



NEW PRE-TOEFL READING PAMPHLET

Dr. Ghaemi's Language Learning Center

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Chapter 1: Fact Questions

Necessary Skills

- Identifying important information and facts stated in a passage
 - Locating a specific piece of information in a passage quickly
 - Understanding the distinction between main ideas and supporting details
 - Focusing on facts, details, definitions, or other information presented in a passage
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Sample Questions

- According to the passage, who/when/where/what/how/why..... ?
 - According to paragraph X, which of the following is true of.....?
 - The author's description ofmentions which of the following?
 - According to paragraph X, occurred because
 - According to the passage, why did X do Y?
-

Strategies

- Look for transitional expressions to locate details such as examples, steps, time, reasons, or results.
- Pay attention to examples and descriptions that provide information and details.
- Eliminate choices presenting information that contradicts what is provided in the passage.
- Answer the specific question being asked. Do not select an answer just because it is mentioned in the passage.

Reading 1: Astronomy: Titan's Atmosphere

Saturn's largest moon, Titan, has recently become a source of interest to atmospheric scientists. Atmospheric scientists focus on the way moisture and weather patterns within an atmosphere interact. Eager to find new environments to observe, scientists have begun looking at Titan. It is the only one of Saturn's moons large enough to support an atmosphere. Given its distance from the sun, Titan is significantly colder than Earth. However, its atmospheric conditions are nearly identical to Earth's in many regards. On Earth, liquid water evaporates and rises into the atmosphere, where various forces move the air. These atmospheric air currents dictate the formation of clouds, wind direction, and the places where precipitation occurs. Scientists observing Titan have found that its atmospheric currents are similar to those on Earth and are responsible for similar events.

Unlike Earth, however, the vapor in Titan's atmosphere is not evaporated water. As Titan is much colder than Earth, water can only exist as a solid. Methane on Titan, on the other hand, behaves in a manner similar to water on Earth. We are accustomed to seeing methane as a gas, as that is how it commonly occurs on Earth. Titan's lower temperatures, however, allow methane to coalesce into a liquid and become a vapor. Given Titan's atmosphere, the evaporated and liquefied vapor acts in a manner similar to the way water behaves on Earth. It puddles on Titan's surface, evaporates, and forms into clouds. As a result, the atmospheric conditions on Titan mimic those observed on Earth.

By observing the atmospheric events on Earth and comparing them to those on Titan, scientists can improve their understanding of atmospheric behavior. On Earth, for instance, the atmospheric forces result in a large concentration of clouds and precipitation along the equator. This area of concentration, known as the inter-tropical convergence zone (ITCZ), can also be observed on Titan. However, the ITCZ on Titan is not limited to its equatorial region. Instead, liquid methane actually evaporates into vapor along the middle section of the planet. It then moves toward the poles, where it is deposited as precipitation. This unusual behavior can most likely be attributed to the fact that Titan lacks an ocean, which plays a key role in evaporation on Earth. The outcomes of the atmospheric activity on Titan and Earth are quite different. Yet, this difference can be very helpful in honing our understanding of the way moisture in the atmosphere interacts and produces different atmospheric events. Since atmospheric science studies complex systems with a number of factors, these environments are nearly impossible to accurately reproduce in a lab. As such, it is difficult to test theories that scientists may have on atmospheric behavior. The fact that we are now able to study another atmosphere and compare and contrast it with that of Earth is valuable in improving our understanding of atmospheric sciences.

1. According to paragraph 1, what do scientists hope to do by studying Titan's atmosphere?

- (A) Gain more understanding of how methane behaves at lower temperatures
- (B) Improve their knowledge of atmospheric events and their causes
- (C) Begin finding atmospheres other than Earth that are friendly to life
- (D) Prove that any element can play a part in generating atmospheric events

2. According to paragraph 3, an inter-tropical convergence zone is:

- (A) An area of concentrated moisture within an atmosphere
- (B) An area that only occurs along the middle section of Titan
- (C) An atmospheric event occurring in equatorial regions
- (D) An event observed exclusively in Earth's atmosphere

3. According to paragraph 4, why is it helpful to have another atmosphere to compare with Earth's?

- (A) We are not familiar with the way methane behaves at lower temperatures.
 - (B) Most theories concerning atmospheric behavior are only relevant to Earth.
 - (C) Most planetary bodies simply lack atmospheres that we can observe.
 - (D) Reproducing atmospheric variables in a lab is nearly impossible.
-

**Reading 2: Environmental Science:
Detecting Bacterial Contamination in Water Supply**

Contemporary water treatment methods allow governments to treat water infested with potentially harmful bacteria and make it drinkable. While these methods make tap water entirely safe to drink, it is not practical to treat all of the world's surface water in this fashion. Thus, people who use untreated water for recreational purposes are at risk of ingesting harmful bacteria. As a solution, the British government and a number of other countries within the European Union are working together. Their goal is to produce a method that can be employed to prevent bacterial contamination of lakes, rivers, and oceans.

This method, however, does not actually cleanse the water. Rather, it is used to evaluate which areas in a region may contribute to water contamination. It is especially useful near agricultural regions. These areas are where contamination is most likely to occur. Large amounts of animal waste in these areas increase the possibility of harmful contaminants making their way into water. This new method will be used to test the agricultural regions and determine where preventative measures are needed.

Due to the high amount of animal waste used and produced by the agriculture industry, analysts have adjusted their efforts specifically to such areas. When precipitation occurs near facilities that hold animals, it is possible that contaminants will be picked up from waste material and run into water sources. In addition, many vegetable farmers may use animal waste to fertilize their fields. This can also contaminate runoff water. As these processes are necessary to provide food for a country, it is impossible to stop them entirely. Instead, these new methods are being employed to locate particular spots that are most likely to cause contamination.

These methods involve taking a number of soil samples from any given agricultural area and bringing them to a lab. The samples are analyzed to count bacteria. Those with particularly high concentrations of bacteria are matched with the region they were taken from. Researchers can then return to high-risk areas and help local people take measures to prevent contamination by runoff. For instance, farmers might avoid heavily watering a high-risk field. By watering high-risk fields more frequently using less water, the risk of contamination by runoff is minimized. Since water is less likely to run out of the field this way, it is also less likely to work its way into public water sources. The methods can also be adjusted in regions where water pollution is already occurring. Finding the most intense sources of pollution allows experts to focus their attention on the few areas that need the most work.

These efforts represent preventative methods that governments are employing in an attempt to stop environmental crises before they occur. In using this mode of analysis and responding

accordingly to the results, a community can pinpoint sources of serious pollution. They can then address them before their water becomes contaminated. In the long run, these efforts will prove valuable in preventing sickness and making water safer to use for recreation.

1. According to paragraph 3, why are agricultural areas some of the most likely contributors to water contamination?

- (A) In cleaning and growing food, a number of harmful chemicals are used.
- (B) They produce and use a large amount of animal waste.
- (C) In cleaning and growing food, the industry is in close contact with water supplies.
- (D) They lack the facilities necessary to purify the water they use.

2. According to paragraph 4; why are soil samples from fields taken into a laboratory?

- (A) To check for possible chemical contamination of the soil
- (B) To see if contaminants are making their way into the food being grown
- (C) To ensure that farmers are using the right amount of fertilizer
- (D) To evaluate the concentration of bacteria within a sample

3. According to paragraph 4, farmers should irrigate high-risk fields more often with less water because

- (A) it minimizes runoff from the field
- (B) it assists in the rapid growth of crops
- (C) it is unnecessary to use fertilizers
- (D) it keeps contaminants from entering fertilizer

**Reading 3: Business:
Equity Theory**

Equity theory was originally explained by a behavioral psychologist, John Stacy Adams, in 1963. This theory attempts to explain an individual's behavior within the context of striving toward equilibrium in a situation. Equity theory claims that individuals act according to inequities that they perceive in their environment. When people observe an unequal situation, they experience distress. This compels them to act in a way to achieve equity within the situation.

Equity theory is applicable to a number of realms. It can be used to explain how individuals act in personal relationships: It also has been employed extensively in the realm of business management. For instance, employees that know they are being paid less than their coworkers for doing more work would feel under-compensated. In an effort to correct this inequity, they might attempt to fix the observed inequity in a number of ways. They might work less, talk to their managers, or attempt to motivate their coworkers to work harder.

Equity theory can also be applied to employees that perceive an inequity that favors them. Employees who feel that they are getting too much in return for their input may attempt to remedy the situation. They may work harder, argue for better pay for others, or take other measures to make the situation equitable.

By applying equity theory to actual situations in a workplace, managers can gain valuable insight into factors motivating their employees. However, attempts to make practical sense of equity theory reveal its weaknesses. Critics point out that not all employees will seek to correct

inequities in the workplace. Non-confrontational people who feel under-compensated may continue to work in the inequitable conditions simply because they fear conflict. Employees who are over-compensated, on the other hand, might be satisfied with the inequitable situation. They may do nothing to change it for fear of hurting their position. In short, equity theory unjustifiably presumes that individuals will value equity over all other factors. Moreover, it fails to account for quirks in someone's personality that might cause him or her to avoid addressing inequality.

A larger criticism stems from the fact that equity theory only seeks to explain individuals' responses to perceived inequities between individuals. Equity theory does not account for perceived inequities between individuals and systems. For instance, an employee might feel equally compensated as compared to his or her fellow employees. However, he or she might feel that the business is not paying anyone enough. Equity theory does not account for this.

These shortcomings highlight the impractical aspects of equity theory, which seems to oversimplify a very complex subject. Ultimately, there are a number of factors that may influence how individuals act in any situation. Their perception of inequalities is only a part of a much bigger picture. Equity theory may be part of one person's considerations in acting a certain way. However, it is by no means a comprehensive explanation for individual behavior.

1. According to paragraph 1, how does equity theory explain individual behavior?

- (A) Equity is achieved in a system by individuals acting on self-interest.
- (B) Individuals behave in a self-interested way with little regard for others.
- (C) Individuals attempt to correct perceived inequities they observe in relationships.
- (D) Perceived inequities in a business environment may cause employees to act in a certain way.

2. According to paragraph 3, which of the following is true of equity theory?

- (A) Managers can use it to understand their employees.
- (B) Employees can use it to justify their request for a raise in pay.
- (C) Managers can use it to motivate employees to work harder.
- (D) Employees can use it to change their perception of a business.

3. According to paragraph 3, what is equity theory's main weakness?

- (A) It fails to account for other factors that compel an individual to act.
- (B) It has been proven that people are self-interested and uninterested in equity.
- (C) It is difficult to apply to the real world in a meaningful way.
- (D) It is too complex for most managers to adequately understand and apply.

**Reading 4: Biology:
Thermoregulation in Mammals**

Over the course of their evolution, mammals have developed a sophisticated nervous system by which they can control their internal temperature. Thermoregulation allows mammals to keep their internal temperatures constant. This can occur despite external temperature changes in their environment. It offers mammals a degree of freedom from their environment. However, it requires a very large expenditure of energy. This process is centered within the hypothalamus. The hypothalamus is a part of the brain responsible for other subconscious functions like breathing and

blinking. By using nervous signals sent from temperature-sensing nerves in the skin, the hypothalamus can activate mechanisms in the body to regulate the body's internal temperature. .

The most basic process for temperature .regulation is simply to change the rate of heat production. The hypothalamus sends signals to skeletal muscles, which causes them to move .• This movement requires muscle cells to metabolize substances to produce energy and in doing so, create heat. A mammal involuntarily shivers when it is cold because the hypothalamus is ordering the muscles to move and produce heat. Conversely, the hypothalamus can also stop unnecessary muscle movement and slow metabolic heat production to cool a mammal.

The hypothalamus can also trigger vasodilation and vasoconstriction in blood vessels near the surface of the skin. Using these processes, the amount of heat lost to the environment can be controlled to a degree. When a mammal enters a cold environment, the blood vessels near the skin surface constrict. This lessens the amount of blood that flows into those regions. As such, heat loss resulting from the flow of blood can be reduced. The opposite process, vasodilation, can be used to help cool the body by increasing the flow of blood to vessels near the surface of the skin.

Terrestrial mammals-those that live on land-can also regulate their temperature by controlling the amount of moisture released by the skin. When released moisture collects on the skin of a mammal, it eventually evaporates into the air around it. The evaporation process creates a cooling effect on the surface of the skin, which can be used to regulate temperature. This is common among humans. who sweat when they enter warm environments. Some mammals lack the ability to produce sweat. However, they can still use evaporative cooling methods to regulate their body temperature. Rodents, for instance, may use saliva to wet their heads. Bats use their own saliva and urine to cool themselves. Evaporative cooling of the skin coupled with vasodilation can quickly reduce a mammal's body temperature.

Finally, mammals may simply relocate to regulate their body temperature. In desert regions, mammals gather underneath the shade of trees to avoid harsh sunlight. During winter, many mammals go into hibernation-a deep sleep in which many body functions slow considerably. Hibernating mammals survive the winter months by conserving energy and dedicating it to sustaining a constant temperature. The hibernation process relies on reserves of energy stored as fat, which are burned over the winter to produce heat. Thanks to hibernation, many mammals can inhabit extremely cold regions and survive the winter.

All of these thermoregulatory processes are controlled by the hypothalamus. Some mechanisms, such as hibernation or relocation, may require a conscious effort on behalf of the organism. However, even those processes employ parts of the hypothalamus. At the core of any thermoregulatory process is one of two parts of the hypothalamus: the heating center or the cooling center. As the name suggests, the heating center senses temperature changes and triggers certain mechanisms when the mammal needs to conserve or produce heat. Alternatively, the cooling center senses excessively warm conditions around the mammal. It then triggers responses to reduce the body temperature. The hypothalamus is the core of thermoregulation.

