clear, public statement in a language that has not been borrowed from outside.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

However, its influence was not limited to Mexico itself.

Where would the sentence best fit?

10. [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.

Mexican muralism was the first major modern art movement in Latin America.

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#### Answer Choices

- A. The Mexican Revolution resulted in a new respect for traditional culture, leading the muralists to paint scenes depicting the everyday lives of poor Mexicans.
  - B. In the 1920s and 1930s, following the Mexican Revolution, a talented group of artists painted many large-scale, politically motivated murals on public buildings.
  - C. Jose Vasconcelos made Mexico an important international player by promoting the art and ideas of the revolutionary murals.
  - D. The muralists challenged cultural and economic stereotypes and experimented with both pre-Columbian and industrial themes, styles, and techniques.
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## Passage 12 - Olmec Art

【Paragraph 2】Long before modern radiocarbon dating testified to the antiquity of this culture, archaeologists and art historians had become aware of the power of Olmec art through individual objects. [A] Some even identified the Olmec culture as the oldest of Mesoamerican civilizations, perhaps a mother culture from which all others derived, as the art historian Miguel Covarrubias once thought. [B] Eventually the antiquity of Olmec culture was confirmed, and today many important elements of Mesoamerican art and architecture can be seen to have had a probable Olmec origin: ball courts, pyramids, portraiture, and mirrors. [C] Some later Mesoamerican deities probably derive from Olmec gods, and even the famous "Maya" calendar was already in use by peoples in the Olmec area at the dawn of Maya civilization. [D]

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

But these opinions lacked proof.

Where would the sentence best fit?

10. [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 Olmec culture was identified as the oldest of Mesoamerican civilizations, perhaps a mother culture from which all others derived.

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#### Answer Choices

- A. Between 1500 B.C. and 100 B.C., the Olmecs developed complex ceremonial centers, an extensive agricultural and trading economy, and a highly distinctive art.
  - B. Early in their history, the Olmec left the fertile gulf plain and moved to Teopanteucanitlan.
  - C. The frequent reappearance of Olmec images in the art of the Maya and Aztecs suggests that the Olmecs gave rise to these later civilizations.
  - D. The Kunz axe, once linked with Maya culture after being found at an ancient Maya site, was eventually attributed to Olmec artists.
  - E. Many cultural innovations are now attributed to the Olmecs that were once attributed to other Mesoamerican cultures, including the calendar used by the Maya.
  - F. Olmec art involved a complex symbolic code, including various animal images and the howling baby seen on the Kunz axe and elsewhere, that was used consistently for a thousand years.
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## Passage 13 - Portrait Painting

【Paragraph 2】Since portraits are distinct from other genres or art categories in the ways they are produced, the nature of what they represent, and how they function as objects of use and display, they are worthy of separate study. [A] First, during their production, portraits require the presence of a specific person, or an image of the individual to be represented, in almost all cases. [B] In the majority of instances, the production of portraiture has necessitated sittings, which result in interaction between the subject(s) and artist throughout the creation of the work. [C] If the sitter is of high social standing or is occupied and unavailable to sit in the studio regularly, portraitists could use photographs or sketches of their subject. [D] In Europe, during the seventeenth and eighteenth century, the sitting time was sometimes decreased by focusing solely on the head and using professional drapery painters to finish the painting. For instance, Sir Peter Lily, the English artist, had a collection of poses in a pattern book that enabled him to focus on the head and require fewer sittings from

his aristocratic patrons. Portrait painters could be asked to present the likeness of individuals who were deceased. In this sort of instance, photographs or prints of the subject could be reproduced. Theoretically, portraitists could work from impressions or memories when creating a painting, but this is a rare occurrence according to documented records. Nonetheless, whether the work is based on model sittings, copying a photograph or sketch, or using memory, the process of painting a portrait is closely linked with the implicit or explicit attendance of the model.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

In certain instances, portrait artists depended on a combination of direct and indirect involvement with their subjects.

Where would the sentence best fit?

10. [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.

Portraiture as an art form is more complex than is suggested by its definition.

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#### Answer Choices

- A. The definitions of portrait art in the dictionary have regularly transformed throughout the years to reflect shifting attitudes regarding the genre.
  - B. Portrait art should be considered as a distinct artistic genre due to its intense occupation with the subject and the way in which it was produced.
  - C. Beginning in the Renaissance and continuing into the start of the nineteenth century, portrait art was idealized to a greater degree than it is in today.
  - D. Portraits generally mirror the conventions of the time rather than the unique qualities of the individual.
  - E. Throughout history, the majority of professional artists avoided portrait art since they regarded it as a mechanical art form, and not as fine art.
  - F. Portrait art was at times viewed in a negative light since it was considered as simple copying void of artistic innovation.
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## Passage 14 - Motion Pictures

【Paragraph 4】Early movies were simple snippets of action—acrobats tumbling, horse running, jugglers juggling, and so on. Eventually, the novelty wore off and films became less of an attraction. Public interest was soon rekindled when early filmmakers discovered that movies could be used to tell story. [A] In France, Alice Guy-Blaché produced The Cabbage Fairy, a one-minute film about a fairy who produces children in a Cabbage patch, and exhibited it at the Paris International Exhibition in 1896. [B] Guy-Blaché went on to found her own studio in America. [C] Better known is the work of a fellow French filmmaker and magician, Georges Méliès. [D] In 1902 Méliès produced a science-fiction film that was the great-great-grandfather of Star Wars and Star Trek; it was called A Trip to the Moon.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

Although she directed hundreds of short films and produced hundreds more over the course of her career, she has largely been forgotten.

Where would the sentence best fit?

10. [Directions] An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selected 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 phi phenomenon and persistence of vision are two characteristics of the human perceptual system that make motion pictures and television possible.

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### Answer Choices

- A. When the persistence of vision became widely known, it inspired the development of toys that made hand-drawn pictures appear to move.
- B. The invention of the motion-picture camera led to the discovery that a horse's feet do not leave the ground while the horse is galloping.
- C. The primary competitors in early motion-picture technology were Edison's Kinetoscope and the European-designed and manufactured large-screen projection devices.
- D. The motion-picture camera develops from the experiments in sequential photography that were originally done by Edward Muybridge.
- E. Later developments in film included a focus on large-screens projection rather

than individual viewing machines and narrative films rather than simple action sequences.

F. French filmmakers Alice Guy-Blaché and Georges Méliès started the first two major movie studios in America and in France, respectively.

## **Passage 15 - Bioluminescence in Marine Creatures**

【Paragraph 4】Other sea creatures have both light-sensing and light-producing organs. These creatures are thought to use bioluminescence as a form of communication or as a means of identifying an appropriate mate. [A] In the lantern fish, the pattern of photophores distinguishes one species from another. [B] In other fish, bioluminescence may help to differentiate males from females. [C] The squid uses light as a means of camouflage. [D] By producing light from the photophores on its underside, the squid can match light from above and become nearly invisible to predators looking up from below. Squid, as well as some of the gelatinous zooplankton, have also been known to release luminescent clouds or strands of organic material, possibly as a decoy to facilitate escape. And finally, because what they eat is often bioluminescent, many of the transparent deep-sea creatures have red or black stomachs to hide the potentially flashing contents of ingested bioluminescent creatures. Without such a blacked-out stomach, their digestive organs would flash like a neon sign that says, "Eat me, eat me!"

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

Yet, certain species use bioluminescence for exactly the opposite purpose - to blend in with surroundings and become less identifiable.

Where would the sentence best fit?

10. [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.

Many of the sea's creatures produce light through bioluminescence.

### **Answer Choices**

A. Bioluminescent creature uses a substance called luciferin and an enzyme to produce light in a biologically driven chemical reaction.

- B. Bioluminescence can be used to achieve various and sometimes seemingly opposite goals such as frightening away predators or luring prey.
  - C. Bioluminescence can be used by some sea creatures as a form of communication or as a means of identifying an appropriate mate.
  - D. The majority of bioluminescent creatures are gelatinous in nature, allowing them to produce light.
  - E. The same bioluminescent creature cannot have both light-sensing and light-producing organs.
  - F. Sea creatures that eat bioluminescent material possess special chemicals that keep their stomach contents from flashing.
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## Passage 16 - Coral Reef Communities

【Paragraph 3】In general, slower-growing corals are more aggressive than fast-growing species. [A] In cases where a competitor cannot be overcome, however, corals may survive by taking advantage of differences in local habitats. [B] Massive corals are generally more shade tolerant and able to survive at greater depths. [C] Therefore, on many reefs it is the fast-growing, branching corals that ultimately dominate at the upper, shallower portion of the reef, whereas more massive forms dominate in deeper areas. [D]

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

For example, different species of corals have different needs for light.

Where would the sentence best fit?

10. [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 answer choices 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.

Coral reef communities include many different organisms that must compete for resources such as space and light.

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### Answer Choices

- A. In order to keep from being overgrown, the different species of coral kill each other's polyps, or live in different local habitats within the reef community.
- B. Competition among the different species of corals is more intense than that

- between corals and other coral reef inhabitants.
- C. Grazing by fishes and urchins prevents algae and seaweeds from overgrowing the corals, although damselfish exclude grazers from some areas.
- D. Fish and invertebrate corallivores are the most common cause of coral colony destruction, followed by tropical storms and damage by humans.
- E. Algae are competitively superior to corals in shallow water but less so at depth, so coral survival may depend on grazing.
- F. Sponges, soft corals, and algae can overgrow and smother stony corals.
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## Passage 17 - Sea Turtle Hatchling Strategies for Navigation

【Paragraph 5】The farther a hatchling gets from shore, the less reliable wave direction becomes as a pointer to the open sea. Researchers have shown that hatchling green sea turtles released from a hatchery in Borneo, East Malaysia, are able to navigate around small islands and keep swimming offshore, even when there are few waves to guide them. They may be relying on yet another internal compass this time oriented to Earth's magnetic field. Recent experiments suggest that leatherback and olive ridley hatchlings "switch on" their geomagnetic compass almost as soon as they are out of the nest. Though the hatchlings position themselves geomagnetically as soon as they leave the nest and appear to be able to use that position as a reference point, they will not follow it automatically if other cues, such as light and sound, are available. [A] Hatchlings find their geomagnetic compass useful only after they have already been able to determine the direction they should swim. [B] A simple directional compass—one that always sent the turtles westward, for instance—would be useless if the open sea lay in some other direction. [C] Therefore, a magnetic compass does not so much tell a hatchling turtle which way to go as keep it on course once it has determined the direction it should swim from some other cue. [D]

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

This preference for other cues points to the special role of the geomagnetic compass in hatchling navigation.

Where would the sentence best fit?

10. 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.

To minimize attacks from predators, turtle hatchlings must quickly find their way to the water's edge.

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#### Answer Choices

- A. When light cues are absent, hatchlings use other navigational strategies, such as following the downward slope of the beach to find the water's edge.
  - B. If the incoming waves are too strong to allow hatchlings to reach the open sea, they are carried back to the beach where they wait for calmer waters.
  - C. Once hatchlings reach the open sea, they begin to use their geomagnetic compasses as simple directional compasses.
  - D. The most important cue seems to be light, and hatchlings respond only to light that is low on the horizon.
  - E. Once in the water, hatchlings swim toward incoming waves until they are far from shore, at which point they may use a geomagnetic compass.
  - F. The geomagnetic compass of hatchlings does not tell them which way to go but keeps them on course once other cues are used to get them headed in the right direction.
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## Passage 18 - Temperature Regulation in Marine Organisms

【Paragraph 2】There is another completely different style of living. [A] Poikilotherms are organisms whose body temperature conforms to that of the ambient environment. [B] All subtidal marine invertebrates and most fishes fit into this category. [C] There is an interesting intermediate status in which body temperature is usually somewhat higher than ambient temperature. [D] Strong-swimming fishes, such as skipjack tuna and yellowfin tuna, have this intermediate status. Their rise in temperature above ambient conditions stems from metabolic heat generated by muscular activity (swimming) combined with a heat retention mechanism. The temperature rise is probably necessary to generate the increased biochemical reaction rates that are needed for sustained activity. In contrast, some intertidal animals are not true Poikilotherms, they maintain themselves at lower-than-ambient body temperature, using both evaporation and circulation of body fluids to avoid being heated at low tide by the Sun. Their body temperatures, therefore, differ from

that of an inanimate object of the same size and shape that might be placed on the shore. Intertidal organisms absorb and lose heat directly to the air. Darker-colored forms can absorb more heat than can light-colored forms; therefore, variation in color can reflect differences in adaptation to the capture of solar energy at different latitudes.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence can be added to the passage.

However, not all marine organisms can be easily classified as either homeotherms or poikilotherms.

Where would the sentence best fit?

10. [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 answer choices 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. Drag your choices to the spaces where they belong.

Marine and other organisms are classified as homeotherms if they maintain a constant body temperature and as poikilotherms if their body temperature matches that of the environment.

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#### Answer Choices

- A. Although strong-swimming fishes and intertidal organisms have body temperatures that are higher or lower than ambient temperatures, most fishes and subtidal marine organisms are poikilotherms.
- B. There are no homeotherms in cold ocean waters because it is too difficult for homeotherms to prevent heat loss in these environments.
- C. Features such as fur help reduce heat loss, but marine homeotherms require a higher metabolism than do terrestrial homeotherms of similar size to maintain a constant body temperature.
- D. Some organisms are thought to have various methods of heat regulation in order to maintain different body temperatures at different times of year.
- E. Marine homeotherms lose heat to the environment through respiration and other means, the most important being skin contact with colder seawater.
- F. Animals with disadvantageous limbs are regarded at a body temperature because their circulatory anatomy is poorly designed for managing heat loss.

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## **Passage 19 - Dolphin Brains**

【Paragraph 1】 Large brain size does not always mean that an animal is highly intelligent. Brain size is necessarily associated with overall body size, with large animals having large brains and small animals having small brains. [A] However, it is still necessary for there to be some minimum amount of circuitry (brain cells and processes) present for a species to have the potential to be highly intelligent, whatever way the term intelligence is defined. [B] A measure of relative brain size that has been applied to a variety of species is the encephalization quotient (EQ), the ratio of brain mass to body size. [C] The EQ is calculated by measuring the relative size of different body parts over a wide range of species. [D] An EQ of 1.0 means that the brain is exactly the size one would expect for an animal of a particular size, an EQ higher than 1.0 means that a species is relatively brainy.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

This requirement suggests that having a brain that is large relative to an animal's size might be a clue to greater intelligence.

Where would the sentence best fit?

10. [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.

Bottlenose dolphins have brains that are not only absolutely large but also relatively very large.

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### **Answer Choices**

- A. The encephalization quotient (EQ), the ratio of brain mass to body size, is a measure of relative brain size that correlates with cognitive processing ability and life history patterns.
- B. The need to process high-frequency sounds for echolocation has been offered as an explanation for bottlenose dolphins' unusually large brains, but not all good echolocators have high EQs.
- C. The brain size of bottlenose dolphins is strongly correlated with the amount of cooperation and competition in relationships outside the mother-offspring relationship.

- D. Scientists are now using findings from their studies of bottlenose dolphins to determine the connection between the presence of a large brain and the potential for intelligence in other species.
- E. Bottlenose dolphins, like certain other large-brained animals, have complex social relationships, so their large, metabolically expensive brains may have evolved partly to permit complex social functioning.
- F. Biologists disagree about whether the larger-than-usual brain of the bottlenose dolphin makes it more intelligent or more metabolically efficient than other mammals with less brain mass.
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## Passage 20 - Bird Colonies

【Paragraph 3】Coordinated social interactions tend to be weak when a colony is first forming, but true colonies provide extra benefits. [A] Synchronized nesting, for example, produces abundance of eggs and chicks that exceeds the daily needs of local predators. [B] Additionally, colonial neighbors can improve their foraging by watching others. [C] This behavior is especially valuable when the offsite food supplies are restricted or variable in location, as are swarms of aerial insects harvested by swallows. [D] The colonies American cliff swallows, for example, serve as information centers from which unsuccessful individual birds follow successful neighbors to good feeding sites. Cliff swallows that are unable to find food return to their colony, locate a neighbor that has been successful, and then follow that neighbor to its food source. All birds in the colony are equally likely to follow or to be followed and thus contribute to the sharing of information that helps to ensure their reproductive success. As a result of their enhanced foraging efficiency, parent swallows in large colonies return with food for their nestlings more often and bring more food each trip than do parents in small colonies.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

Furthermore, some birds even choose their nesting locations based on the presence of these protective insects.

Where would the sentence best fit?

10. [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.

Colonial nesting has evolved in many species of birds in response to environmental conditions.

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#### Answer Choices

- A. Colonial nesting offers birds several advantages such as predator protection and information about food sources.
- B. Birds that nest in colonies can synchronize their nesting, which helps ensure that enough food is available for all the young.
- C. Large colonies of birds require abundant food sources near the nesting area, and when food supplies decline, populations may crash.
- D. The ability of colony members to share information about food sources improves their foraging efficiency and helps ensure reproductive success.
- E. There are some disadvantages associated with life in large colonies like the increased rate of infestation by parasites.
- F. The concentration of bird colonies along coasts makes their inhabitants especially vulnerable to food shortages and weather-related destruction.

## Passage 21 - Bison and Humans

【Paragraph 6】But bison paid a price for herding. In a given area, the supply of food per individual declined along with the chances of being attacked. Smaller bodies probably resulted from a decline in food availability as bison crowded together. Herding changed the bison's shape as well as size. [A] Now survival depended on the ability to crop grass, bison's main food, quickly. [B] Shifting the head closer to the ground, reducing horn size, and growing a hump to cantilever, or support, the head's weight enabled bison to graze for long periods without strain. [C] Giant horns, which enabled males to defend territory, may also have become a liability as being able to stay close together became more valuable. [D]

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

In sum, by forcing bison to live in herds, humans encouraged the development of a new kind of bison, the short-horn, humpbacked bison that we know today.