Without these thermoregulatory devices, mammals would be at the mercy of their environment. Like reptiles, mammals would have to bask in the sun to be able to move or function. Thermoregulatory devices allow mammals to travel to regions inaccessible to reptiles and continue to function in spite of weather. This comes at the cost of energy consumption, which is much higher than for most reptiles. To maintain a steady temperature in an environment of twenty degrees Celsius, a human male has to metabolize 1800 kilocalories a day. Meanwhile, a typical alligator only metabolizes sixty kilocalories per day. The alligator, however, has to wait for adequate heat in its environment before it can move. Furthermore, alligators and most other large

reptiles are forced to remain in environments that stay warm year-round. Thanks to thermoregulation, mammals are mobile and independent from their environments.

1. According to paragraph 1, what do thermoregulatory mechanisms allow mammals to do?

- (A) Move about freely without relying upon environmental conditions
- (B) Maintain their biological functions without conscious thought
- (C) Consume energy in a more efficient way than other types of animals
- (D) Avoid overheating in extremely hot environments

2. According to paragraph 3, how does vasoconstriction help regulate temperature?

- (A) By keeping blood vessels from moving towards the skin
- (B) By increasing the flow of blood underneath the skin
- (C) By forcing cooler blood closer to the surface of the skin
- (D) By narrowing blood vessels near the surface of the skin

3. According to paragraph 5, relocation and hibernation are different from other thermoregulatory mechanisms because

- (A) they can be used to produce and conserve heat, but not cool an organism.
 - (B) they do not cause a physiological change within the organism.
 - (C) they may require conscious effort by the organism.
 - (D) they work independently of other thermoregulatory mechanisms.
-

Chapter 2: Negative Fact Questions

Necessary Skills:

- Recognizing incorrect information as well as information not mentioned in the passage
- Identifying paraphrases that do or do not correctly summarize information from the passage
- Verifying that three answer choices are true and one is false

Example Questions

- All of the following are mentioned in paragraph X asEXCEPT:
- According to the passage, which of the following is NOT.... ?
- The author's description ofmentions all of the following EXCEPT:

Strategies

- Be aware that often, the three incorrect answer choices are spread across a paragraph or several paragraphs.
- Keep in mind that the correct answer either directly contradicts one or more statements in the passage or is not mentioned in the passage at all.
- Check your answer to make sure that you understood the question accurately.

Reading 1: Photography

Early Photographic Processes

Two processes invented during the Industrial Revolution advanced the field of photography. These new processes made images available to the general public. Before these processes were invented, the first permanent photographic images took eight hours to expose and develop. This made the development of photographs a long and tedious process.

This all changed in 1839 when the daguerreotype was produced in France and the calotype was invented across the channel in England. Though both methods came out the same year and broadened the scope of photography, they produced very different results:

The daguerreotype, invented by Louis Jacques Mande Daguerre, was the first to gain popularity. Creating a daguerreotype involved producing images on copper plates coated in a silver-and-chalk solution. One great disadvantage of daguerreotypes was the mercury used in the process. After the photo was taken, it was placed in mercury fumes to form a latent image. The vapors were hazardous to the photographer and could result in mercury poisoning. There is speculation that Daguerre himself may have suffered from mercury poisoning in his later years.

Unlike daguerreotypes, calotypes were images developed on paper. Invented by William Fox Talbot, the paper was coated with alternating layers of silver nitrate and salt. This made silver chloride. When exposed to light, the silver chloride decomposed, evaporating the chloride. At the same time, the silver oxidized when placed in contact with gallic acid. Photographs using this method could be exposed in as quickly as thirty seconds on a bright day. Calotypes produced negative images with light areas appearing dark and dark areas appearing light. Talbot discovered that by placing a second sheet of photographic paper underneath the negatives, he could make multiple numbers of images.

Daguerreotypes produced clear images with fine detail. At first, they were more popular than calotypes because the texture of the paper fibers used in calotypes made the images slightly blurry. On the other hand, the polished surface of daguerreotypes could result in a reflection that made viewing difficult. Calotypes were easier to examine and less fragile, making them popular with travelers. Since calotypes were printed on paper and not on metal plates, they did not require the glass coverings and cases like daguerreotypes did. However, the most significant contrast between the two was the calotype's use of negatives. It was possible to make multiple copies of a calotype. A daguerreotype was a one-of-a-kind image that could not be reproduced.

The invention of daguerreotypes and calotypes helped pave the way for modern photography. Calotypes have had a more lasting impact since photographs are still printed on paper and negatives are used to reproduce many images. However, the glossy clarity of the daguerreotype is also still desirable today. Later photographers would improve on the development process of these two techniques. Yet, the original results of Daguerre and Talbot's ingenuity is still seen over a century later in today's photographs.

1. Calotypes and daguerreotypes have all of the following in common EXCEPT:

- (A) Their use of paper in the printing process
- (B) Shortened exposure time from previous styles
- (C) Their use of silver in the development process
- (D) Their need for a development process

2. The author's description of calotypes mentions all of the following EXCEPT:

- (A) The production of negatives
- (B) The creation of multiple prints

- (C) The use of mercury during development
- (D) The photographs are easily carried

3. According to the passage, which of the following is NOT true of daguerreotypes?

- (A) They are not reproducible.
 - (B) They are easily breakable.
 - (C) They are typically encased.
 - (D) They are blurred and unclear.
-

Reading 2: Geology

Effects of Temperature on Elevation

Imagine two of the world's largest cities, New York and Los Angeles, submerged underwater due to natural causes. What "natural causes" could lead to such a disaster? Immediately, thoughts of earthquakes and flooding come to mind. Yet, the explanation might be something much more subtle. A recent geological study has found a correlation between the temperature of the Earth's crust and the elevation of its surface. Using North America as an example, the study reveals how increases or decreases in temperature can cause changes in the altitude of any given place on the continent

Previously, scientists believed that variations in the thickness and composition of crustal rocks alone were the reasons for the elevation and buoyancy of different areas in North America. It was thought that elevation was the result of tectonic plates in the Earth's crust that collided to build mountains, sink the sea floor; and contribute to volcanic activity. They did not consider the heat that makes rock expand as a factor. When rocks are heated, they become less dense and more buoyant, an occurrence known as thermal isostasy.

A new study of elevation takes into consideration not only the composition of the rock in the upper mantle and crust, but also its temperature. Ice floats because when water freezes, it expands and becomes less dense. Similarly, when heat is applied to rock, it also expands and becomes less dense. The heat that aids in buoyancy and maintains elevation is found in the Earth's interior and from the radioactive decay of elements in the Earth's crust. The significance of taking into account temperature, composition, and thickness of crustal rock is that it allows scientists to examine other heat sources that may affect elevation, such as "hot spots." Hot spots are places in the Earth's mantle where rocks melt and create magma.

The city of Seattle, Washington in the northwestern United States is at sea level. It is located on rock that is at below average temperature for crustal rock. The slab beneath the city is insulated from the heat beneath it. If it were not, then Seattle's elevation would rise to 1,813 meters above sea level. The increase in temperature would expand the crust under the city and make it more buoyant, thus increasing the altitude. It stands to reason that if cooling makes elevation fall, then heat makes it rise. Denver, Colorado is located in the Rocky Mountains. It is called "The Mile High City" because its elevation above sea level is exactly one mile. If the temperature beneath the mountains dropped low enough, it is estimated that Denver would go from 1,609 meters above sea level to 222 meters below sea level.

Clearly, temperature has a large impact on elevation. It will take billions of years for the rock beneath North America to cool and become dense enough to submerge most of the continent.

However, monitoring elevation changes can aid scientists in predicting temperature shifts on the Earth's surface. In some areas, increases in altitude could signal the beginnings of volcanic activity as magma heats up crustal rock. This would allow for advance warning of volcanic eruptions.

1. According to the passage, all of the following affect elevation EXCEPT:

- (A) Crustal rock' density
- (B) Changing temperature of crustal rock
- (C) Changing water temperature
- (D) Composition of crustal rock

2. According to the passage, which of the following is NOT true of thermal isostasy?

- (A) It makes rock expand.
- (B) It reduces the density of rock.
- (C) It increases floating capability.
- (D) It creates hot spots.

3. All of the following can result in an increase in altitude EXCEPT:

- (A) An increase in the temperature of the crustal rock.
 - (B) Heat rising to the crust's surface.
 - (C) A decrease in the density of the crustal rock.
 - (D) Crustal rock becomes more buoyant.
-

Reading 3: Architecture

Architectural Styles of Le Corbusier

A leader in modern architecture was Charles-Edouard Jeanneret-Gris. Better known as Le Corbusier, he embraced the idea that land, people, and buildings should work together. Endowed with great natural talent, he was one of the most influential architects of the twentieth century. Examples of his work can be found in countries around the world. Though he is classified as a modernist architect, Le Corbusier used different architectural styles throughout his career to create his works of art.

Le Corbusier himself was one of the leading proponents of the international style of architecture. This style refers to the buildings and architecture during the 1920s and 30s, the decades that saw the formative years of modernism before World War II. The chief feature of the international style was a radical simplification of form that rejected ornamentation, preferred glass, steel, and concrete for building materials, and favored transparency to allow in more natural light. It accepted the use of industrialized mass production techniques and saw construction as the honest expression of structure. Four slogans summed up the ideals espoused by architects that used the international style: "ornament is a crime," "truth to materials," "form follows function," and Le Corbusier's own claim that houses are "machines for living in." This last quote indicates his fascination with machinery such as automobiles and steamships. He believed that houses, like machines, should be functional. Most of Le Corbusier's designs are based on the international style. One example is the Villa Savoye built in 1929 by Le Corbusier in Poissy, France. With its steel and concrete structure, stucco walls, and simple box design, it adheres to the concepts of the international style. The Villa Savoye is considered a prime example of modern architecture and one of Le Corbusier's trademark works.

A decade after World War II, Le Corbusier turned from international style to an expressionistic one when he built the Chapel of Notre Dame du Haul at Ronchamp in France in

1955. The expressionistic style is characterized by the distortion of form for emotional effect, the curving of geometry, the subduing of realism, the borrowing of natural forms, and the use of mass-produced building materials in the international style. Notre Dame du Haul was reconstructed on the site of a pilgrimage chapel that was destroyed during the war. Le Corbusier designed it specifically to make use of the hilltop view of the horizon. Visible from all four sides, the natural surroundings aid in the expressionistic style of the chapel. The building itself is made of concrete and stone, some of which were remnants of the destroyed chapel. The walls are short and thick, while the upturned concrete roof is supported by columns and resembles a sail. The sail shape alludes to the chapel being a "ship" of religion. The building is considered one of the most important examples of religious architecture in the twentieth century, due to its unique design.

Le Corbusier himself termed his next style Brutalism when he referred to his choice of building material as *beton brut* or "raw concrete." Brutalism has its roots in modernist architecture, preferring to use rough-hewn concrete, stone, stucco, and glass. It is characterized by repeated angular geometric shapes, glaring irregularities, and rough textures in the unadorned concrete. It often demonstrates the building's function using the exterior of the building. For example, Le Corbusier's Monastery Sainte Marie de La Tourette has a rough finish to the concrete and a stark design intended to reflect the simple and sometimes harsh life of a monk. The large concrete structure sits in a meadow surrounded by forest and dominates the landscape. The monastery contains strategically placed sources of natural light to evoke a feeling of silence and reflection. There are no stained glass windows, images, or statues for adornment. Although it is still in use today by a small number of monks, La Tourette is a popular site for architecture students to visit. They can stay overnight in one of the hundred narrow cells and study a master architect's achievement first-hand.

Le Corbusier was voted one of Time magazine's most influential people of the twentieth century because of his impact on building design. His creations range from private homes to churches and government buildings. Le Corbusier's designs are important examples of modernist architecture that still awe people with their ingenuity today, no matter which style he used to build them.

1. The author's description of the international style of architecture mentions all of the following EXCEPT:

- (A) Rejection of adornment
- (B) Use of natural light
- (C) Subduing of realism
- (D) Use of simple forms

2. According to the passage, all of the following styles of architecture were used by Le Corbusier EXCEPT:

- (A) International style
- (B) Naturalist style
- (C) Expressionist style
- (D) Brutalism style

3. According to the passage, which of the following is NOT true of the brutalist style of architecture?

- (A) The architect's use of angular geometric shapes.
- (B) There are noticeable irregularities in the exterior.
- (C) The presence of rough textures in the materials.

(D) A distortion of forms for emotional impact.

Reading 4: Environmental Science

Mountain Removal Mining

From below, everything appears as it should. A mountain thick with trees, wildlife foraging for food, and the undisturbed natural beauty of the rocky landscape. However, looking down on that same mountain from the air, viewers observe quite a difference. Instead of seeing a majestic peak, there is a flat plateau sitting hundreds of meters below the hills surrounding it. In the Appalachian Mountains of the United States, a new form of coal mining is taking place. Called mountaintop removal mining, it is a form of surface mining that is stirring up a large amount of controversy.

The process of mountaintop removal mining begins with clearing the land of all trees and removing the topsoil. The trees are usually sold to lumber companies and the topsoil is put aside for reclamation once the mining is completed. Miners then use explosives to expose the coal. The resulting debris is then pushed into nearby valleys to create what is called a valley fill. An excavator uses a bucket to scoop up the coal on the surface. Then the coal is taken to a processing facility where it is washed, resulting in millions of gallons of wastewater called "slurry." The pools of slurry are usually contained by earthen dams near the coal plant. After all the coal has been mined from the mountain, the topsoil that was removed at the beginning is replaced, and seeded to grow vegetation. However, it is not required that the land be returned to its original state.