Where would the sentence best fit?

10. [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.

Hunting by humans changed bison's body structure and the mode of living.

#### Answer Choices

- A. Judging from campsite remains, the first wave of immigrants to North America carried with them hunting tools they had successfully used to hunt large animals in Asia.
  - B. Fossil bones suggest that several species of the long-horned bison once existed in North America, but by the time humans arrived, most of them had become extinct.
  - C. The size of the bison's horns suggest that individuals lived alone or in small groups, a habit that made them attractive prey for human hunters.
  - D. The bison began living in herds, which would have provided protection from hunters but also decreased the amount of food available for each individual.
  - E. Early Americans preferred hunting long-horned bison for their horns which could be used to create sharp spear tips for hunting other large animals such as moose and musk ox.
  - F. When bison began to live close together, this led to other adaptations in size and shape necessary for survival.
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## Passage 22 - Dinosaurs and Parental Care

【Paragraph 1】From fossil evidence alone the question of whether or not dinosaurs cared for their young is very difficult to answer. [A] Because behaviors are not preserved in the fossil record, we can only make inferences from indirect evidence. [B] Parental care can be divided into two types of behavior: prehatching (building nests and incubating eggs—for example, sitting on top of them so as to warm the eggs and encourage hatching) and post hatching (feeding the young and guarding the nests). [C] Most of our evidence comes from alleged dinosaur rookeries (places where nests are built). [D] Several have been excavated in eastern Montana, where a large concentration of dinosaur nests was found at a place now called Egg Mountain. Most of these probably belonged to the hadrosaur *Maiasaura*. Preserved in these nests are the bones of baby dinosaurs. The finds at Egg Mountain and other sites around the world document that dinosaurs laid their eggs in nests.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence can be added to the passage.

Evidence of the former is easier to find than that of the latter.

Where would the sentence best fit?

10. [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 answer choices 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.

Scientists must use indirect evidence to determine whether extinct dinosaurs cared for their young.

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#### Answer Choices

- A. Because baby dinosaur bones and eggs were very delicate, there are relatively few preserved as fossils, so little is known about dinosaur young.
  - B. Fossils from sites like Egg Mountain indicate that dinosaurs built nests, and perhaps that they incubated their eggs and fed their hatchlings.
  - C. Fossil evidence such as the spacing of nests may indicate advanced parental care but can have different interpretations.
  - D. Tightly packed Oviraptor rookeries indicate that dinosaurs may have tended to nest in large colonies in order to better protect both eggs and hatchlings.
  - E. Discovery of hadrosaur bones of different sizes in the same nest may indicate that, in some species, older siblings took care of younger ones.
  - F. The strongest evidence comes from extinct dinosaurs' nearest living relatives, birds and crocodiles, who do engage in many forms of parental care.
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## Passage 23 - Human Impacts on Biogeography

【Paragraph 4】The effects of introduced species can be many and varied and can include effects on the distribution of other species. For example, the North American gray squirrel was introduced into England and has now largely displaced the native red squirrel. The accidental introduction of organisms to new areas may have major pest implications. [A] The South African bronze butterfly, the larva (immature insect forms) of which feed on buds and other parts of geraniums and similar flowers, was accidentally introduced into the Balearic Islands via imported geraniums. [B] In its native South Africa, the distribution and abundance of the butterfly are affected in part by a native wasp that parasitizes (feeds on) the larvae. [C] In the absence of the parasite wasp on the Balearic Islands off the coast of Spain, the butterfly has now spread to mainland Spain where its rapid spread has been accentuated by trade in

garden plants and modern transport. [D] The species has become a major pest due to the lack of a natural predator and is now causing great problems for the horticultural industry in Spain.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

Its presence there helps control the bronze butterfly population.

Where would the sentence best fit?

10. [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.

A variety of factors, including human activity, can affect the distribution of species.

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#### Answer Choices

- A. Research has shown that the biogeography of species can change even without human interference as can be seen in the wide distribution of willows along a wide range of river banks.
- B. Introducing a species to a new environment can have unintended consequences such as those that occurred when a butterfly was relocated to an environment that lacked its natural predator.
- C. The success of relocating two species together depends on how they help each other survive in a new environment as demonstrated by the South African bronze butterfly and geraniums.
- D. The study of the relocations of certain species to new habitats has been difficult because it is not always clear if the relocations were natural or caused by humans.
- E. Humans have relocated species for a variety of reasons, including obtaining new food sources, creating new industries, and taking advantage of the characteristics of certain species.
- F. Understanding the distribution of a species in its native habitat can be useful in controlling its spread as a pest in its new habitat.

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## Passage 24 - The Cambrian Explosion

【Paragraph 9】This last idea may partly explain why no similar explosion of diversity has taken place since the Cambrian: once predators were efficient and widespread,

it may have been virtually impossible for animals with entirely new body forms to find an environmental niche in which they could escape predation. [A] Or it may be that while more body plans may have been possible at some early point in evolution, it was not possible to evolve into those other body plans from the body plans that evolved in the Cambrian. [B] Or perhaps the various body forms that arose during the Cambrian explosion represent the full range of forms possible given the basic genetic resources that characterize all Earth's organisms. [C] In any case, no fundamentally new body forms have emerged since the Cambrian explosion. [D]

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

After all, evolution of body structure can act only on the structure that already exists.

Where would the sentence best fit?

10. [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 answer choices 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 earliest fossil evidence for eukaryotes dates to only about 1.2 billion years ago, but then quite dramatic diversification occurred.

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#### Answer Choices

- A. Biologists classify animals according to their body plans into about 30 different phyla.
  - B. The rapid diversification of animal body forms during the Cambrian explosion did not happen soon after the appearance of the first eukaryotes.
  - C. The Cambrian explosion was a unique episode in the history of evolution that produced nearly all of the 30 or so animal body plans that have ever been seen.
  - D. The Cambrian explosion may have been aided by genes that could yield a variety of body forms and the inability of early predators to eliminate the new forms.
  - E. Once predators became efficient after the Cambrian explosion, they were able to eliminate any animals that began to evolve a new body plan.
  - F. At the beginning of the Cambrian, an increase in oxygen needed for animal growth and the return of a hospitable climate may have contributed to the Cambrian explosion.
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## **Passage 25 - The Extinction of the Dinosaurs**

【Paragraph 5】The volcanic convulsion that buried the Deccan plateau in lava must also have changed the composition of the atmosphere and severely affected climate. Initially, there must have been strong sudden cooling resulting from the blocking of sunlight by sulfate aerosol veils in the stratosphere (part of the Earth's atmosphere). If strong cooling lasted a year after the formation of the aerosols, it would have been the death of tropical species unable to adapt to such a volcanic winter. [A] However, a long period of strong volcanic activity (again, remember thousands of Krakatoas) would at the same time have added a substantial amount of carbon dioxide to the atmosphere, reinforcing the greenhouse effect. [B] This would gradually warm things up, ending the extended cold-snap and producing global warming together with geographic shifts of humid and arid (dry) zones. [C] Certainly things would change to upset living conditions, leading to the extinction of some species while others would profit, if only from the disappearance of predators. [D]

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

Thus, ecosystems following periods of extensive volcanic activity necessarily had different combinations of species than earlier ecosystems did.

Where would the sentence best fit?

10. [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.

For a long time, scientists have argued that the extinction of the dinosaurs was related to climate change.

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### **Answer Choices**

- A. Cosmic rays from a nearby supernova explosion may have penetrated Earth's atmosphere, causing genetic changes that dinosaur populations could not survive.
- B. Climate changes in the tropics may have set off a chain of indirect effects that negatively affected the ecosystems in which dinosaurs lived.
- C. The spread of lava over large parts of previously favored habitats such as the Deccan Plateau may have made these favored areas uninhabitable for many years.
- D. Although the volcanic winter resulting from the formation of sulfate aerosols

eventually ended, temperatures may have remained below levels required by dinosaurs to survive.

E. Temperature changes and geographic shifts in climate zones due to the atmospheric effects of volcanic activity may have been significant enough to cause extinction.

F. To be convincing, theories about what caused dinosaurs to become extinct must be able to explain the disappearance of other predators in the food chain at the same time.

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## Passage 26 - The First Eyes

【Paragraph 5】Not all of the Burgess animals had eyes. However, some did. (Gross features location, size, and hemispheric shape are responsible for the designation of some structures as eyes). [A] The reconstructed eyes of these Burgess animals look superficially like eyes of some living crustaceans, particularly those of shrimp and crabs whose eyes are mounted on stalks that improve the range of vision by raising the eyes above the surface of the head. [B] The eyes of some Burgess organisms sat on stalks; those of others were on or a part of the body surface. [C] One animal, *Opabinia*, had five eyes: two lateral pairs and a single medial eye; at least one of the lateral pairs had stalks that could have been movable. [D] And some trilobite-like animals in the Burgess Shale had faceted eyes much like those of later fossil trilobites.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

*Molaria spinifera* and *H. optata*, both of which lived in water levels beyond the reach of light, fit into this category.