There are some advantages to mountaintop removal mining. It is the most cost-effective method of coal mining, cheaper than underground mining per ton of coal. Using this process, coal production increased from ninety-five million tons in 1977 to 181 million tons in 1998. Mountaintop removal mining uses explosives and heavy machinery to extract the coal. This makes it a much faster method than underground mining. Another benefit to coal companies is that the machinery allows the work to be done with fewer employees. Also, it is safer for miners in comparison to underground mining since coal seams are accessed from aboveground instead of underground, removing the risk of cave-ins. In some areas of Central Appalachia, mountaintop removal mining sites allow for development of land where stores, hospitals, schools, and industrial parks can be built.

Despite the benefits of mountaintop removal mining, it takes a heavy toll on the environment and the people who live in areas near mining sites. Residents of mining communities have to deal with the noise and resulting flying rock from the destruction of the mountaintop. There are also damages to house foundations as a result of the ground shaking explosions. The dust from these explosions contains sulfur compounds that can cause corrosion and pose health risks. It settles into air vents and on anything outside, such as lawn furniture and playground equipment. The advantage the coal company receives from employing fewer workers means residents of Appalachia are at a loss for jobs in an area where most live below the national poverty level. Due to the environmental pollution of the mining communities, it is unlikely other industries will move in and supply new jobs. Valley fills have buried an estimated 1,931,212 meters of streams that are now contaminated. A by-product of valley fills is acid mine drainage, which accumulates in groundwater systems. This results in acidic water high in magnesium, aluminum, and iron that contaminates drinking water, streams, rivers, and lakes. Some coal companies have bottled water delivered to whole communities because the pollution from their mining operations causes groundwater systems to become undrinkable. Another concern is the breaking of slurry dams,

which can release a flood of wastewater containing chemical and metal toxins such as mercury and arsenic into homes, schools, and water supplies.

There are distinct advantages and disadvantages to mountaintop removal mining. Since ninety percent of mined coal is used in the production of electricity, it is a valuable resource with a high consumption rate. The debate is whether or not the benefit of mining coal in a cost-productive, efficient manner is worth the impact it has on the environment and residents of mining communities. Much of the evidence indicates that more coal is not worth the destruction of the Appalachian Mountains or its residents, especially when considering the potential damage that can be caused if mountaintop removal mining continues.

1. The author's description of possible outcomes of mountaintop removal mining mentions all of the following EXCEPT:

- (A) Acid mine drainage
- (B) Harmful sulfur dust
- (C) Cave-ins
- (D) Slurry ponds

2. According to the passage, which of the following is NOT an advantage of mountaintop removal mining?

- (A) The land does not have to be returned to its previous state.
- (B) There is less risk than underground mining.
- (C) Coal companies find it more cost-efficient.
- (D) Coal can be mined faster.

3. All of the following are disadvantages of mountaintop removal mining EXCEPT:

- (A) Polluted water supplies
 - (B) Cracked house foundations
 - (C) No new industries in mining areas
 - (D) An increase in developable land
-

Chapter 3: Inference Questions

Necessary Skills

- Perceiving ideas that are suggested but not directly stated within a passage
- Drawing conclusions based on information given within a statement or section of a passage
- Determining logical implications of the author's words

Example Questions

- Which of the following can be inferred about.....?
- The author of the passage implies that....?
- Which of the following can be inferred from paragraph X about.....?
- Based on information in paragraphs X and Y, what can be inferred about.....?
- It is suggested in paragraph X that.....

Strategies

- Ensure that your answer does not contradict the main idea of the passage.
- Do not choose an answer because it seems important or true. The correct answer must be inferable from the passage.
- Check that you can defend your answer choice by referring to explicitly stated information in the passage that points to the inference you have chosen.

Reading 1: Business

Improving Productivity

A key determinant of a company's success is its level of productivity. Productivity measures the time it takes workers to produce a particular product. Developing good employee attitudes and creating incentives for employees improve a business's productivity and effectiveness.

A well-managed company encourages behavior in its employees that causes an increase in productivity. Many characteristics are associated with well-directed companies. These include having high expectations for employees' work performance, trusting employees, and treating them with respect. These characteristics improve a worker's attitude. It goes without saying that satisfied workers tend to be more productive. Companies that show great organizational skills also try to engage employees in the workplace. They do this in the hopes that the employee will work hard to make the company more efficient and competitive in the market. A company may, for example, engage its employees by challenging them to be creative team players in the company. Allowing creativity and teamwork can make employees feel successful in their job. This leads to improvements in productivity.

Good attitudes also arise when well-managed companies motivate workers to do well in their jobs. The motivation employees receive from a company makes them feel useful and appreciated, which increases productivity. This motivation can come in the form of goals. Interestingly, goals do not have to be set particularly high. As an illustration, the computer company IBM wanted to increase productivity and decided to motivate its workers. The company intentionally set its sales quota low. This was done to assure that a majority of its salespeople could attain the quota. When the salespeople reached it, they felt useful and needed. The computer company's motivation strategies improved the quality and efficiency of its employees' work. In turn, the company improved its sales.

Many companies offer financial incentives and merchandise rewards to their employees. Financial incentives can be in the form of retirement plans or stocks. These incentives increase productivity by engaging employees in the workplace. They also motivate them to strive toward making the company successful and profitable. In 2004, the well-known food company Harmel provided the largest financial incentive package in their history. The company provided its employees with over 14.6 million dollars in financial rewards. These incentives enabled Harmel to reward employees for their dedication to improving the company's productivity in the challenging food industry market.

Other financial incentives include giving bonuses and increasing salaries. Some companies offer prospective employees bonus packages to encourage productivity. Others offer merchandise rewards to their employees. These include stereos and vacation packages. For instance, the tool company Stanley offered merchandise incentives to employees who provided ideas on how to improve productivity. These incentives engaged workers in coming up with ideas. They developed more than 18,000 ideas that would increase the tool company's productivity.

1. Which of the following can be inferred from paragraph 3 about low sales quotas?

- (A) They can decrease a company's productivity.
- (B) They do not necessarily motivate workers.
- (C) They are easier to reach.
- (D) They generate teamwork.

2. Which of the following can be inferred about financial incentives?

- (A) They are offered once a year.
- (B) Experienced employees receive more.
- (C) They can be powerful motivators.
- (D) Companies use them frequently.

3. Which of the following can be inferred about merchandise rewards?

- (A) Workers are motivated by non-monetary rewards.
 - (B) They are more popular than financial incentives.
 - (C) Workers do not always know how they work.
 - (D) They do not always engage workers.
-

Reading 2: Psychology

Blind Studies

Blind studies are tools that researchers use in different fields, such as pharmacology, medicine, and psychology. The name comes from the idea that participants cannot see or obtain any information about an experiment: they are, in effect, "blind" to the particulars of the study. There are two types of blind studies: single-blind and double-blind. They both address the problem of bias in research, which is the prejudice of researchers and participants that might influence the results of experiments. During these studies, participants are placed in either a control or an experimental group. A control group contains participants that are not exposed to a particular treatment in an experiment, such as a drug treatment. In contrast, an experimental group contains participants that are exposed to the treatment in the experiment.

In the single-blind study, participants in an experiment do not know if they are in an experimental or control group. The single-blind study prevents any bias from the participants during the experiment. It does this by concealing information that might influence their behaviors and affect the results of the experiment. Researchers in the single-blind study know the full details of the experiment, such as which participants are in the control or experimental group. A simple example of a single-blind study is a blind taste test for brand name cookies. In order to eliminate bias for a particular brand of cookie, researchers may blindfold the participants so they cannot see the cookies during taste tests. The single-blind study does contain a flaw called experimenter effects. These effects are simple cues, such as a researcher's smile or tone of voice. These cues might influence a participant's behavior in an experiment and lead to inaccurate results in the experiment. For instance, a researcher might talk to a participant about the great advantages of a drug in a particular research experiment. Doing this could influence the participant's behavior in the study.

Cues from a researcher that might affect a participant's behavior are virtually eliminated in the double-blind study. Also, the possibility of bias from the researcher and participant is lessened by concealing information that might influence their behavior. In the study, researchers and participants do not know if the participants are in the control or experimental group. This assures that the behavior and actions of researchers and participants will not influence the outcome of the experiment. Researchers in the pharmaceutical industry typically conduct research on newly developed drugs using the double-blind study. Some participants in the drug study are put in an experimental group where they receive the drug being tested. Other participants are put in a control group where they receive a placebo. Using the double-blind study in drug research prevents bias

from researchers and participants toward a particular drug. It also leads to accurate results by concealing information that might affect participants' and researchers' attitudes.

Blind studies prevent bias in research because they conceal information about experiments from researchers and participants. With the increasing amount of research being done in different fields such as medicine, blind studies are necessary tools. They ensure that researchers' and participants' prejudices do not interfere with the results .

1. Which of the following can be inferred about single-blind studies?

- (A) They are more prone to error than double-blind studies.
- (B) Researchers do not have the ability to affect a participant's behavior.
- (C) More researchers use single-blind studies than double-blind studies.
- (D) The results of single-blind studies are often affected by a person's age.

2. The author of the passage implies that double-blind studies

- (A) are structured differently depending on the participant's gender
- (B) correct problems associated with single-blind studies
- (C) make experiments easier
- (D) contain experimenter effects

3. Which of the following can be inferred from paragraph 3 about double-blind studies?

- (A) Researchers may know a participant's personal information.
- (B) There may be some bias in a double-blind study.
- (C) They are used more often than single-blind studies.
- (D) Participants may infer they are being tested with a placebo.

Reading 3: History

Achievements of the Hellenistic Period

Alexander the Great, the famous warrior king of Macedonia, had conquered much of Europe and Asia by the time of his death in 323 BCE. During his twelve-year reign as king, he spread Greek culture throughout the lands he conquered—an influence that, in fact, far outlived the life of the great king. Historians generally mark the year of his death as the starting point of the Hellenistic Age (323-31 BCE), an era marked by the spread and integration of Greek culture into the conquered lands beyond Greece.

A number of major scientific breakthroughs occurred during the Hellenistic Age. The Egyptian city of Alexandria attracted prominent Greek scholars because of its research library and museum. The museum housed a small observatory where astronomers could study the heavens. It was here, through his careful examination of the cosmos, that the Greek astronomer Aristarchus developed two significant astronomical theories. Opposite to the prevailing theory of the day, Aristarchus boldly determined that the Earth was smaller than the sun. He further concluded that the planets revolved around the sun, and not the other way around, as most people then believed. In addition to Aristarchus's discoveries, Eratosthenes, another Greek scholar, correctly determined that the circumference of the Earth is roughly 25,000 miles. As the director of Alexandria's library, Eratosthenes researched different theories about geometry to help him determine Earth's size. He

used a text written by the famous mathematician Euclid that included significant concepts in geometry. With the help of Euclid's book, other scholars were also able to build formulas and concepts concerning the size of certain objects.

The arts flourished as well during the Hellenistic Age. Sculptures were created during this period that honored Greek gods and heroes and portrayed people in everyday situations, some of which were enormous in scale. The Colossus of Rhodes was the largest known statue during the Hellenistic period. The 105-foot bronze statue was on the island of Rhodes, and historians believe that this gigantic statue might have served as a lighthouse for the island. In 1863, archaeologists discovered another Hellenistic statue named the Winged Victory of Samothrace. According to historians, the statue honored a naval victory by the Greeks against enemies who threatened the Greeks' freedom. Yet the crowning achievement of Hellenistic art must be those works found within the city of Alexandria. The city teemed with beautiful palaces and often imposing structures. One of Alexandria's most famous structures was the Pharos. At a height of 400 feet, the Pharos was an enormous lighthouse at Alexandria's harbor. The lighthouse had a bronze mirror, which reflected light from a burning fire.

Greek power and influence certainly did not go unnoticed. In fact, a new battle for the domination of the world had begun years before in the third century BCE. Little by little, Roman armies conquered many areas previously controlled by Greece. Then, in 31 BCE, the Hellenistic Age came to an abrupt end when the Roman navy conquered Greek forces in the battle of Actium. The Hellenistic Age was over, but its influence continued as the Romans adopted and adapted many Greek contributions.

1. Which of the following can be inferred about the Greeks' concept of the sun before Aristarchus?

- (A) They did not realize the sun was a star.
- (B) They thought the sun was closer to the Earth.
- (C) They did not think about the size of the sun.
- (D) They thought it was smaller than the Earth.

2. Which of the following can be inferred about the scholar Eratosthenes?

- (A) Euclid's book helped him grasp theories about geometry.
- (B) He discovered the actual size of the sun.
- (C) The observatory helped him determine the Earth's size.
- (D) He was a significant leader of Alexandria.

3. The author of the passage implies that the Colossus of Rhodes

- (A) portrayed people in everyday situations
- (B) may have served a dual purpose
- (C) was destroyed by the Romans
- (D) honored the bravery of the Greeks

Reading 4: Environmental Science

Habitat Fragmentation

Researchers in the field of conservation biology who study factors such as urban development and its effects on ecosystems have focused much attention on habitat fragmentation. Habitats are said to fragment when they are broken down into smaller habitat patches. It is typically the result of human activity, such as rural development or agricultural practices. This fragmentation has many effects, which include localized species extinction and so-called "edge-

effects." Edge effects occur when a fragmented habitat borders a contrasting environment such as developed land.

Habitat fragmentation is a significant cause of localized extinction (the extinction of a species only within a certain area). Fragmentation increases the risk of predation. When humans build roads, houses, and buildings, they fragment ecosystems. This effectively reduces the size of many animals' hunting and feeding areas. Smaller habitats resulting from habitat fragmentation rarely provide enough cover and food resources for species living there. For example, the New England cottontail rabbit requires large patches of shrubs (woody plants) as a cover resource. Without the shrubs to conceal their movements, the cottontail is unable to hide from attacking predators. Localized extinction is likely.