Where would the sentence best fit?

10. [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 first eyes originated between the beginning of the Cambrian explosion and the death of the Burgess animals.

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#### Answer Choices

- A. The ability of some unicellular organisms to detect light and change their behavior accordingly suggests that eyes did not originate with multicellular animals.
- B. The earliest eyes apparently contained molecules that were capable of forming and focusing images.
- C. Too few fossils from the Precambrian have been found to determine which if any Precambrian organisms had eyes.
- D. Evidence from the Burgess Shale suggests that eyes of some early animals were similar to the eyes of living crustaceans.
- E. Fossil evidence suggests that organisms in the Burgess Shale with faceted eyes developed later than organisms in the Burgess Shale with nonfaceted eyes.
- F. The large size and possible complexity of the eyes of some organisms in the Burgess Shale suggest that their eyes were not the first eyes.

### Passage 27 - The Geographical Distribution of Gliding Animals

【Paragraph 4】A final theory differs from the others in suggesting that it is the presence of dipterocarp trees themselves that is driving the evolution of gliding species. [A] According to this view, dipterocarp forests can be food-deserts for the animals that live in them. [B] The animals living in dipterocarp forests that have evolved gliding consist of two main feeding groups: leaf eaters and carnivores that eat small prey such as insects and small vertebrates. [C] For leaf-eating gliders the problem is not the absence of any leaves but the desert-like absence of edible leaves. Dipterocarp trees often account for 50 percent or more of the total number of canopy trees in a forest and over 95 percent of the large trees, yet dipterocarp leaves are unavailable to most vertebrate plant eaters because of the high concentration of toxic chemicals in their leaves. [D] Many species of gliding animals avoid eating dipterocarp leaves and so must travel widely through the forest, bypassing the dipterocarp trees, to find the leaves they need to eat. And gliding is a more efficient manner of traveling between trees than descending to the ground and walking or else jumping between trees.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

For each group, a dipterocarp forest is like a desert in that food resources are few and far apart.

Where would the sentence best fit?

10. [Directions] 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.

Various theories have been proposed to explain the unique abundance and diversity of gliding animals in the rain forests of Southeast Asia.

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#### Answer Choices

- A. One theory is that so many gliding species evolved in Southeast Asia because the forests are exceptionally tall, but there is evidence that calls that theory into question.
  - B. The fact that gliding animals are most abundant in the short-stature forests of China, Vietnam, and Thailand shows that gliding did not evolve as an adaptation to an environment of tall trees.
  - C. Ecologists have shown that the abundance of gliding animals in different regions of the world corresponds to variations in tree height, canopy structure, and abundance of vines.
  - D. The hypothesis that gliding evolved to compensate for a scarcity of vines linking tree canopies overlooks problematic evidence from both Southeast Asian and Amazonian forests.
  - E. In forests that are dominated by tall trees, jumping from tree to tree or descending to the ground may be a more efficient way of traveling through the forest than gliding.
  - F. Dipterocarp trees create an environment in which many species must travel widely to find food, and gliding may have evolved as a rapid and efficient way of moving between tree crowns.
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## Passage 28 - Vocalization in Frogs

【Paragraph 5】Ryan and his colleagues measured the rates of predation in túngara frog choruses of different sizes. Large choruses of frogs did not attract more bats than small choruses, and consequently the risk of predation for an individual frog was less in a large chorus than in a small one. Predation was an astonishing 19 percent of the frogs per night in the smallest chorus and a substantial 1.5 percent per night even in the largest chorus. [A] When a male frog shifts from a simple whine to a whine-chuck call, it increases its risk of attracting a female, but it simultaneously increases its risk of attracting a predator. [B] In small choruses, the competition from other males for females is relatively small, and the risk of predation is relatively large. [C] Under these conditions it is apparently advantageous for a male túngara frog to give simple whines. [D] However, as chorus size increases, competition with other males also increases while the risk of predation falls. In that situation, the advantage of giving a complex call apparently outweighs the risks.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

Predation, therefore, is a risk in choruses of all sizes, but the risk varies depending on the type of call used.

Where would the sentence best fit?

10. [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 order to attract females, male túngara frogs use two kinds of calls: a whine and a whine-chuck.

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#### Answer Choices

- A. Túngara frogs generally use simple calls when they wish to attract a mate, and complex calls when they wish to avoid predation.
- B. The hypothesis that whine calls are used to save energy when males are not in immediate competition with each other has been disproved by showing that chuck calls do not require more energy.
- C. Most males gather in groups of several hundreds when calling because the rate of predation from bats is so high in small groups.
- D. Two hypotheses have been put forward about why females and frog-eating bats are more attracted to males using whine-chuck calls.
- E. Túngara females overwhelmingly favor the whine-chuck call used by the males, but so do certain bats that prey upon túngara frogs.
- F. Male túngara frogs use the whine-chuck call in large groups, where their risk of predation is lower, and the whine call in small groups, where the risk of predation is higher.

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## Passage 29 - Tree Branches

【Paragraph 1-2】One way trees prevent themselves from having too many branches is simply by shedding (dropping off) branches once they have fulfilled their purpose. This happens as the tree gets bigger and grows new outer layers of foliage that shade the inner and lower branches. In most large trees, the center of the canopy contains only large branches, small branches and fine twigs are found only at the

canopy's edge. In the shaded center, the small branches that would once have occupied that space are long gone. Trees like the true cypresses regularly shed small twigs complete with leaves toward the end of summer. Most other trees shed only branches that prove unproductive. If a branch is not producing enough carbohydrate to cover its own running costs- i.e., it needs to be subsidized by other branches because, for example, it is being shaded and receives little light- it will usually be got rid of. This prevents unproductive branches from being a drain on the tree and removes the wind drag (the force of air resistance) from useless branches. [A]

Branches are shed for reasons other than lack of light. [B] In dry parts of the world, it is common for trees and shrubs to lose smaller branches to save water. [C] Small branches have the thinnest bark (the protective outer covering of a tree) and greatest surface area and thus are the source of most water loss once the leaves have been lost. [D] The creosote bush of United States deserts self-prunes, or removes parts of itself, in the face of extreme heat or drought, starting from the highest and most exposed twigs and working downward to bigger and bigger branches; it's a desperate act because if the creosote bush loses too much wood, it dies. Shedding branches can also be useful for self-propagation. Most poplar trees and willow trees characteristic of waterways will readily drop branches, which take root when washed up on muddy banks further downstream.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence can be added to the passage.

A tree will also shed branches if its water supply is insufficient.

Where would the sentence best fit?

10. [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 answer choices 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.

Trees prevent themselves from having too many branches by shedding them.

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#### Answer Choices

- A. Trees shed branches that are unproductive, for example because they are shaded and cannot produce enough carbohydrate.
- B. Branches may also be shed to conserve water, as in the case of the creosote bush, or for self-propagation, as in the case of willows.

- C. Some trees shed branches deliberately by forming a corky layer before the branch is dropped, which seals the wound.
  - D. The shedding of branches is a risky process that can lead to disease and decay if the wound is not properly sealed.
  - E. Trees also reduce congestion by making some branches smaller than others, with short shoots producing leaves and flowers.
  - F. The shedding of branches is a process that occurs only in hardwoods and is not observed in conifers like pine and redwood trees.
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## **Passage 30 - Art and Culture of Pacific Northwest Communities**

【Paragraph 5】[A] Masks (see figure above) are the most varied of the carvings from the Northwest, where they were an essential part of communal life. [B] In style they range from an almost abstract symbolism to combinations of human and animal features and to a lifelike naturalism sometimes bordering on caricature (a style that strongly exaggerates features or characteristics), taken to its extreme in Tlingit war helmets. Some differences must have been due to those among the cultures in which they were created, but their place of origin cannot always be ascertained as they seem to have passed from one contiguous nation to another in the course of trade or warfare. [C] Although carvers worked according to established conventions, no two masks are identical and those with basic similarities reveal varying degrees of skill. [D]

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence can be added to the passage.

If we consider 100 raven masks made by different carvers, for example, some will have been well executed, others less so, and one may have been made by an exceptional carver.

Where would the sentence best fit?

10. [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 answer choices 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 peoples who lived along the northwestern coast of North America had stable communities and a distinctive artistic style.