The numbers of predators, such as raccoons, foxes, and coyotes often increase in a fragmented habitat. Predators can often more easily adapt to different environments-including the smaller patches of habitat-because they can take advantage of different resources that exist in both the small patches and the developed areas. To illustrate, a raccoon can find food alongside highways or even in the trashcans of residential areas. The prey of such animals is then more susceptible to attack as a result of the higher numbers of predators, making localized extinction more probable.

In order for any natural population to survive, it must maintain a "critical number" of whatever species makes up the population. If animals within that species drop below a certain number, the species will face extinction. In order to maintain this critical number, the species needs a certain amount of area in which to live. This minimum area should be great enough in size to compensate for years of bad weather. For example, animals that live in larger habitats may struggle during seasons or years with poor weather. They must travel far and wide through the larger area to find the food needed to get through difficult times. However, in a smaller, fragmented habitat, a harsh winter or a season or two with much lower than average precipitation can kill off a species, as finding food becomes problematic during such times. Simply put, in smaller areas, there is not enough food to go around during the lean times.

Habitat fragmentation also causes what are known as edge effects. When a border is created between a natural habitat and developed land, the ecosystem within the natural habitat is affected. A forest's ecosystem may, for example, be affected when it borders a land where the trees have been cut down. Sunlight penetrates the former forest's interior, drying it up more quickly. The drying-out process then affects the border areas of the remaining forest, causing them to dry out as well. The forest's interior is shadier, more humid; and the air more still than at the edges. The climate toward the edges, on the other hand, is windier and has more sunlight due to its proximity to the developed land, which has been cleared and exposed to more climate changes. This all has the effect of drying out the edges of forests to a sometimes dangerous degree.

Of course, such edge effects have an impact not only on the plants of an area, but its animal populations as well. On a micro scale, many insects that live in border areas, particularly those that do not roam far from a home base or migrate, may face localized extinction. Larger animals, too, feel the edge effects. They typically move further into the center of the fragmented habitat, since it is nearly impossible for many animals to adapt to the edge effects. Predators can, of course, sense these movements, and the large numbers of smaller animals that move into the habitat's center often become easy prey.

1. Which of the following can be inferred about habitat fragmentation?

- (A) Some animals can benefit from it.
- (B) Smaller animals may not be affected by it.

- (C) Species of plants often go extinct because of it.
- (D) Prey will typically starve to death.

2. The author of the passage implies that bigger populations that are not fragmented

- (A) are less likely to be repopulated
- (B) are limited in their resources
- (C) are more adaptable than smaller populations
- (D) are isolated from smaller animals

3. Which of the following can be inferred from paragraph 5 about climate changes?

- (A) Edge effects are felt more during the winter months.
 - (B) Climate changes at the edge include more humidity.
 - (C) Climate changes rarely happen in a habitat.
 - (D) Edge effects may result in more forest fires.
-

Chapter 4: Rhetorical Purpose Questions

Necessary Skills

- Determining why the author has presented a piece of information in a certain place or way within a passage
- Understanding the role of a certain statement in a passage
- Inferring the author's intention in mentioning certain information
- Relating specific information to the main ideas of a passage in order to understand the purpose of the information

Example Questions

- The author discusses..... in paragraph X in order to.....?
- Why does the author mention.....?
- The author uses..... as an example of.....

Strategies

- Learn and understand the meaning of certain words and phrases often used to describe rhetorical purposes: definition, example, function, to illustrate, to explain, to contrast, to refute, to note, to criticize.
 - Focus on logical links between sentences and paragraphs in a passage
-

Reading 1: Business

Identifying Problems in Business

One of the most important tasks for managers in a business is to identify problems. While employees can typically be relied upon to perform their day-to-day duties, few have time to recognize potential issues that the company may face in the future. For managers, knowing how to spot particular trends that may have a negative impact on business is the key to avoiding negative outcomes.

The first set of situations that managers should watch for is simple deviations from the norm. Past experience is the best indicator of what "the norm" should be. If, for instance, a toy company has made sales of five million dollars quarterly for the past several years, it can expect similar sales to continue. If sales drop dramatically for one or more quarters, managers should attempt to discover the source of the decreased sales. Perhaps a competitor has released similar toys, or the tastes of children have shifted and the toys are no longer wanted. Whatever the case, it is the duty of management to discover the change responsible for the deviation and address it.

Another method of discovering a problem that may face a business is by noting the behavior of others. Employees may warn managers of a fault in their system that could pose problems to the business in the long term. Staff members may begin resigning, or those in upper management might shift their strategy. The behavior of other people, independent of simple sales numbers, is a fundamental part of understanding problems that may face the business. Managers must be willing to do their part in addressing these issues. Other employees typically lack the power within the business to make the necessary changes. If, for example, a business gets an increased number of customer complaints concerning unreliable shipping, it is the responsibility of the manager to address the problem. By understanding other people's motivations for acting a particular way, managers can counteract potential problems.

Finally, the performance of the competition provides the most obvious sign of potential problems in a business. If the competition begins reporting higher earnings or sales, managers should study the competition. They may see what their businesses can do to remain competitive. As well, managers should also identify shortcomings of competitors. If a competitor sees a dramatic decrease in sales, a savvy manager will attempt to discover the source of the competition's failure. By understanding the mistakes others make, managers can help their businesses avoid making the same errors. Naturally, it is impossible for managers to identify all of the problems that a company may face. In addition, solutions may vary depending on the values and past experiences of a manager. It is an intuitive process that cannot be made clear with simple equations. In fact, many managers stumble upon problems before they become apparent in sales numbers or other formal data.

1. Why does the author mention the toy company in paragraph 2?

- (A) To give a scenario showing how a company might lose sales to competition
- (B) To provide an example of how a manager might observe a deviation from the norm
- (C) To show that there are a number of factors that may impact a company's sales
- (D) To argue that the performance of competition is crucial to a company's success

2. The author mentions unreliable shipping in paragraph 3 in order to

- (A) point out that a business must be aware of other businesses involved in its process
- (B) illustrate how a manager can understand other people's behavior to find problems
- (C) underscore the importance of good shipping in any business model
- (D) assume that customers are inclined to complain about poor delivery service

3. The author describes the shortcomings of competition in paragraph 4 in order to

- (A) Highlight how managers can use a competitor's failure to their advantage
- (B) Argue that nearly any business is open to competitors in the marketplace .
- (C) Show that competitors can increase their sales by releasing unique products
- (D) Illustrate how competition leads to lower prices and less profit in competitive marketplaces

Reading 2: Environmental Science**Genetic Alteration of Plants**

Plant geneticists have been manipulating the genetic structure of plants for hundreds of years. In some cases, plants are selectively bred to create heartier, healthier plants. Using similar techniques, plant geneticists can also alter a plant's genetic structure to protect against pests or other factors. By introducing new features into a plant species, food shortages as a result of pests can be avoided.

Chemical barriers are some of the most common features introduced by geneticists to protect plants against pests. By selectively cross-breeding particular plants, scientists can create a unique genetic strain that produces a chemical repellent to the pests that would otherwise consume it. Following the American Revolutionary War, the Hessian fly became an epidemic in the Midwest portion of the country. The flies laid their eggs on the leaves of wheat plants. The larvae hatched from the eggs would work their way down the leaves and eat the stem of the plants. This feeding pattern weakened the stems of the wheat plants, causing them to break. In response to impending shortages, researchers introduced a trait through crossbreeding that allowed the wheat to produce a chemical. The chemical killed Hessian fly larvae when they ate the wheat's leaves. This prevented severe wheat shortages. Alternatively, plant geneticists can use similar physical barriers to repel insects. Certain plants have actual physical features that impede pests. Leafhoppers are a common pest among smooth-leaf crops such as alfalfa, beans, and potatoes. However, if vulnerable plants are selectively bred to make the leaves rougher, leafhoppers can be repelled.

It is also possible to genetically manipulate pest populations directly. Introducing a large number of sterile males into a population drastically reduces reproduction. Males are bred in a laboratory and then exposed to a slight amount of radiation, which renders them sterile. The sterile insects are then released into an area, where they compete with virile males to reproduce with females of the species. As a large percentage of the male insect population is sterile, the number of impregnated females is relatively low. This significantly reduces the population of the pests' next generation. Screwworms, a species of fly that kills cattle by causing open wounds, has been combated by introducing sterile males to its population.

Finally, plant geneticists have begun manually manipulating the genetic structure of plants. Using cutting-edge biotechnology, they can alter genes without crossbreeding. By introducing new genetic elements with biotechnology, plants can become resistant to potential pests virtually overnight. The genetic makeup of plant viruses, for instance, has been introduced into the genetic structure of the plants themselves, rendering them immune from the disease.

As knowledge of genetics increases and the ability to manipulate genes improves with technological advancements, the possibilities are nearly endless. Food shortages can be averted, pests can be deterred, and plants can adjust to their environment. With new discoveries, the process is becoming more streamlined. Hopefully, with the aid of genetic manipulation, science may one day be able to stop hunger around the world.

1. Why does the author discuss Hessian flies in paragraph 2?

- (A) To point out that pests can be introduced into an environment in non-natural ways
- (B) To argue that the choice of particular types of crops is key in protecting against pests
- (C) To show how crossbreeding can be used to introduce chemical protection from pests
- (D) To illustrate how conflict can affect an environment by introducing new species

2. Why does the author mention screwworms in paragraph 3?

- (A) To push for policies that would allow farmers to use radiation treatment on pests
- (B) To show that pests can easily be dealt with if their mating habits are well understood
- (C) To point out that pests are capable of affecting not only plants, but animals as well
- (D) To give an example of how the introduction of sterile, males can affect a pest population

3. The author discusses biotechnology in paragraph 4 in order to

- (A) note that plant genetics is still an important field of knowledge
 - (B) argue that genetic manipulation of plants may have unknown consequences
 - (C) show how plant viruses pose no problem to modern science
 - (D) explain current developments in the field of plant genetics
-

Reading 4: Economics**Behavioral Economics**

Behavioral economics is a field that attempts to understand how consumers make choices that affect the marketplace. It began in the classical period (1776-1870). At this time, the field of economics was closely tied to the field of psychology. During this era, economists were deeply interested in what drove particular consumers to make particular decisions. These choices, behavioral economists believed, were closely tied to how much utility a person derived from making them.

Behavioral economics rests upon a few key assumptions. First, it dictates that individuals will be rational in their decision-making process. This does not necessarily mean that they will make a choice that is economically beneficial to them. Instead, behavioral economics asserts that people will make a decision that will result in some perceived increase in utility. For instance, many people often give to charity. In purely material terms, they are not making a sound economic choice. There is little physical benefit they receive in exchange. However, by giving to charity, consumers may feel more satisfied with themselves. In turn, they experience an overall increase in utility.

Second, behavioral economists recognize that people make choices based upon how certain situations or products are framed. In economic terms, framing refers to the way products are phrased or explained to consumers. For example, the painkiller aspirin was once used only for headache relief. As time went on, pharmaceutical companies realized that aspirin could be used for other painful ailments. Through successful framing of aspirin's additional benefits, companies were able to increase their customers' utility. As a result, aspirin sales rose significantly. Thus, framing can have a major influence over buying behavior when it appeals to consumers' concepts of utility.

Finally, behavioral economists are forced to recognize non-rational decisions by consumers. Non-rational decisions result from a miscalculation in a particular situation. Most misperceptions are attributed to social psychology. This is where a crowd misinterprets particular elements of an object or situation. For example, many feel that an increase in wealth always leads to an increase in utility. However, studies have proven that while increasing wealth can increase utility up to a certain level, eventually people reach a point when wealth no longer matters as much. In this case, the utility from making more money quickly diminishes. Despite this proven fact, many people continue to believe that more money will bring increased happiness. These beliefs affect the choices they make in their daily lives.

Both rational and non-rational factors may influence an individual's decisions. Thus, behavioral economics is a complicated and sometimes unpredictable field. It is nearly impossible to evaluate every variable that determines a single individual's choice. However, behavioral economists focus on much larger groups. By spotting trends in larger groups of people, behavioral economists can help businesses. With an understanding of particular patterns in consumer behavior, businesses can adjust their advertising, pricing, or production models to maximize sales. At one time, behavioral economics was disregarded by most economists. They thought it too abstract and dynamic to be worthwhile. The field has become more popular in the last several years, however, and continues to grow.

1. Why does the author mention charity in paragraph 2?

- (A) To explain the role of charity in economic decisions
- (B) To explain that rational individuals tend to act in ways that bring little material benefit
- (C) To explain that material benefit is the main determinant of rationality
- (D) To explain how choices can be rational without having material benefit

2. The author discusses aspirin in paragraph 3 in order to

- (A) reveal the rationality of the pharmaceutical companies
- (B) provide an example of how businesses can present a product
- (C) show that not all rational decisions are the best economic choice
- (D) give an example of how consumers can lead the framing process

3. The author discusses increased wealth in paragraph 4 in order to

- (A) exemplify some people's refusal to acknowledge economics
- (B) point out that rational decisions are not always the best ones
- (C) argue that rationality is often misinterpreted
- (D) show that individuals may not always act rationally

Reading 4: Business

The Levinson Model

When running a business, it is important for managers to understand employees' career goals and attitudes toward their job. By understanding psychological phases that employees may be experiencing, managers can help the business. They can pick out particularly able and willing people to benefit the business. While it is impossible to generalize an individual's ambitions entirely, the Levinson model has been used to formulate how people approach their careers at different times in their lives.

The Levinson model was created by Daniel Levinson. It was based upon his study of forty men in four different occupational groups. Hourly industry workers, business executives, university biologists, and novelists were all surveyed extensively. Their answers were then used to identify particular periods common among all groups. The resulting Levinson model then attempted to explain career approaches. Results were placed in the context of five- to seven-year cycles that occur over the course of an adult's life. These cycles represent different approaches to one's personal and professional life, and how those approaches translate into professional behavior.

The Levinson model begins with the seventeen- to twenty-two-year-old age group, when individuals are trying to establish emotional and financial independence from their families. Some go to college, while others choose to enter the work force directly. Over the course of early adulthood, individuals dabble in a number of different careers and experiences. Many people associate this period with a process of self-discovery. Since they are no longer students and are attempting to find a professional field right for them, there are few facets of their lives with which they can form an identify.

As individuals enter their thirties, they take a step back and evaluate their experiences. Feeling pressure to "settle down" and begin a formalized career, individuals will most likely pursue a career in a field they find interesting. In their mid-adulthood phase, a career will be decided upon. The individual will then focus on advancing in the workplace. Success in the workplace will be his or her primary point of identification. As the products of these efforts become evident and individuals become financially secure, they may turn inward and re-evaluate their career and goals. With financial security established in the mid-forties, individuals seek to secure friendships and re-establish contact with old acquaintances. Their financial security gives them the opportunity to focus on their personal lives. As they reach the age of retirement, they once again re-focus their lives outside of the professional realm.

While the Levinson model is helpful for managers, it is only a series of generalizations. Some question its value in the current marketplace. Many social and cultural changes have taken place since Levinson first published his findings in the 1970s. For instance, Bill Gates, the famous and very wealthy founder of Microsoft, defied the phases of the Levinson model. He started out at a young age with a single focus and retained that focus throughout his life. Since there are exceptions to the Levinson model, managers should get to know all of their employees personally. Managers should not attempt to categorize employees' goals according to a narrow, age-based model.

1. Why does the author mention self-discovery in paragraph 3?

- (A) To help explain the changes taking place in early adulthood
- (B) To illustrate how young adults are dissatisfied with their lives
- (C) To show that managers need to be aware of employees' changes
- (D) To explain why young employees tend to stick to one career

2. The author discusses financial security in paragraph 4 in order to

- (A) suggest that the transition from mid-adulthood to late adulthood is smooth
- (B) argue that financial success is the primary motivator for those in late adulthood
- (C) show that success in one's career is typically associated with one's happiness
- (D) explain why those in late adulthood begin to focus on things besides their career

3. The author uses Bill Gates as an example of.....

- (A) an exception to the Levinson model
- (B) evidence supporting the Levinson model
- (C) how the Levinson model has been used to foster success

(D) the cultural and social forces at work in the Levinson model

MINI TEST

Environmental Science

Stone statues and buildings that have stood in place for long periods of time have endured years of wind and weather, the effects of which are clearly visible in their outward appearances. Corners lose their sharp angles and features seem to crumble away. The natural process that breaks down rocks and stone is called chemical weathering. In the natural course of things, this type of disintegration is to be expected. When human use of fossil fuels is introduced into this equation, however, the process of chemical weathering is significantly affected.

In nature, water and acids act as primary agents in chemical weathering. Water, whether in the form of rivers or precipitation, plays a major part in the erosion of rocks and stone formations as they are weathered. "Dissolution" is the term scientists use for the process through which minerals are dissolved in water. For example, sodium chloride, or salt, quickly dissipates in water. However, most minerals will not dissolve in pure water alone: They must have at least one other substance present in order to initiate decomposition. When even a small amount of acid is added to water, its corrosive power is magnified. Acid can be produced by natural means such as when organisms decay and release organic acids back into the soil. Sulfide minerals such as pyrite release sulfuric acid into the atmosphere as they decay. These acids are absorbed into water and cause corrosion in many rocks. Additionally, when carbon dioxide from the atmosphere dissolves into raindrops, carbonic acid is created. As rain and snow fall on stone over time, they wear down the layers of sediment that make up the rock. Yet while many of these acidic reactions are to be expected in nature, the introduction of man-made byproducts has disrupted this natural cycle by hastening it along.

Man's use of fossil fuels in factories, power plants, and vehicles has greatly increased the amount of carbon dioxide, sulfur, and nitrous oxides in the atmosphere. This has led to an excessive amount of acid being produced and absorbed by different forms of water in the atmosphere. Scientists point to acid precipitation, rain with abnormally high levels of acid, as the culprit for the premature corrosion of stone statues and buildings. Whereas the natural chemical weathering process caused by the carbonic acid in rain would wear away rocks slowly over time, now the rocks decay at a more rapid pace. The acids that are not absorbed into rain or snow are often absorbed into the ground, seeping into ground water and affecting rocks and stones in river beds and lakes.

The process of decay and corrosion that rocks and stone structures undergo is a natural one that should take place over many years. Rainfall over time causes erosion and changes in the rock. Humans, however, have brought about changes in this process, increasing the speed at which stones are weathered by releasing more acid-producing compounds into the atmosphere. The effect is that buildings and monuments of stone that have stood for generations are experiencing swift decay.

1. Why does the author mention the use of fossil fuels by humans in paragraph 1?

- (A) To introduce a factor that affects chemical weathering
- (B) To support the idea that chemical weathering is natural

- (C) To argue that it is normal for stone buildings to disintegrate
- (D) To reveal the true causes of chemical weathering

2. According to paragraph 2, which of the following is true of dissolution?

- (A) Salt partially dissolves when placed in pure water.
- (B) Water is responsible for only a small amount of chemical weathering.
- (C) A large majority of rocks and minerals dissolve in water alone.
- (D) Small amounts of acid greatly increase water's ability to dissolve minerals.

3. According to the passage, which of the following is NOT true about the process of chemical weathering?

- (A) Man does not play a part in how rocks weather. .
- (B) Natural acid production assists in the process.
- (C) Stones are slowly worn away over many years.
- (D) Acid often contaminates groundwater.

4. According to the passage, which of the following is true of acid precipitation?

- (A) It is a natural part of the weathering process.
- (B) Acid rain does not affect areas where there is no pollution.
- (C) The acid in acid rain is due to man's use of fossil fuels.
- (D) It seems not to affect desert areas where there is no rain.

5. Which of the following can be inferred from paragraph 2 about acid?

- (A) Most acids in the atmosphere result from man-made byproducts.
- (B) Even unpolluted rain may contain acid.
- (C) Carbonic acid is the most common acid found in the atmosphere.
- (D) Natural acids seriously damage the environment.

6. The author uses factories and vehicles as examples of

- (A) the largest producers of acid rain
- (B) contributors to the production of acid rain
- (C) items that are corroded by chemicals overtime
- (D) man-made byproducts that have disrupted nature

7. All of the following are true about acid absorption in the environment EXCEPT:

- (A) Acid is absorbed into groundwater and affects rivers.
- (B) Precipitation takes in the majority of acid from the air:
- (C) Acid from the air directly corrodes stones and rock.
- (D) Natural carbonic acid wears stone away over years.

8. The author implies in paragraph 3 that...

- (A) at this rate, future buildings will need stronger building materials.
- (B) man cannot do anything to prevent acid rain from weathering rock.
- (C) most of the acid in acid rain is absorbed into the groundwater.
- (D) man has permanently disrupted one of nature's balanced cycles.

Chapter 5: Vocabulary Questions

Necessary Skills

- Identifying the meaning of individual words and phrases as they are used in a specific reading passage
- Choosing the correct meaning of a word or phrase in order to understand its relevance within a passage

Example Questions

- The word..... in the passage is closest in meaning to
- In stating....., the author means that.....

Strategies

- Do not choose an answer only because it may be a correct meaning of the word or phrase; choose the meaning that is being used in the passage.
 - Try rereading the sentence in which the vocabulary word appears, substituting the answer choices for the word.
-

Reading 1: Literature

Ernest Hemingway 1899-1961

Ernest Hemingway was awarded the Nobel Prize for Literature in 1954. His simple, terse language had a significant effect on 20th-century British and American fiction. His topics, which included hunting, fishing, bull fighting, war, and the lonely lives of the elderly, often reflected his own personal experiences. Together, the style and subjects of his works formed a very distinctive voice that is immediately identifiable to readers.

Hemingway's unique style of prose contributed to his reputation as a great writer. Through his writing, his main goal was to present an account as objectively as he could. He felt that the most effective way to realize this goal was through the use of **straightforward** language. His style was free of any embellishment and wordiness. His style is best reflected through his response to criticism from William Faulkner. Referring to his writing style, he wrote: "Poor Faulkner. Does he really think big emotions come from big words?" Hemingway's style consisted of simple nouns and verbs with little reliance upon modifiers; Hemingway's mastery of this style resulted in prose that was simple, yet deeply emotional, supplemented with uncomplicated, natural dialogue.

Hemingway's topics included the many struggles that humans often experience. For Hemingway, the world was defined by strife: full of chaos, moral decisions and ambiguous moral boundaries, and **inevitable** pain. Yet Hemingway's writing was hopeful rather than depressing, and he believed that any situation could be endured if one had courage, perseverance, honor, and dignity. These came to be known as "the Hemingway code" and were **prevalent** themes through his work. This is best shown in *The Old Man and the Sea*, in which Santiago, a fisherman, catches a fish he had long been struggling to catch. However, on his way back home, his fish is suddenly eaten by sharks. Even though Santiago suffers terribly, his courage and bravery allow him to endure.

Hemingway explores many similar themes in another of his popular topics: the lives of the elderly. To Hemingway, the elderly symbolized uncertainty and loneliness. "A Clean, Well-Lighted Place" is a simple short story about an old man who seeks refuge in a cafe until the late hours of the night. An observant waiter spots the man and speculates that the old man comes to the cafe for the light and the cleanness. These can be understood as metaphors: the old man wants happiness and order in life. Then, through a short monologue by the waiter, Hemingway shows that the waiter feels the same feeling as the old man: he too is reluctant to leave a place of happiness and to disappear into the night. In its simplicity, the story touches upon very deep human emotions and allows the reader to connect with unique, deep characters.

1. The word **straightforward in the passage is closest in meaning to**

- (A) uninteresting
- (B) believable
- (C) simple
- (D) ordinary

2. The word **inevitable in the passage is closest in meaning to**

- (A) certain
- (B) possible
- (C) apparent
- (D) unexpected

3. The word **prevalent** in the passage is closest in meaning to

- (A) advanced
 - (B) common
 - (C) well-regarded
 - (D) hidden
-

Reading 2: Marketing

Pre-testing and Post-testing

Pretesting and post-testing offer ways for advertisers to gain a deeper understanding of the effectiveness of advertising. Both pretesting and post-testing analyze the popularity and public opinion of a particular advertisement. These different methods of assessing advertising are used by many advertisers in order to reach consumers in the most effective ways.

In pretesting, advertisers ask the public various direct questions about the effectiveness of their advertising techniques. This takes place before the ads are **aired** on television, radio, magazines, or other media. Often, people are invited to view an ad in a controlled environment. The advertisers then ask if a particular ad conveys its intended message. Advertisers also want to know if the ad is likely to motivate people to purchase the product or service. In addition, advertisers want to see if it had the desired effect upon consumers. In the case of a humorous commercial, the advertisers have the opportunity to see whether or not it will actually make the viewer laugh. Through the use of direct questions, they can discover if specific goals of advertising are being met. Responses can be utilized to test possible alternative advertisements. Advertisers can increase the level of control in the early parts of a commercial's developmental stages.

On the other hand, post-testing involves methods that analyze ads after they have aired. Respondents are often asked questions similar to those in pretesting. In post-testing, though, respondents are often asked to compare a certain commercial to other commercials. The goals of both types of testing are similar. However, advertisers also ask viewers to consider their message in relation to their competitors. This allows advertisers to discover the **extent** to which a commercial will be remembered amongst competing ads. This feedback from recall tests gives an idea of how memorable, and thus impactful, the advertising technique was. A commonly used means of testing the efficacy of a campaign is the attitude test. This test evaluates the feelings of the respondents toward a particular advertisement after repeated exposure to it. If the respondents begin to dislike an ad after only a few viewings, the advertisers know that their commercial was not effective.

Pretesting and post-testing each have benefits and drawbacks for advertisers. Pretesting allows advertisers to receive feedback before their commercials air. This allows issues involving weak or ineffective advertising to be resolved before going public. Thus, advertisers can avoid wasting money on an ad that does not have the desired effect. On the other hand, post-testing allows the effectiveness of ads to be tested based upon real market **findings**. This is in opposition to being tested in a simulated situation. Because pretesting is performed in a controlled environment—often an advertising agency—results may differ significantly from when the ad is viewed on television. The results of post-testing, however, come directly from those who viewed the ad in a natural setting. The findings, then, will be similar to the experience of the general public.

1. The word **aired** in the passage is closest in meaning to

- (A) rejected
- (B) begun
- (C) delayed
- (D) broadcast

2. The word **extent** in the passage is closest in meaning to

- (A) effectiveness
- (B) time
- (C) degree
- (D) use

3. The word **finding** in the passage is closest in meaning to

- (A) result
- (B) research
- (C) experiment
- (D) decision

Reading 3: Biology

Sugar Consumption

Scientists studying the harmful effects of sugar on the human body recently made a claim that avoiding sweets leads to a longer life. According to their research, the consumption of sweets has been proven to reduce life span and have degenerative effects on the body. Their findings were based on results found after studying sugar's effects in worms. They believe that sugar's harmful effects are similar for all species, including humans. The researchers supported their findings with three key pieces of evidence.

First of all, a look at basic physiology helps explain the effects of glucose on longevity. When one consumes sugar, whether in the form of regular sugar or as carbohydrates, the body must break it down into glucose, which is the simplest form of sugar. Glucose, the main supply of energy for the body, is available in many carbohydrates in the form of starches or other kinds of sugar, such as sucrose (regular table sugar), fructose (found in fruit), and lactose (found in milk). Cells need a **consistent** supply of glucose through the blood in order to function optimally. But when blood glucose levels rise higher than what cells require, the body stores the excess in order to adjust to this influx of glucose. The pancreas reacts by secreting the hormone insulin. Insulin acts as the messenger to the cells, telling them to absorb the excess glucose to return the blood to more normalized glucose levels. Upon consumption of large amounts of sugar, the pancreas continues to produce insulin, regardless of the negative effects of the hormone itself. Problems with insulin balance and pancreatic function result in diseases such as diabetes and obesity.