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#### Answer Choices

- A. The people lived on food from the sea, animals, and wild plants, and used wood from the forests for building construction, boat making, and sculpture.
- B. Although the peoples of the northwestern communities came from various language groups, their languages were closely related and they could generally understand one another.
- C. The most remarkable artistic products of the northwestern peoples were totem poles and masks, which often represented families and their spirit guides.
- D. Masks were the most varied of the carvings and were made for a variety of purposes, including religious rituals, dance-dramas, and as heirlooms representing chiefs and ancestors.
- E. Totem poles were carved from single trunks of cedar and displayed a chief's prestige and genealogy, with figures representing crests inherited from his lineage.
- F. Carvers made masks using a principle of bilateral symmetry that resulted in the creation of a unity of symbolism, form, and surface.
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## Passage 31 - Domestication

【Paragraph 1】About 10,000 years ago, after nearly 4 million years of human evolution and over 100,000 years of successful foraging for food, human beings, although isolated, nearly simultaneously developed a subsistence strategy that involved domesticated plants and animals. Why? [A] Some scholars seek a single, universal explanation that would be valid for all cases of domestication. [B] Thus, it has been argued that domestication is the outcome of population pressure, as the increasing hunting-and-gathering human population overwhelmed the existing food resources. [C] Others point to climate change or famine, as the post-glacial climate got drier. [D] Increasing archaeological research has made it clear, however, that the evidence in favor of any single-cause, universally applicable explanation, is not strong.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

Scholars have developed a number of hypotheses to explain the historical origins of agriculture.

Where would the sentence best fit?

10. [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.

About 10,000 years ago, humans living in very different parts of the world nearly simultaneously began domesticating plants and animals.

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#### Answer Choices

- A. Some theories aim to explain the emergence of domestication everywhere - either by a single cause or by the interaction of several phenomena - but none are well supported by the evidence.
- B. One scholar does not attribute domestication to environmental or technical factors, arguing instead that it can be explained by a need for ever increasing amounts of food for competitive feasting.
- C. One assumption that all domestication theories have in common is that humans began the process that resulted in domestication only because of pressure from growing population.
- D. According to the broad-spectrum foraging argument, domestication was developed by human groups to provide a subsistence base that would permit the development of sedentary communities.
- E. Theories that take a regional approach to the development of domestication are able to take social factors into account rather than being limited to archaeological evidence.
- F. Currently, the most powerful theories focus on a particular area and try to explain the emergence of domestication there by the combined local effect of climate, environment, population, and other factors.

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## Passage 32 - Hunting and the Settling of Inner Eurasia

【Paragraph 5】Thus, hunters have to plan in advance and in great detail. [A] They need reliable information about the movements and habits of animal prey over large areas, which can be secured only by maintaining regular contacts with neighboring groups. [B] Finally, they need reliable methods of storage because, where plant

foods cannot provide a dietary safety net, planning has to be precise and detailed to ensure that there is enough to tide them over in periods of shortage. [C] Such planning appears in the choice of hunting gear, in the selection of routes and prey, in the choice of companions and timing, in the maintenance of communications with neighbors, and in the methods of storage. [D] Failure at any point can be fatal for the entire group.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence can be added to the passage.

The consequences of inadequate planning are serious.

Where would the sentence best fit?

10. [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 answer choices 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 long, cold winters of Inner Eurasia made the settling of the region difficult for humans.

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#### Answer Choices

- A. Although humans had fire and animal skins for warmth, they lacked the technology that would have allowed them to hunt animals over a large territory.
- B. Although humans had sufficient means of storage, they could not gather enough edible plants to last them through the year.
- C. Hunting requires social complexity, since information and goods must be exchanged among groups that are scattered across a large territory and that have different members at different times.
- D. Heavy snowfall and extreme temperatures made hunting impossible in Inner Eurasia for much of the year and forced humans to depend on grasses for survival.
- E. Humans would have needed to survive the winters by hunting, which would have required them to be expert planners and organizers.
- F. The absence of certain kinds of archaeological evidence suggests that before 120,000 years ago, humans were not able to hunt systematically, plan ahead, or organize socially for hunting.

## **Passage 33 - Origins of the Megaliths**

【Paragraph 7】Renfrew has studied two circumscribed areas, the Scottish islands of Arran and Rousay, to examine this hypothesis more closely. [A] He found that a division of the arable land into territories, each containing one megalith, results in units that correspond in size to the individual farming communities of recent times in the same area. [B] Each unit supported between 10 and 50 people. [C] The labor needed to put up a megalith would probably be beyond the capabilities of a community this size. [D] But Renfrew argues that the cooperation of other communities could be secured by some form of recognized social incentive—perhaps a period of feasting at which communal building was one of several activities.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

So it might seem that megaliths could not have been used by an individual community to mark its land.

Where would the sentence best fit?

10. [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.

Megaliths found along Europe's Atlantic seaboard have long puzzled scholars.

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### **Answer Choices**

- A. The Bronze Age Aegeans most probably built some of the tombs in Iberia.
- B. Scientific evidence supports the idea that the megaliths were a western and northern European invention.
- C. Most megaliths are found in coastal regions, suggesting that people fishing may have used them to guide their travels.
- D. Archeologists have found enough indicators to believe that the layout of tombs in the landscape reflects each community's social organization.
- E. The high proportion of coastal megaliths has given rise to the idea that megalith building was related to fishing.
- F. It has been suggested that megaliths arose in response to the spread of agriculture and competition for farmland.

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## **Passage 34 - Consolidated Industry in the United States**

【Paragraph 3】The most celebrated corporate empire of the late nineteenth century was John D. Rockefeller's Standard Oil. Shortly after 1865, Rockefeller launched a refining company in Cleveland, Ohio, and immediately began trying to eliminate his competition. Allying himself with other wealthy capitalists, he proceeded methodically to buy out competing refineries. [A] In 1870, he formed the Standard Oil Company of Ohio, which in a few years had acquired twenty of the twenty-five refineries in Cleveland, as well as plants in Pittsburgh, Philadelphia, New York, and Baltimore. [B] He built his own barrel factories, warehouses, and pipelines. [C] Standard Oil owned its own railroad freight cars and developed its own marketing organization. [D] By the 1880s, Rockefeller had established such dominance within the petroleum industry that to much of the nation he served as a leading symbol of monopoly.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

In addition to expanding horizontally, Rockefeller's company expanded vertically as well.

Where would the sentence best fit?

10. [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.

Businesses' increased ability to raise capital by selling stock led to the emergence of large corporations as a major force in the United States after 1865.

### **Answer Choices**

- A. Large businesses developed more efficient administrative structures, which allowed them to consolidate through horizontal integration, vertical integration, or both.
- B. Even though consolidation initially developed in manufacturing, it was J. P. Morgan in the banking industry who came up with the most successful consolidation technique.
- C. The most famous corporation was Rockefeller's Standard Oil, which acquired many competing businesses and controlled its supply sources, eventually establishing itself as a holding company.
- D. In order to limit competition as effectively as they could, industrialists created pool arrangements and then later trusts and holding companies.
- E. The rise of corporations as the dominant force in the American economy forced certain states to pass new laws that resulted in direct state control over

consolidation.

F. Corporate consolidation was an extremely complex process, and required enormous amounts of capital for carrying out various integration procedures.

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## Passage 35 - Costs of Quitting a Job

【Paragraph 6】While questions remain about the causes of different job mobility rates across countries, the social desirability of job mobility can also be debated. On one hand, mobility can be seen as socially useful because it promotes both individual well-being and the quality of job matches. [A] Moreover, the greater the number of workers and employers "in the market" at any given time, the more flexibility an economy has in making job matches that best adapt to a changing environment. [B] Indeed, when focusing on this aspect of job mobility, economists have long worried whether economies have enough mobility. [C] On the other hand, lower mobility costs (and therefore greater mobility) among workers may well serve to reduce the incentives of their employers to provide job training. [D] Whether the presence of job changing costs is a social boon or bane, these costs and the mobility associated with them are factors with which all employers must contend.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

According to this view, greater mobility could result in a less skilled workforce.

Where would the sentence best fit?

10. [Directions] An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selected 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.

According to economic theory, workers are more likely to change jobs when the associated costs are low.

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### Answer Choices

A. Since job changes by a minority of workers can radically alter overall job mobility rates, job mobility rates tell us little about the mobility costs facing the average worker.

- B. Residential location and individual psychic factors could account for some differences in job mobility among workers.
  - C. Economists argue strongly for job mobility despite the social and economic costs associated with it.
  - D. Outside of the United States, subsidized housing and controls on rent increases explain why there is less job mobility in urban areas than in nonmetropolitan areas.
  - E. Possibly due to housing and other differences, mobility costs may be lower in the United States than in most other developing nations, which could help account for differences in job mobility.
  - F. High job mobility arguably has both benefits, in terms of individual well-being and economic flexibility, and economic costs.
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## Passage 36 - Controversy about Causing Emotion

【Paragraph 3】In 1927, another early theory of emotion that challenged the James-Lange theory was proposed by Walter Cannon. He claimed that physical changes caused by the diverse emotions are not sufficiently distinct to allow people to distinguish one emotion from another. [A] After Cannon stated his original theory, in 1934, it was further developed by physiologist Philip Bard. [B] The Cannon-Bard theory suggests that the following chain of events takes place when an emotion is felt. [C] Stimuli which trigger emotion are received by the senses and then are relayed simultaneously to the cerebral cortex, which imparts the conscious mental experience of the emotion, and to the sympathetic nervous system, which generates the physiological state of arousal. [D] In other words, the feeling of emotion occurs roughly the same time when the physiological arousal is experienced. One does not cause the other.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

The emotions of rage and fear, for instance, both include a rapid heartbeat, perspiration, and increased energy supplied to the muscles.