Secondly, an experiment on glucose deprivation led by a team of researchers at the University of Jena in Germany found that **restricting** intake of glucose lengthened worm life span up to twenty percent. If the results hold true for other animals, then the findings propose that this extension of life span in worms could translate to an extension of fifteen years in humans. The research pointed to the involvement of mitochondria to fuel the bodies of these glucose-deprived worms. Mitochondria are organelles that exist in the cytoplasm of all cells. Food molecules such as amino acids, fatty acids, and sugars are broken down by mitochondria with the help of oxygen.

They are then converted to usable energy in the form of ATP, which allows energy transport. In fact, mitochondria are practically energy factories that manufacture ATP as the cell demands it. Since in the experiment the worms could not rely on glucose for energy, their mitochondria increased ATP production to create fuel. Essentially, the lack of glucose allowed the body to strengthen its ability to fuel itself naturally.

Finally, Nicholas Perricone discusses the various life-shortening effects of sugar in his book *The Perricone Promise*. He describes the process of the effects of sugar on human bodies, in which the overconsumption of sugar produces an inflammatory effect. This leads to the acceleration of the aging process and various diseases such as cancer, Alzheimer's, and arthritis. In an experiment with sugary cereals, he found that due to the rapid rise in blood sugar, not only did the body produce more of what are called inflammatory markers, but the body's ability to fight inflammation was also **compromised** for up to four hours after consumption. According to Dr. Perricone, eating sugar causes the production of stiff sugar-protein bonds, which accumulate in the body over time. These glucose molecules affix themselves not only to collagen in the skin, but to veins, ligaments, bones, arteries, and even brain cells. This leads to stiff joints, hardened arteries, and failing organs. Therefore, sugar causes a slow deterioration of bodily functions, which leads to a shorter life span.

1. The word **consistent in the passage is closest in meaning to**

- (A) excessive
- (B) solid
- (C) steady
- (D) strong

2. The word **restricting the passage is closest in meaning to**

- (A) increasing
- (B) changing
- (C) limiting
- (D) tightening

3. The word **compromised is used in the passage to mean**

- (A) included
- (B) replaced
- (C) endangered
- (D) increased

Reading 4: Biology

Naegleria Fowleri Outbreak

In 2007, the number of reported cases of deaths caused by *Naegleria fowleri*, a rare amoeba that primarily resides in soil, sharply increased in the United States. The amoeba was found in warm bodies of water such as freshwater lakes and ponds that range from twenty-five to thirty-five degrees Celsius: *N. fowleri* was detected not only in freshwater sources, but increasingly so in domestic water supplies, groundwater supplies, and recreational water sources as well. Investigations by environmental scientists were carried out in order to determine the causes of the outbreaks, which were linked to warm water stagnation, the amoeba's ability to propagate, and sudden changes in environments.

The amoeba attacks the human central nervous system by entering via the mucous membranes of the nasal passageway. When it reaches the olfactory bulbs through the nose, it causes hemorrhaging, which is the loss of blood, and necrosis, which is the death of living tissues

and cells. From the olfactory bulbs, it reaches the brain by traveling along nerve fibers. One of the first symptoms to emerge is a noticeable change in the ability to smell and taste following that, vomiting and nausea, headaches and fevers, and ultimately, coma and death will ensue. *N. fowleri* became an immediate concern as the frequency of reported cases increased in the United States. Between 1995 and 2004, the US Centers for Disease Control and Prevention determined that twenty-three *N. fowleri*-caused deaths took place in the United States. In 2007, a sharp increase was noted: six cases were reported in the United States that year, marking almost a 250 percent increase in reported cases. Scientists struggled to determine the cause.

Water stagnation was suggested as a cause after researchers determined that *N. fowleri* could be found even in domestic dwellings. In an experiment conducted by Francine Marciano-Cabral, samples were collected from homes in an Arizona town where two boys had died due to an infection with *N. fowleri*. It was discovered that seventeen of nineteen sites tested positive for the amoeba, particularly in the residual water in the sink pipes. It has been speculated that the two boys, who had had no history of freshwater swimming but had taken regular baths, died due to the presence *N. fowleri* in the water supply of their homes. The researchers suggest that *N. fowleri* can proliferate in the stagnant parts of home water supplies, which was probably the case in this incident.

Other research conducted in the southwestern state of Arizona showed that groundwater supplies were contaminated with *N. fowleri*. Of the 188 wells sampled, sixteen percent tested positive for the presence of the amoeba. These were not private wells but rather high-volume public wells run by private water companies and municipal facilities. The researchers also found that a certain kind of bacteria, called heterotrophic bacteria, was present in the water. These bacteria served as food for *N. fowleri*, allowing them to propagate in water supplies that were usually free of such bacteria and, thus, free of *N. fowleri*. The researchers concluded that the presence of these bacteria allowed *N. fowleri* to invade the municipal water supplies. They also discovered that *N. fowleri* is very resistant to the purification treatments common in municipal treatment plants, including treatment with chlorine. Therefore, the treatments widely used to remove harmful organisms from water were futile against *N. fowleri*.

In an experiment by Detterline and Wilhelm, the presence of *N. fowleri* in government-owned recreational waters was linked with changes in the environment. Fifty-nine sites were tested for *N. fowleri*, of which thirty-four tested positive. These sites include Yosemite Creek of Yosemite National Park and other federal water sources throughout the United States. The investigation found that the presence of this amoeba was highly correlated with environmental disturbances, such as unnaturally high iron content (usually due to limited outlets), disruptions in biodiversity, land clearings, or fluctuations in water temperatures. The experiment found that the amoeba was especially tolerant of waters above twenty-six degrees Celsius. Thus, the amoeba's presence can be connected to the increase in water temperatures across the United States as global warming continues to alter ecosystems.

1. The word sharp in the passage is closest in meaning to

- (A) thin
- (B) pointed
- (C) violent
- (D) sudden

2. The word **speculated** in the passage is closest in meaning to

- (A) dared
- (B) deposited
- (C) suspected
- (D) pledged

3. The word **contaminated** the passage is closest in meaning to

- (A) stopped
 - (B) increased
 - (C) infected
 - (D) destroyed
-

Chapter 6: Reference Questions

Necessary Skills

- Identifying the relationships between pronouns and their referents in a passage
- Determining to which person, place, or thing a pronoun refers in the context of a passage

Example Questions

- The word..... in the passage refers to

Strategies

- Ensure that your answer choice matches the same number (singular or plural) and the person (first, second, third) as the pronoun being asked about
 - Try substituting your answer choice for the pronoun in the passage to see if your choice is sensible.
 - Since there is often more than one answer choice that may seem correct, read the sentences around the pronoun's sentence carefully to ensure you choose correctly.
 - Remember that the grammatical referent for a pronoun may appear in a preceding clause or sentence.
-

Reading 1: History

Ancient Egyptian Languages

For quite some time after European historians began studying ancient Egyptian ruins, the writing found there was undecipherable. Many ancient Egyptian artifacts and tombs were engraved with letters from the ancient civilization's alphabet. What they actually meant remained unknown. While it was relatively easy to deduce certain things about ancient Egyptian ways of life, not having an understanding of their language severely hindered any historical research.

The Egyptian alphabet is a combination of two distinct written language types. The first, alphabetic, is most common in contemporary languages. Each glyph represents a sound. Glyphs are combined into strings to form words. Words, then, contain a concept. Logographic languages, on the other hand, are written so that a single glyph represents a concept. Occasionally, glyphs are strung together to create a *more* complex concept. Ancient Egyptian writing used both, and, as such, **it** remained a mystery to modern linguists.

When French explorers unearthed the Rosetta Stone by the Mediterranean coast in 1799, they unwittingly opened up the ancient Egyptian alphabet. When it was discovered! French scholars immediately suspected that they had found something valuable. In a historically unclear series of events, the Rosetta Stone eventually fell into the hands of the British, who went about translating the text on the large stone tablet. **They** finished the translation around 1824.

The Rosetta Stone, written around 196 BCE, actually presents the same decree in three different languages. The message itself is relatively mundane, ordering the repeal of various taxes and requesting the construction of statues in temples. Even though the message remains a simple bureaucratic edict, it is written in Ancient Greek and two Egyptian written languages, hieroglyphic and demotic (Coptic). Linguists were already quite familiar with the Greek and had a working knowledge of Coptic, which was used by later Egyptian states. The translation of the hieroglyphic text involved honing linguistic understanding of the Coptic language by comparing it to the Greek language, **which** was relatively well known. The subsequent understanding of Coptic would be compared to the written hieroglyphic text on the tablet. By working out the definition of particular hieroglyphs and then inferring the meaning of others, translators were able to effectively decode the ancient Egyptian writing system.

The impact of the Rosetta Stone is undeniable. For years before its discovery, scholars had been attempting to translate hieroglyphs with no success. The discovery of the Rosetta Stone was pivotal, as meaning of hieroglyphs could be discerned. The subsequent insight into Egyptian culture was vast—large retellings of historical events were inscribed on the walls of Egyptian structures. Being able to read them offered an unprecedented understanding of the ancient Egyptian people. Given its impact on language, the term "Rosetta stone" has worked itself into our own language as an idiom for a key to a decryption process or puzzle. It is arguably one of the most important known historical artifacts.

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

- {A} concept .
- {B} alphabet
- (C) linguistics
- (D) writing

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

- (A) British scholars
- (B) French scholars
- (C) French explorers
- (D) Egyptian writers

3. The word **which in the passage refers to.....**

- (A) the Greek language
- (B) the Coptic language
- (C) the Egyptian hieroglyphs
- (D) the later Egyptian states

Reading 2: Literature

Magical Realism

Literature is broken down into smaller categories, called genres, **which** describe the type of story or book that is being read. Magical realism is a 20 century literary genre. The literature of this genre is varied, but it can generally be characterized by the occurrence of magical aspects in otherwise realistic settings.

The term "magical realism" originated in the art world. It was coined by a German art critic named Franz Roh. Interestingly, it was originally used to describe art that portrayed very common and boring scenes. But when a Venezuelan writer named Arturo Usler-Pietri used the term, it had a different meaning. Usler-Pietri applied **it** to the work of a group of Latin American writers that had emerged in the 1960s. In their work were the first elements of magical realism as it is known to literary critics today. Contrary to its original meaning, there is nothing boring about magical realism in literature:

Although the definition for magical realism is broad, there are six features recognized as essential to any work created in the genre. The first is that the story is told from the perspective of "the Other." The concept of "the Other" in literature refers to a person **who** is different and outside of society because of it. For example, in Jorge Luis Borges's short story "The Shape of the Sword," very little is revealed about the main character and narrator. Through the course of the story, however, the reader learns that the main character is actually a traitorous soldier who betrayed his captain. His narrative focuses on how different he is from his peers and emphasizes his feelings of isolation.

Another element common to magical realism is the assumption of the "evolved duties" of the reader. This means that writers presuppose that, in deciding to pick up one of their books, the reader implicitly agrees to go farther than the literal meaning of the text. Instead, the author requires the reader to accept the magical and unrealistic aspects of the story, as bizarre as they might seem, in order to decipher the rest of the text. This element underscores one of the primary concerns of magical realists: how to get the reader involved in the story.

The third characteristic of magical realism is that the setting is always very specific to a particular history, culture, or geography. These features are seen as essential in creating an altered reality. By doing this, the author uses specific examples to try to impart universal messages. For instance, in *The Gesticulator* by Rodolfo Usigli, the main character assumes the identity of a

missing war hero. As he becomes more entangled in his web of lies, the character feels that he is becoming the person he is emulating until their histories are completely one and the same.

The fourth aspect is that reality is treated as a subjective human experience. Therefore, each reality is different. Additionally, in order to reveal each reality more completely, authors often include dream sequences and private thoughts of their characters. For example, in Juan Rullo's *Pedro Paramo*, the narrator and main character is a man who returns to his hometown to find his mother. Instead, he meets the . ghosts of the city's inhabitants. Through a series of supernatural dreams and encounters, he learns about the harsh history that they suffered at the hands of the cruel Pedro Paramo.

The next element is that the style of writing in magical realism is generally very open and influenced by post-structuralism. The authors always assume that the meaning that they try to express is secondary to how the reader interprets it. In other words, there is no single function to any story because it is yet to be analyzed by someone else. Also, the events in stories are often out of order and seemingly chaotic. The non-linear storyline adds to the feeling of a disrupted history and also forces the reader to pay attention to other aspects of the story.

Finally, magical realism is defined by inexplicable events or sequences. Those sequences play a significant role in the stories. It would be erroneous to suppose, however, that the magical events that happen in the story are just parts of the setting or otherwise something that could be ignored. Instead, the fantastical is used to force people to be critical of their own realities.

1. The word **which in the passage refers to**

- (A) story
- (B) literature
- (C) genres
- (D) book

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

- (A) scenes
- (B) art
- (C) meaning
- (D) the term

3. The word **who in the passage refers to**

- (A) author
- (B) Jorge Luis Borges
- (C) person
- (D) captain

Reading 3: Astronomy

Eris and Pluto

Until recently, there was no accepted list of criteria that definitively, described what a planet was. When scientists finally did define the characteristics of a planet, Pluto was redefined as a dwarf planet, rather than a proper planet like Earth or Mars. Dwarf planets are bodies in space that orbit around the sun. As Pluto was no longer considered a planet, the need for further reclassification and new terminology arose. Finally, astronomers agreed that Pluto was a dwarf planet. According to the scientific definition, dwarf planets must also have enough of a mass for it to have formed a spherical shape. Additionally, dwarf planets are distinguished from other planets because they have not cleared the neighborhood around their orbit. This means that other masses or celestial bodies still exist in the orbit of dwarf planets, whereas they do not for other planets.

The last criterion for a dwarf planet is that it is not a satellite. A satellite is an object in space that orbits around a larger mass, such as the moon.

Currently, there are three recognized dwarf planets: Ceres, Pluto, and Eris. The discovery of dwarf planets has been the source of much confusion amongst scientists. Since all three are relatively far away from the sun and Earth, they have been difficult to study. However, the more information that is gathered about dwarf planets, the more scientists can tell about the different features that each one exhibits.

After being reclassified, Pluto went from being the last planet in the solar system to being the second-largest dwarf planet. Pluto's mass has long been disputed, but information gathered from satellites has led to more accurate formulations. It is believed that Pluto is less than a quarter of the mass of the Earth. Furthermore, by studying eclipses, astronomers can make good guesses about the size of Pluto. Currently, scientists think that Pluto has a diameter of 2,390 kilometers.

The distinction of biggest dwarf planet, however, goes to Eris. Recently discovered, Eris is still largely a mystery to scientists. So far, they have been able to determine little about the dwarf planet. However, as technology advances, it becomes easier to study it. The mass of Eris is larger than Pluto's by about twenty-seven percent. Furthermore, the diameter of Eris is also larger than Pluto's at about 2,600 kilometers. Approximations about the size of Eris have been based on satellite information, and scientists warn that until more information is gathered, it is hard to determine the exact mass and size of Eris. Given **their** uncertainty, some scientists say that the actual diameter of Eris may be up to 400 kilometers more than what they currently think.

Although they have different masses and sizes, the two dwarf planets are actually similar in their chemical and physical make-up. Pluto is thought to be composed mostly of ice and rocks. By using special tools, astronomers have learned that Pluto is mostly made up of frozen nitrogen. **It** also contains traces of methane ice and carbon monoxide ice. Comparisons between Pluto and Eris suggest that they have similar compositions. Methane ice is also known to exist on Eris. Given their physical similarities, however, it was initially confusing to scientists why the dwarf planets appeared different. Eris looks grayish while Pluto is reddish. Later, the difference in their outward appearance was explained by the presence of tholins on Pluto's surface. Tholins are materials commonly found on icy planets. They are responsible for the darker appearance of Pluto.

In addition to having similar compositions, Pluto and Eris share orbit patterns that are very different from those of the planets. For example, they both have eccentric orbits. This means that the orbit is more elliptical, or oval-shaped. Meanwhile, the planets in the solar system have more circular orbits. The exaggerated ellipses of the dwarf planets' orbits cause each one to experience extreme temperature changes as they get closer or farther away from the sun. Unlike other planets, the orbits of Pluto and Eris are also tilted. If one imagines the planets in the solar system, it would be accurate to envision the orbit of each one lying on one plane. But the orbits of the dwarf planets Pluto and Eris are slightly inclined. Pluto is inclined by seventeen degrees while Eris is inclined by forty-four degrees. The inclination of their orbits causes them to cross Neptune's orbit. However neither dwarf planet ever approaches Neptune, so the risk of collision is impossible.

1. The word **they in the passage refers to**

- (A) scientists
- (B) orbits
- (C) other planets
- (D) dwarf planets

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

- (A) scientists
- (B) satellites
- (C) diameter
- (D) Eris and Pluto

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

- (A) Frozen nitrogen
- (B) Pluto
- (C) A special tool
- (D) Eris

Reading 4: History**Muckracking**

People read newspapers to learn about current events and to be entertained. Starting in the late 19th century, the medium was also used as a tool to promote social change. One group of investigative journalists, known as muckrakers, redefined the role of the media in society by putting a particularly reformist spin on their work. It was through **their** efforts that many of the social reform movements of the early 20th century were pushed into the consciousness of the public and politicians alike.

A muckraker is a journalist who investigates social injustices and brings them to public view. The term was a comparison of this type of journalism to a muck rake. The idea was that muckrakers stirred up ignored issues and placed them in clear view for people to take notice of the need for change, just as a muck rake is used to gather manure or compost and place it in an observable pile. Although the work of muckrakers was sometimes published in tabloids with sensational titles, their main goal was not to sell newspapers, but to publicize social injustices.

The first of the muckraking journalists appeared in the late 19th century. They covered a wide variety of issues, including dangers in the workplace and child labor. The advent of muckraking corresponded with a changing political climate in which politicians were increasingly looking to improve American society. The relationship between the muckrakers and politicians was undeniably an important factor in the reforms that took place during the period. Politicians aligned themselves with many of the causes covered by muckrakers. Likewise, many journalists supported the campaigns of politicians who were willing to enact social changes. However, that is not to say that tensions did not arise between the two groups, particularly when the investigations were focused on the wrongdoings of politicians.

In a 1906 speech, President Roosevelt criticized journalists in response to a series of articles written by David Graham Phillips. In the articles, Phillips exposed political corruption amongst members of the Senate, **which** included some of Roosevelt's closest political allies. During the speech, Roosevelt suggested that the muckrakers were not always unbiased in their coverage. It was during the same speech that Roosevelt coined the term "muckraker." Roosevelt's public condemnation of the muckrakers prompted a negative response from the journalists. Up to that point, Roosevelt had been considered a friend to the muckrakers. He had been instrumental in passing new laws that improved working conditions and ensured the safety of food sold in the United States.

Despite the occasional tensions, muckrakers had an incredible impact on American society. Their influence is evident in the number of reforms that occurred between 1900 and 1915. Some changes that took place as a result of muckraking journalism were prison reforms, the adoption of child labor laws, and the nation's first environmental conservation efforts. Of the reforms, the most widely known are those that took place as a result of the most famous muckraking book ever published, *The Jungle*, by Upton Sinclair. Set in the harsh world of the Chicago slaughterhouses, it depicts the hardships laborers encountered.

Through the book, the public learned about the terrible conditions that people working in the meatpacking industry endured. Their safety was constantly threatened, and owners seemed to disregard their well-being altogether. For example, there were multiple references to workers having body parts cut off in the machines.

The book caught the attention of many. It increased public concern for the employees in certain industries. Additionally, the book also raised awareness about a different problem in the United States: the lack of quality control and regulation in the food industry. Sinclair's most notable supporter was President Roosevelt himself, who, upon reading the book, ordered a separate inquiry to investigate Sinclair's allegations. Finding that the horrors portrayed in the book were all too real for many people, Roosevelt began to work to remedy some of those problems.

Eventually, Sinclair's book led to the passage of two very important laws: the Meat Inspection Act and the Pure Food and Drug Act. The Meat Inspection Act was aimed at ensuring quality and safety of meat processed in the United States. **It** ordered companies to inspect all meat and refuse to sell meat that could cause illness to humans. The Pure Food and Drug Act regulated all companies that produced items for human consumption. It was through the Pure Food and Drug Act that the Food and Drug Administration (FDA) was established.

1. The word **their in the passage refers to**

- (A) politicians
- (B) the American public
- (C) muckrakers
- (D) reformists

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

- (A) political corruption
- (B) members
- (C) President Roosevelt
- (D) articles

3. The word **It in the passage refers to**

- (A) United States
 - (B) Pure Food and Drug Act
 - (C) Quality
 - (D) Meat Inspection Act
-

Chapter 7: Sentence Simplification Question

Necessary Skills

- Identifying the answer choice that has the same essential meaning as a highlighted sentence in a passage
- Eliminating answer choices that change the meaning in important ways or leave out essential information

Example Question

- Which of the following best expresses the essential information in the highlighted sentence? Incorrect answer choices change the meaning in important ways or leave out essential information.

Strategies

- Ensure that you understand the ways in which an answer can be incorrect. Either it contradicts a detail in the highlighted sentence, or it omits something important from the sentence.
 - Be careful that your answer choice does not contradict the main argument of the paragraph in which the highlighted sentence occurs or the passage as a whole.
-

Reading 1: Philosophy

Representative Realism

Everything people know about the physical world comes to them through their senses—sight, touch, sound, taste, and smell. Most days, people put simple faith in this information as being a perfect reflection of the real, physical world. But people are also sometimes fooled by their senses. This raises the question: how accurately can the physical world be known if all knowledge of it comes through the senses? That is the problem posed by the philosophical viewpoint known as representative realism.

The father of this popular philosophical school was John Locke (1632-1704). Locke inquired into the origin, certainty, and extent of human knowledge in *An Essay Concerning Human Understanding*. While his work was hailed by many for its simple approach to difficult issues, it was attacked by others because in the end, his critics argued, it could not confirm that the world even exists.

According to representative realists, people cannot perceive the world directly, only the impressions and ideas perceived through the senses, or what is called the "veil of perception." In other words, people do not know the objects of the world, only their ideas of them. But this raises a serious question. The problem with representative realism is that it cannot say anything for certain about the real world because every statement describes only sensations of the world, which are subjective. Looking at a table, one person might see it as brown and square, while another person sitting in a bright corner might see it as white and rectangular. How can people know for certain that others see, hear, and taste the same things they do—that one person's brown is another's brown? Whose perspective is correct?

Critics ask that, if all people know is their individual perceptions, which are not necessarily the same, why do people all act and exist as if they perceive the same things in the world? Representative realists address these questions by saying that our senses act together to confirm the existence of real objects with fixed characteristics. For example, a table might look different to two people, but if they walk around it and touch it, they will end up agreeing on its properties. By agreeing on the properties of the table, they have proven that the table exists in the physical world and is the source of their perceptions.

Critics do not agree on whether or not Locke definitively argued that the objects in the world, or even the world itself for that matter, are real. This is a significant problem in the field of philosophy, because the science of knowledge requires proofs of the assumptions on which all other knowledge is based. Still, most people in their everyday lives act as realists. They do not question whether the physical world exists, but believe that it is more or less as they perceive it—even though they cannot prove it.

1. Which of the following best expresses the essential information in the highlighted sentence in paragraph 2? Incorrect answer choices change the meaning in important ways or leave out essential information.

- (A) Most people felt that even though Locke's ideas were simple, they did not explain the nature of philosophy at all.
- (B) Locke's ideas were attacked because they assumed that our minds and thoughts create an illusion of the world.
- (C) Because Locke's ideas were generally simplistic, they were widely attacked for not being able to explain things adequately.

(D) Some people criticized representative realism because it could not prove that the world was real, yet others praised its simplicity.

2. Which of the following best expresses the essential information in the highlighted sentence in paragraph 3? incorrect answer choices change the meaning in important ways or leave out essential information.

(A) Representative realism can state only that our perceptions are subjective sensations of the world.

(B) Every statement made by representative realism is a description of subjective perceptions, not a proof of anything.

(C) Representative realism has problems saying for certain that the sensations of the world are only subjective.

(D) Representative realism cannot prove the world exists, because it can make statements only about subjective perceptions.

3. Which of the following best expresses the essential information in the highlighted sentence in paragraph 4? Incorrect answer choices change the meaning in important ways or leave out essential information.

(A) Critics wonder why people act as if their perceptions match everyone else's if they do not perceive the real world.

(B) Critics ask why perceptions seem to match other if they do not describe something real in the world.

(C) If we know our individual perceptions do not match everyone else's, critics wonder, why do people act as if they perceive the same?

(D) Critics ask, if all we know is that our perceptions do not match others', why do we all perceive the same real things?

Reading 2: History

Archimedes

His name is hardly a household word, although the word he yelled in the street after solving a difficult problem—"Eureka!"—is known by many. Yet, to mathematician Archimedes of the 3rd century, modern people owe their understanding of such fundamental physical phenomena as the principles behind the pulley as well as the fulcrum and lever. Considered by some to be among the greatest mathematicians of all time, Archimedes perfected a method for measuring the areas, volumes, and surfaces of many bodies. In his own time, however, he was known best for inventing war machines that helped defend his hometown from attacking Romans.

Archimedes, the son of an astronomer, was born in Syracuse, Sicily, in 287 BCE. He may have been related to the King of Syracuse, Hiero II, but in any case, he often ended up applying his mathematical genius to problems and needs set forth by the king. As a young man, Archimedes studied the teachings of renowned mathematician Euclid in Alexandria, Egypt. Although he preferred to study mathematics for its own sake, Archimedes was often called upon to apply his knowledge in the defense of Syracuse, which was an object of contention between the great powers of Rome and Carthage. When the Romans attacked

Syracuse in 214 BCE, Archimedes displayed a number of his impressive war machines. According to witnesses, some of these could sink ships using weights that thrust out of a wall, or lift a ship high by one end, swing it around, then throw it against rocks or to the bottom of the sea. But the

inventor called these "mere amusements in geometry" compared with his complete absorption in solving abstract problems.

Among Archimedes' practical inventions for the king was a *device* used to draw rainwater out of a ship using a crank and a spiral. This method of irrigation is still used today in some countries. He also found a way to prove his suspicion that a goldsmith had cheated the king in making a crown. Observing the displacement of water when he got into the bath, Archimedes realized that he could measure the crown's volume thus and calculate its density to determine whether or not the jeweler had cut the gold with silver. In fact, he had. This discovery led Archimedes to run down the street shouting "I found it!" ("Eureka!")

Archimedes left nine books of mathematics that set out the fundamental principles of mechanics using geometry. His work paved the way for the calculus of the infinite, which was perfected in later centuries. He was most proud of the work he did showing the relationship between the surface area and volume of a cylinder circumscribing a sphere, and this is what marked his tomb. So respected was Archimedes that this tribute was ordered by the Roman general who ultimately defeated Syracuse and whose soldier killed the seventy-five-year-old mathematician. Legend has it that Archimedes was too caught up in a mathematical problem to notice the invading soldier and was struck dead.