Where would the sentence best fit?

10. [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.

There has been a controversy among researchers about the sequence of events in an emotional experience.

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#### Answer Choices

- A. Cognitive appraisal probably does not play a large role in an emotional experience, evidenced by the very brief span of time between an event and an emotional reaction.
  - B. Two early theory of emotion both assert that different emotions result from distinct changes in the body that correspond to particular emotions.
  - C. There is a disagreement among researchers who emphasize the cognitive aspect of an emotion about whether cognitive interpretation comes before or after physiological arousal.
  - D. Theories in disagreement with each other about the sequence of events in emotional experience concentrate on the extent to which cognition and interpretation are involved in an emotional experience.
  - E. Some theories claim that physiological arousal comes either before or at the same time as the feeling of an emotion, and contradict the subjective experience of emotion.
  - F. The Lazarus theory emphasized that an emotion comes from a positive or negative appraisal of a physiological arousal.
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## Passage 37 - Motor Development in Children

【Paragraph 4】[A] The development of reaching begins early on in life. Newborn infants seated in an upright position will swipe and reach towards an object placed in front of them, a behavior labeled "prereaching". [B] These poorly coordinated behaviors start to decline around two months of age and are replaced by "directed reaching" which begins at about three months of age. [C] At this time reaching becomes more coordinated and efficient, and improves in accuracy. [D] According to research conducted by Clifton et al., the infant's reaching does not depend simply on the guidance of the hand and arm by the visual system but is controlled by proprioception, the sensation of movement and location based on the stimulation arising from bodily sources such as muscle contractions. By about nine months old, infants can adjust their reaching to take into account a moving object. However, nine-month olds are far from expert reachers. A good deal of skill must still develop.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

What accounts for this greater accuracy?

Where would the sentence best fit?

10. [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 motor development in infants includes gross motor development and the fine motor development.

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#### Answer Choices

- A. The ability to move around in an environment gives infants an understanding of location and thus reduces the extent to which their memory is dependent on context.
- B. Infants become better at finding hidden objects once they have developed the type of grasp that allows them to handle and explore very small objects in their environment.
- C. Piaget argues that an infant's cognitive development is related to the development of fine motor skills that make it possible for infants to interact with and adapt their actions to their environment.
- D. Fine motor skills tend to develop later than do gross motor skills because fine motor skills require smaller, more finely tuned movements and a great deal of coordination.
- E. When infants first begin to grasp objects, they transfer the objects from hand to hand and firmly close their fingers against their palms.
- F. Reaching and grasping begin early; by about three months, reaching is more coordinated and efficient, and by one year, infants begin to develop a coordinated and finely tuned grip.

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## Passage 38 - Documenting the Incas

【Paragraph 1】The Incans ruled a vast empire in western South America when the Spaniards encountered them in the sixteenth century. [A] Although the Incas had no writing system of their own, historical information about Incas is available to researchers because early Spaniards wrote documents about them. [B] However, there are drawbacks to use the written record. [C] First, the Spanish writers were describing activities and institutions that were very different from their own, but they often described Inca culture in terms of their own society. [D] As an example,

consider the list of kings given by the Incas. As presented in the historical chronology, Spanish sources indicate there were thirteen kings who ruled sequentially. The names were given to them by Inca informants. However, one school of thought in Inca studies suggests that the names were not actual people, but, rather, titles filled by different individuals. Thus, the number of actual kings may have been fewer, and several titles may have been filled at the same time. The early Spanish writers, being unfamiliar with such a system of titles, simply translated it into something they were familiar with (a succession of kings). Given that the Inca empire expanded only during the time of the last four kings, or as a result of the actions of the individuals in those four positions, this question is not deemed significant for an understanding of the Incas. But the example shows that biases and inaccuracies may have been introduced inadvertently from the very beginning of the written Spanish reports about the Incas. Moreover, early writers often copied information from each other—so misinformation was likely to be passed on and accepted as true by later scholars.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence can be added to the passage.

Official accounts, legal papers, and letters written during that period provide a wealth of information about the Incan empire and the Incas' way of life.

Where would the sentence best fit?

10. [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 answer choices 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 accuracy of the historical record concerning the Incas is problematic.

#### Answer Choices

- A. Numerous aspects of Incan life were recorded in the sixteenth century but many historical documents created at this time were lost or destroyed.
- B. Many Spaniards were interested primarily in the expansion of the Incan empire and therefore ignored other periods of Incan history.
- C. The fact that the Incan informants were the main sources of information about themselves as well as inconsistencies in place names call the sound aspects of the accounts into question.
- D. Descriptions of Incan society may often be influenced by the cultural biases of people writing about Incas.
- E. Incorrect information may sometimes have been knowingly included in historical

records because it was advantageous to the person including such information.

F. The movement of people due to the Incan conquest and the settlement of the Spanish has caused much confusion about place names in the historical record.

## Passage 39 - Mesopotamian and Egyptian Settlement Patterns

【Paragraph 6】Egypt, however, was not without urban centers. [A] At points where goods entered the Nile valley via maritime routes or overland routes from the Red Sea via wadis (stream beds that remain dry except during the rainy season), the right circumstances existed for the growth of larger cities. [B] Egyptian cities and towns shared certain characteristics with other contemporary societies but also displayed unique traits influenced by the culture and environment of the Nile valley. [C] Thus, the geopolitical system that evolved in ancient Egypt was different from that of Mesopotamia; Egypt developed a village or territorial state characterized by dispersed settlements of varying size, a form of urbanism that gave Egypt its distinctive identity. [D]

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

For example, Egypt's capital, Memphis, was located at a strategic point near the mouth of the Nile and grew to be one of the largest settlements of its time.

Where would the sentence best fit?

10. [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.

Mesopotamia and Egypt represent two types of ancient settlement distributions.

### Answer Choices

- A. Mesopotamia was characterized by large, densely-populated urban centers, while the population of Egypt was more evenly distributed across the Nile valley.
- B. Unlike Mesopotamian city-states, which were culturally and economically distinct, Egyptian villages and towns shared a common language and economy.
- C. While defense was crucial in Mesopotamian cities due to competition for territory, trade routes, and raw materials, it was less important in Egypt.
- D. Once they realized that craft production was more profitable than crop production, many Mesopotamians moved from rural to urban areas.

- E. Differences in settlement patterns help to explain why the Egyptian central government survived and the Mesopotamian city-states did not.
- F. Trade specialists were evenly spread throughout Egypt, while Mesopotamia's vibrant commercial trade was concentrated in its large urban centers.
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## Passage 40 - The Collapse of the Maya

【Paragraph 5】Yet it may be incorrect to lay the blame entirely on human action. [A] Several of the lowland cities, such as Tikal, appear to have depended heavily on the cultivation of raised fields set in the marshy depressions known as bajos, which today flood intermittently in the rainy season but may originally have been permanent lakes. [B] The raised-field system of intensive cultivation (created by digging surrounding canals and using the soil removed to elevate the fields for planting) allows year-round food production through the constant supply of soil nutrients that erode into the drainage ditches dug around the raised fields, nutrients that are then collected and replaced. [C] Stable water levels were essential to this subsistence system, but evidence from Lake Chichancanab in Yucatan shows that between A.D 800 and A.D 1000 this region suffered its driest period of climate in several thousand years. [D] We may expect that as a result water level fell, and the raised fields in many areas became unusable. But the human response must be viewed through the lens of the social, political, and cultural circumstances. These exerted a powerful mediating effect on the way the Maya endeavored to cope with their difficulties. Had population levels been lower, the impact of the drought may not have been catastrophic, as it was, the Maya were already reaching the limits of the available subsistence capacity, and Mayan elites had espoused certain social and political agendas (including expensive warfare and competition with each other). It was against this specific background that a period of drought led quickly to crisis and collapse.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

Nature apparently also contributed to the food shortages.

Where would the sentence best fit?

10. [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 collapse of the Mayan city-states has been explained in various ways.

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#### Answer Choices

- A. The Mayan attempt to develop intensive agricultural methods to support large populations in relatively small areas probably was unsuccessful and could have caused the Mayan collapse.
- B. The discovery of intact pyramids submerged in vegetation among the Mayan ruins led researchers to believe that Mayan cities were simply overgrown rather than catastrophically destroyed.
- C. Warfare and rivalry between Mayan states may have caused food shortages that contributed to the eventual collapse of Mayan civilization.
- D. Early theories that the Mayan collapse was a sudden, catastrophic event were followed by views that treated the collapse as a gradual process.
- E. The continuing warfare and social unrest that started in the North and spread to the South provided researchers with evidence that the Mayan collapse took hundreds of years to occur.
- F. Drought between A.D. 800 and A.D. 1000 likely caused the Mayan system of intensive irrigated agriculture to fail, which could have brought about a rapid collapse of the Mayan states.
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## Passage 41 - The Emergence of Civilization

【Paragraph 6】This first phase of civilization is called the Bronze Age because of the importance of metal technology. The most characteristic Near Eastern Bronze Age civilizations, those of Mesopotamia and Egypt, were located in river valleys, were based on the extensive exploitation of agriculture, and supported large populations. [A] Bronze was a valuable commodity in these civilizations, the copper and tin needed for its manufacture did not exist in river valleys and had to be imported. [B] Bronze was therefore used mainly for luxury items, such as jewelry or weapons, not for everyday domestic items, which were made from pottery, animal products, wood, and stone. [C] In particular, bronze was not used for farming tools. [D] Thus, early civilizations based on large-scale agriculture, such as those of Mesopotamia and Egypt, were feasible only in soils that could be worked by wooden plows pulled by people or draft animals such as oxen. Other Bronze Age civilizations, however, such as those that arose in the Levant and eastern Mediterranean took advantage of their location on communication routes to pursue economies based on trade.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence can be added to the passage.

This significantly limited the availability of bronze.

Where would the sentence best fit?

10. [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 answer choices 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.

After 4000 B.C.E., organized drainage and flood-control projects in the Fertile Crescent allowed cultivation of river deltas and led to large population increases.

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#### Answer Choices

- A. The need for centralized administration to manage large-scale land-use projects led to the rise of religious and political institutions, with priests initially governing cities.
- B. The concentration of wealth and resources in river valleys led to technological advances such as wheeled vehicles, pottery wheels, and bronze metallurgy.
- C. The invention of writing around 3000 B.C.E. was a response to the need for record-keeping in increasingly complex economies and administrations.
- D. The first civilizations shared several defining characteristics including agriculture-based economies, large urban centers, social classes, labor specialization, metal technology, and writing.
- E. The Bronze Age civilizations of Mesopotamia and Egypt were located in river valleys and based on agriculture, but bronze was used mainly for luxury items rather than farming tools.
- F. Other Bronze Age civilizations, such as those in the Levant and eastern Mediterranean, pursued economies based on trade rather than large-scale agriculture.

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## Passage 42 - The Multiplier Effect

【Paragraph 2】In a work published in 1972, Professor Colin Renfrew approached the problem from a different viewpoint. [A] He argued that the scanty available evidence for invasion or immigration from Anatolia into Greece in the early Bronze Age (about 3300-2200 B.C.E.) showed that, at most, such incursion was limited, and that it could

not be regarded as responsible for the transformation of society there. [B] Trade, though clearly documented, was also an inadequate explanation in itself. [C] To understand the major changes in social organization and complexity that took place, it was necessary, said Renfrew, to determine the impact that new variables emerging in the early Bronze Age may have had on every interrelated aspect of the local social system. [D] The two new major developments he considered were changes in the subsistence economy and the introduction of bronze metallurgy.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

Instead, Renfrew emphasized the complex internal dynamics of change.

Where would the sentence best fit?

10. 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 answer choices 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.

Colin Renfrew's explanation of the rise of Aegean civilization rejected traditional views that the cause was one or another external influence on the developing society.

#### Answer Choices

- A. The emergence of Aegean civilization was the result of internal factors interacting with each other in a way that multiplied each other's effects.
- B. An increase in population created a shortage of agricultural land that increased social tensions and forced many farmers to become warriors for local chieftains.
- C. More effective bronze weapons increased the power of local chieftains, who imposed a system in which they collected farm and craft products in exchange for protecting their subjects.
- D. Once people began producing bronze, it surpassed wine and olive oil as the most important good traded in the Aegean.
- E. Agricultural surpluses from the production of olive oil and wine and the introduction of bronze technology together supported population growth, the development of crafts, and economic expansion.
- F. As the economy diversified and grew, a higher level of social organization was required, a need that encouraged the emergence of local chieftains and eventually led to the development of writing.

## **Passage 43 - The Western Roman Empire in the Fifth Century**

【Paragraph 5】Unfortunately, the high positions achieved by Germanic officers often aroused the jealousy and hostility of high-ranking Roman military and civilian officials. Such positions also gave their Germanic holders a chance to act on both personal and tribal animosities in the arena of Imperial politics. Internal Roman rivalries and power struggles aggravated the situation. Rival factional leaders often granted Imperial titles and conceded territory to one Germanic leader or another in return for help against fellow Romans. While the Romans were thus distracted by internal conflict, other tribes seized the opportunity to cross into Roman territory unopposed. [A] When the Romans could not dislodge them, peace was bought with further titles and territorial concessions as allies. [B] In the midst of it all, alliances and coalitions between Roman emperors or powerful commanders and various tribes or tribal kings were made, unmade, and remade so often that it is nearly impossible to follow their course. [C] Accordingly, all of these situations proved dangerous to the peace and safety of the West. [D]

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

Once within Roman borders, they proved difficult to remove.

Where would the sentence best fit?

10. [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.

Shortly after separation, the West Roman Empire became more vulnerable than its eastern counterpart.

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### **Answer Choices**

- A. The division of the Roman Empire into two parts was particularly damaging for the Western Empire because it relied on the Eastern Empire for economic support.
- B. The heirs of Theodosius came to the throne as young children, allowing them to be dominated by advisors who competed for influence at the expense of the empire's welfare.
- C. Western emperors after Theodosius were unable to emphasize their civilian role because of their need to rely on the protection of Germanic generals loyal to them.

- D. Compared to the Eastern Empire, the Western Empire had many disadvantages, including more foreign enemies and fewer material and human resources.
- E. Resentment against Germanic chieftains achieving high rank in the Roman military and factionalism among Roman leaders were among the causes of the period's considerable instability.
- F. As the resources needed to secure Rome's borders increased, serious conflicts developed among Roman leaders over how best to protect Roman territory against invading tribes.
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## Passage 44 - Newspaper in Western Europe

【Paragraph 2】Dutch publishers had an advantage over many other publishers around Europe because the Netherlands' highly decentralized political system made its censorship laws very difficult to enforce. [A] Throughout Europe in the seventeenth century, governments began recognizing the revolutionary potential of the free press and began requiring licenses of newspapers—to control who was able to publish news. [B] Another tactic, in France and elsewhere on the continent from the 1630s onward, was for governments to sponsor official newspapers. [C] These state publications met the increasing demand for news but always supported the government's views of the events of the day. [D]

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

And even when it was possible to apply laws limiting speech, authorities were reluctant to do so because of the growing economic importance of the commercial book market.

Where would the sentence best fit?

10. [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.

By the eighteenth century, newspapers had become established as a means of spreading news of European affairs within European society.

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#### Answer Choices

- A. Governments tried to control what news got published by sponsoring official newspapers, taxing publishers, requiring newspapers to be licensed, and instituting press-censorship laws.
- B. England was the most important market for news, but disruptions caused by conflict over how the government should control the press resulted in many British newspapers being driven out of business.
- C. Censorship laws were established and enforced differently across Europe because of differences in the political systems of the various countries.
- D. Europe's expanding commercial and political interests led to increased demand for news and also to improved systems for distributing newspapers.
- E. Although eighteenth-century newspapers were modest by modern standards, they made current events accessible to the reading public and facilitated the rapid exchange of news and opinions.
- F. Newspapers' regular presentation of strange and threatening news from around the world had the effect of making their readers feel more closely connected to their own local communities.

### Passage 45 - Effects of the Commercial Revolution

【Paragraph 3】[A] The commercial revolution constructed the economic basis as well for a new kind of town or city, an urban center that above all serviced trade and was home to the crafts and occupational specializations that went along with commercial development. [B] The urban locations of earlier times commonly drew trade simply because their populations had included a privileged elite of potential consumers. [C] Such towns had arisen in the first place as political and religious centers of the society, they attracted population because power and influence reside there and access to position and wealth could be gained through service to the royal or priestly leadership. [D]

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence can be added to the passage.

It was significantly different from the typical centers that existed before the commercial revolution.

Where would the sentence best fit?

10. 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 answer choices 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 commercial revolution of the last millennium B.C. resulted in both political and economic changes.

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#### Answer Choices

- A. New kinds of urban centers emerged that focused on commerce and encouraged craft and occupational specializations.
  - B. Rulers in the last millennium B.C. began to promote the material prosperity of their people through support and improvement of commerce.
  - C. More established commercial centers supplied final products to newer regions in exchange for raw materials.
  - D. During the first millennium B.C., new political and religious centers arose that based their power on their ability to protect their lands and people.
  - E. The focus on raw materials switched the balance of power from the manufacturing centers to the control of the exporters of the natural products.
  - F. Military occupation of neighboring lands became a major means of expanding trade into new territories.
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## Passage 46 - European Context of the Scientific Revolution

【Paragraph 2】[A] The social context for science in Europe in the sixteenth and seventeenth centuries had changed in several dramatic ways from the Middle Ages (roughly, 500 C.E. to the 1400s C.E.). [B] Advances in military technology, the European voyages of exploration, and contact with the New World altered the context in which the Scientific Revolution unfolded. The geographical discovery of the Americas generally undermined the closed Eurocentric cosmos of the later Middle Ages, and the science of geography provided a stimulus of its own to the Scientific Revolution. [C] With an emphasis on observational reports and practical experience, new geographical discoveries challenged accepted knowledge. Cartography (mapmaking) thus provided exemplary new ways of learning about the world in general, ways self-evidently superior to mastering established doctrines from dusty books. [D] Many of the scientists of the Scientific Revolution seem to have been involved in one fashion or another with geography or cartography.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence can be added to the passage.

Given the advantages these new approaches offered, it is hardly surprising that sciences associated with exploration attracted great intellectual interest.

Where would the sentence best fit?

10. [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 answer choices 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 geographical discovery of the Americas, the technology of printing, and the revival of cultural life and the arts all contributed to the Scientific Revolution.

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#### Answer Choices

- A. The discovery of the Americas stimulated the science of geography and cartography which in turn emphasized observation and practical experience.
  - B. The invention of movable type increased the accuracy and availability of information, and a new group of nonreligious scholars emerged.
  - C. The growth of both artistic and scientific activity in Renaissance Italy was encouraged by the financial support of universities and wealthy merchants.
  - D. Johannes Gutenberg's invention of printing in the late 1430s appears to have been unrelated to earlier developments in print technology in Asia.
  - E. European intellectuals first discovered the existence of ancient Greek science and mathematics texts in the late fifteenth century, when translations from the Arabic finally became available.
  - F. The revival of culture and art in fourteenth-century Italy encouraged the development of perspective and the adherence to mathematical rules in painting.
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## Passage 47 - Farming New England in Colonial Times

【Paragraph 4】With their very existence dependent on the successful production of food, farmers had little, if any, time for removing stumps and stones. Instead, they adapted to the half-cleared fields by planting corn (maize) and grass, both grew well in such an environment. [A] A pattern of "extensive" farming began to emerge. [B] Rather than carefully tending arable land, engaging in crop rotation, manuring, and removing all stumps and stones—all recognized as part of proper agricultural practice in Europe—New England farmers simply exploited the soil and then forged ahead with the clearing of new land. [C] Cutting down trees remained hard work, but it was easier to partially clear the land, plant it, and then move on to another small plot than to constantly improve the soil on one field to the high Old World (European)

standards. [D] The settlers were too busy figuring out how to produce food rapidly to worry about efficient agricultural practices.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

This way of farming differed considerably from the European system.

Where would the sentence best fit?

10. [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.

When European colonists settled New England, they tended to farm areas already cleared by Native Americans.

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#### Answer Choices

- A. Once the supply of suitable cleared land ran out, the settlers had to clear new land before they could plant, generally converting the trees they removed into lumber, fuel, or potash.
  - B. Because clearing fields took time and the need for food was pressing, farmers were forced to resort to extensive farming practices rather than follow their old European farming system.
  - C. The settlers developed a farm ecology that eventually made the region more productive than the South or even the mid-Atlantic area.
  - D. The settlers' attempt to follow what, in Europe, was considered proper farming practices was soon abandoned as they discovered that food could be grown more efficiently in other ways.
  - E. After planting corn (maize) enough times to drain the excess nitrogen out of the soil, the settlers were able to grow more familiar European crops such as wheat and rye.
  - F. The soil was not particularly fertile, but grass grew well and fed cattle that produced manure, which in turn served as fertilizer for crops and recycled nutrients back into the soil.
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## **Passage 48 - Population Revolution in Eighteenth-Century Europe**

【Paragraph 1】In late seventeenth-century Europe, what had been evolution in population followed by stabilization changed to population revolution. [A] Increasing contacts with the Americas brought more sophisticated knowledge of the advantages of new foods, particularly the potato. [B] Originally a cool-weather mountain crop in the Americas, potatoes did well in the Pyrenees, Alps, and Scottish Highlands. [C] They also grew well in the long, damp springtime of the northwest European plain. [D] Whatever hesitancy peasants may have felt about eating potatoes quickly passed when famine threatened; after all, people who in famines desperately consumed grass, weeds, and the bark of trees hardly would have hesitated to eat a potato. By the later eighteenth and the nineteenth century, American foods had become the principal foodstuffs of many rural folk. Various agricultural publicists promoted adoption of these foods, and peasants found that potatoes could allow subsistence on smaller plots of land. Fried potatoes soon began to be sold on the streets of Paris in the 1680s, the original French fries. Governments, eager to promote population growth as a source of military and economic strength, also backed the potato.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

What were the factors that led to this population revolution?

Where would the sentence best fit?

10. [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.

Population began to expand in the late seventeenth century Europe.

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Answer Choices

- A. Climate conditions in Europe allowed for the introduction of new crops that competed with American foods for popular consumption.
- B. An important cause of population growth was improved nutrition, due in large part to the addition of the potato and other American foods to the standard European diet.
- C. Regional landowners developed improved agricultural techniques, and mortality

- rates declined as governments gained control over traditional plague routes.
- D. Growth rates varied widely across the continent but were highest in France, Spain, and Britain and lowest in Prussia and the Hapsburg Empire.
- E. Birth rates went up as more people lived long enough to have their own children, had children earlier, and had larger families.
- F. Government policies promoting population growth helped to create a large labor force for the manufacturing industry.
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## **Passage 49 - The British Economy under the Roman Empire**

【Paragraph 5】These changes in manufacture were accompanied by increased distances over which many goods were transported to their consumers. [A] The bulk of pottery and other items originated locally, during the Iron Age; but after the Roman invasion, these objects had been produced over a far greater range of distances. [B] In this way, vast regions of the Roman province were incorporated into a society where there was wide access to material wealth. [C] New changes in manufacturing production were coupled with huge increase in the importation of goods from elsewhere in the empire. [D] These commodities, which included Mediterranean foodstuffs such as olive oil as well as comparatively low-value objects such as decorated pottery, also achieved a wide distribution and are found in many different types of site.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence could be added to the passage.

Furthermore, this provincial society was itself economically integrated with markets beyond its borders.

Where would the sentence best fit?

10. [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 answer choices 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 British Isles' economy experienced significant changes after the Roman conquest.

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#### Answer Choices

- A. British craftspeople slowly stopped producing items that generally were of little practical value in favor of the manufacturing of household products.
  - B. Manufacturers invested an increased amount of resources and time towards developing specialty equipment.
  - C. The production of goods still remained small scale, but the exclusive relationship between the governing elite and the best craftsmen broke down.
  - D. Trade goods manufactured in Roman Britain were spread throughout the Roman Empire.
  - E. The number and variety of goods found at sites in Roman Britain as well as the development of sophisticated manufacturing processes are evidence of economic development under the Romans.
  - F. Roman Britain experienced a rise in product imports from elsewhere in the empire.
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## Passage 50 - Written Records

【Paragraph 4】[A] In recent years, one of the most significant advances in Mesoamerican archaeology has come from deciphering many of the inscribed symbols (glyphs) on the stone stelae (pillars or columns) at the largest centers. [B] It had been widely assumed that the inscriptions were exclusively of a calendrical nature or that they dealt with purely religious matters, notably the deeds of the gods. [C] But the inscriptions can now in many cases be interpreted as relating to real historical events, mainly the deeds of the Maya kings. [D] We can now also begin to deduce the likely territories belonging to individual Maya centers. Maya history has thus taken on a new dimension.

9. Look at the four squares [A], [B], [C], [D] that indicate where the following sentence can be added to the passage.

Being able to accurately interpret an ancient language has in many cases transformed our knowledge about the society that used it.

Where would the sentence best fit?

10. [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 answer choices 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.

Written records of ancient civilizations preserved in several forms have added to our knowledge of early literate societies.

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#### Answer Choices

- A. Clay tablets from Mycenaean Greece provide insights into its economy and state structures, and interpreting Mayan symbols on stone stelae has led to a new understanding of Mayan history.
- B. Accidents of preservation of ancient texts can lead to a misunderstanding of the functions and purposes of writing in early literate societies.
- C. The earliest Anglo-Saxon written record of England, The Anglo-Saxon Chronicle, describes the early kings of England and provides valuable insights into its emergence as a full state society.
- D. Literary texts written on marble by the Classical Greek and Roman civilizations have survived, while Egyptian literary texts that were written on papyrus are now very rare.
- E. As a result of reading ancient historical texts, historians have come to understand that many early European kings were as powerful as the chiefs of Africa and Polynesia in recent times.
- F. Ancient historical and literary texts present their societies from particular points of view that can lead researchers to develop mistaken assumptions about these societies.