1. Which of the following best expresses the essential information in the highlighted sentence in paragraph 2? Incorrect answer choices change the meaning in important ways or leave out essential information.

- (A) Archimedes was called upon to defend Syracuse, even though he would rather study than apply mathematics.
- (B) Archimedes used mathematics to defend Syracuse, which caused conflict between the powers of Rome and Carthage.
- (C) Archimedes preferred to study mathematics for its own sake, rather than apply his knowledge to an object of contention.
- (D) Archimedes' knowledge in the defense of Syracuse was an object of contention between Rome and Carthage.

2. Which of the following best expresses the essential information in the highlighted sentence in paragraph 3? Incorrect answer choices change the meaning in important ways or leave out essential information.

- (A) Observing the water's movement allowed Archimedes to discover that he could measure the crown's volume and density.
- (B) Archimedes discovered that the crown's volume and density would correspond with the displacement of water.
- (C) Archimedes realized that displacement of water could be used to find out if the jeweler had reduced the amount of gold in the crown.
- (D) Observing the displacement of water, Archimedes realized that the jeweler had added silver to the crown.

3. Which of the following best expresses the essential information in the highlighted sentence in paragraph 4? Incorrect answer choices change the meaning in important ways or leave out essential information.

- (A) Archimedes was so respected that the Roman general who defeated Syracuse ordered a tribute to him.
- (B) Archimedes respected the Roman general who defeated Syracuse and whose soldier killed the mathematician.

- (C) After a tribute was ordered, the Roman general's soldier killed Archimedes **out** of respect for the mathematician.
- (D) The Roman general's soldier who killed the mathematician ordered a tribute to Archimedes in respect.
-

Reading 3: Music History

Scott Joplin and Ragtime

Most people think first of jazz when asked to name a distinctly American form of music. However, the first homegrown musical genre was actually ragtime. Ragtime originated as a form of popular entertainment in African-American dance halls between 1900 and 1920. It gained standing as a serious musical form only later in the century, with the revival of interest in composer Scott Joplin. A piano player and the best known composer of ragtime, Joplin is now seen as the founder of "classical" ragtime. It consists of a unique synthesis of African-American folk music and syncopation with 19th-century European classical music.

Joplin was born in Texas sometime in late 1867. He received early training in classical music from a German piano teacher. Joplin was also exposed to the marches and waltzes of popular band music of his time. Before the age of twenty, he was earning a living as a piano player. He traveled with bands around the Midwest and performed in black "gentlemen's clubs" in his home base of Sedalia, Missouri. The music played in these clubs in the latter half of the 19th century was ragtime, an African-American modification of the march that was usually played on the piano. Like other African-American musical styles, ragtime is defined by a certain type of syncopation. Melodic accents fall between beats that make the beats more easily heard, encouraging people to dance. Casual listeners recognize ragtime piano by the repeated pattern of left-hand bass notes and chords accompanying a syncopated melody played by the right hand.

Like many ragtime performers, Joplin composed original numbers and sold sheet music. Yet he always sought to elevate his ragtime compositions to the status of classical music. **Despite the enormous popularity of his 1899 composition "Maple Leaf Rag," which attracted a wide audience to ragtime and established it in the musical culture of the early 20th century, Joplin focused on more serious pieces, such as an opera called *Treemonisha*.** Joplin's sheet music publisher, John Stark, claimed that the composer had "lifted ragtime from its low estate and lined it up with Beethoven and Bach." This praise was not echoed, though, until long after Joplin's death. Ragtime waned in popularity with the emergence of jazz and the onset of World War I. Joplin's death in 1917 at the age of fifty was little noticed.

Two decades later, jazz bands began reviving some ragtime tunes in the 1940s. There was a nostalgic craze in the 1950s starting with publication of the book *They All Played Ragtime: The True Story of an American Music*. New rags were composed in the manner of light-hearted novelties. A more significant revival, which placed Scott Joplin finally in the ranks of major American composers, began in the 1970s. **Classical pianist Joshua Rifkin released a recording of Joplin rags in 1971 that became nominated for a Grammy award, and the public was finally reintroduced to Joplin in the context he had desired, not as a nostalgic stereotype, but as a serious composer who had stood the test of time.** Widespread interest came with the 1974 movie *The Sting*, which featured adaptations of Joplin's rags by popular composer Marvin Hamlisch. The film's theme song, "The Entertainer," reached number three on the Billboard 100 list of popular hits. Joplin's triumph came many years after his death, with the 1976 Pulitzer Prize for his special

contribution to American music. In 1983, the US Postal Service issued a stamp of Scott Joplin in its Black Heritage series.

Today, some music historians consider classical ragtime a form of classical music, since it was based more on written sheet music than recordings or performances, but it is more likely the leap in quality taken by Scott Joplin that realized the potential of ragtime as a creative form. Joplin used African-American folk rags as raw material to break new musical ground. He carefully put together compositions known for their interesting themes, subtle relationships, and rich harmonies. As a synthesis of multiple musical genres, ragtime paved the way for an explosive era in American musical innovation. It continued with jazz and rock 'n' roll, earning performers an international following that continues to this day.

1. Which of the following best expresses the essential information in the highlighted sentence in paragraph 3? Incorrect answer choices change the meaning in important ways or leave out essential information.

- (A) The popularity of "Maple Leaf Rag" led Joplin to focus on more serious pieces.
- (B) A wide audience established ragtime as a musical culture focusing on serious pieces.
- (C) Although "Maple Leaf Rag" was very popular, Joplin focused on more serious pieces.
- (D) "Maple Leaf Rag" and more serious pieces established the musical culture of the early 1900s.

2. Which of the following best expresses the essential information in the highlighted sentence in paragraph 4? Incorrect answer choices change the meaning in important ways or leave out essential information.

- (A) Rifkin's recording introduced Joplin to the public, showing his music stood the test of time.
- (B) Joplin wanted to be introduced to the public through a serious recording like Rifkin's.
- (C) Rifkin's recording established Joplin as the serious composer he wanted to be.
- (D) Joplin was not a nostalgic stereotype, but a serious composer, as Rifkin's award proved.

3. Which of the following best expresses the essential information in the highlighted sentence in paragraph 5? Incorrect answer choices change the meaning in important ways or leave out essential information.

- (A) By writing sheet music rather than performing, Joplin realized the potential of ragtime as a classical form.
- (B) It is not only the written form, but the leap in quality that makes Joplin's ragtime into classical music.
- (C) The leap in quality of Joplin's music was realized by writing sheet music in a creative classical form.
- (D) More than recordings or performances, sheet music realizes the potential of ragtime as a creative form.

Reading 4: Business Psychological Pricing

Nearly everyone is aware that prices displayed in odd fractions, like \$9.99, are meant to encourage the belief that an item costs significantly less than the whole number, although it is just a penny less. Yet, most people claim not to be fooled by this tactic. They say they simply round up the figure to \$10. The fact is, this strategy would not be used consistently for so many years if it were not effective. Studies have shown that not only does the penny difference increase sales disproportionately, but many more pricing strategies are also effective despite working against consumers' best interests. Together, these are known as psychological pricing.

Psychological pricing consists of techniques to improve sales by using certain numbers in prices. Many economic theories assume that consumers always act rationally. This assumption is the basis for standard pricing formulas that predict, for example, that for *every* ten percent drop in prices, a retailer will see a twenty percent increase in sales. Psychological pricing strategies like setting a price to end in 99 contradict these assumptions, since it should be in consumers' rational interest to notice that a penny difference is negligible. Yet, multiple studies have shown that sales can be increased greatly by using psychological pricing strategies. A study at the University of Chicago found that lowering the price of margarine from 89 cents to 71 cents increased sales by sixty-five percent. But when the price was lowered to 69 cents—just two cents less—sales increased by 222 percent. A 1996 study found that prices ending in 99 generated eight percent more sales than prices ending in 88 or 00 for otherwise identical products from mail-order catalogs of women's clothing.

Psychological pricing may work because consumers try to *save* time and effort in their calculations by focusing less attention on the fractional, right-hand part of a price than on the more significant, larger digits. This would explain why a price ending in 99 generates even greater sales increases when the extra penny would bump the price by another digit, as from \$9.99 to \$10. A different study in 2007 found the opposite "right digit effect." Consumers saw a bigger discount when the last digit of a price was small. Thus, a \$222 item on sale for \$211 was considered a better deal than a \$199 item on sale for \$168, *even* though the discount is the same in both cases. The researchers in that study concluded that "comparative price advertising can distort consumers' perceptions in ways unintended by the seller." In other words, not only do the sellers stand to gain by using some type of psychological pricing effectively, they also stand to lose by remaining unaware of its effects. This suggests that there is more at stake disproportionately: to an extent that is out of behind the widespread use of psychological pricing strategies than sellers thinking they have nothing to lose by trying it except the need to stock up on pennies.

Even retailers who do not use fractional pricing often turn out to be applying psychological pricing strategies, in contrary fashion. People have grown so accustomed to thinking of prices ending in nine or five as a good value that prices ending in 00 project an image of quality and sophistication, according to a study from Ohio State University. Luxury shops, restaurants, and catalogs reject fractional pricing because they want to appear exclusive rather than low-priced. "By consistently looking at the numbers in prices and making a determination of the quality of those items, we learn what to expect, and it becomes a part of our culture," says researcher H.G. Parsa. "It's a subconscious learning."

Indeed, social psychologists have found that people do not always make decisions **in** their best interest on the basis of reason. Often, they exhibit what is called cognitive dissonance. This means that they might hold two inconsistent ideas simultaneously and adopt various forms of rationalization and self-justification to ease the resulting tension. For example, it makes sense to save money for retirement, yet many people fail to do it. The reason may be that they fear contemplating old age and saving would force them to think about it. Instead, they choose not to save and defend their choice with all kinds of reasons and justifications. The fact that psychological pricing works even though almost everyone sees through the ruse demonstrates the significant role that subconscious desires and thoughts play in economic decisions.

1. Which of the following best expresses the essential information in the highlighted sentence in paragraph 1? Incorrect answer choices change the meaning in important ways or leave out essential information.

(A) Changing prices by just a penny raises sales, proving that consumers act in their best interests.

(B) Marketers have found many ways to increase sales disproportionately that contradict the idea that consumers always act rationally.

(C) Not only do pricing strategies help increase sales, they also have a disproportionate effect on consumers' best interests.

(D) Marketers have found that strategies like lowering the price by a penny can increase sales disproportionately.

2. Which of the following best expresses the essential information in the highlighted sentence in paragraph 2? Incorrect answer choices change the meaning in important ways or leave out essential information.

(A) Psychological pricing strategies play on consumers' interest in noticing small differences in price.

(B) If consumers act rationally, they will not be fooled for long by psychological pricing strategies.

(C) Setting prices to end in 99 assumes that consumers will not notice the penny difference.

(D) Psychological pricing strategies assume that consumers always act in their best interests.

3. Which of the following best expresses the essential information in the highlighted sentence in paragraph 3? Incorrect answer choices change the meaning in important ways or leave out essential information.

(A) Sellers who use psychological pricing will lose ground to competitors if they are unaware of all its effects.

(B) Psychological pricing will cause sellers to gain or lose, depending on how it is used.

(C) Some sellers might not care about the gains from psychological pricing, but ignoring the strategy's outcome could hurt them.

(D) Using psychological pricing effectively will lead to gains, while remaining unaware of it will lead to losses.

Chapter 8: Text Insertion Questions

Necessary Skills

- Understanding the logic of a reading passage and grammatical connections between sentences

Example Question

- Look at the four squares that indicate where the following sentence could be added to the passage.

[You will see a sentence in bold.]

Where would the sentence best fit?

Strategies

- Try inserting the bolded sentence in place of each square.
 - Pay attention to both the structure of the bolded sentence and the logic of its placement.
 - Watch for logical connecting words as they can give important clues about where the sentence should be placed.
 - Ensure that the bolded sentence connects logically to both the sentence preceding it and the sentence following it
-

Reading 1: Nutrition

Vitamin A Deficiency in the World

The human body needs a host of vitamins and minerals to keep it functioning properly. ■ (A) While one's diet supplies the majority of vitamin intake, some people must find other sources to provide the vitamins necessary to sustain them. ■ (B) These can be derived from a number of foods such as milk, liver, eggs, red and orange fruits, and green leafy vegetables. ■ (C) However, the amount of vitamin A in food can vary greatly, depending on geographic region and the quality of available food. ■ (D) In developing countries, available food is generally insufficient for one's daily intake of vitamins.

Deficiency in vitamin A is quite prevalent in children, especially when exacerbated by illness. ● (A) A lack of adequate vitamin A at a young age can lead to blindness. It is recorded as the leading cause of preventable childhood blindness. ● (B) Vitamin-deficient children have a twenty-three percent greater risk of contracting and dying from measles or malaria. Children need vitamin A to grow. However, they lose large amounts of it when they fight infection. ● (C) It is estimated by the World Health Organization (WHO) that 100 to 140 million children under the age of five may be suffering from vitamin A deficiency. By targeting children between six months and five years of age, agencies are working to bring vitamin A to those who need it ● (D)

Agency workers apply various plans of action to manage vitamin A deficiency, This is done in an effort to increase child survival rates, reduce the seriousness of childhood illness, and ease the subsequent strain on healthcare facilities. ◆ (A) The three control strategies for deficiency are supplementation, food fortification, and dietary diversification. For supplementation, international recommendations call for the administration of high doses of vitamin A. ◆ (B) The supplements, typically in capsule form, are given to children under the age of five every four to six months. This provides a safe, cost-efficient solution that eliminates the deficiency and improves survival ◆ (C) Increasingly, food fortification, the second solution, is reaching countries through mediums such as sugar, oil, milk, and other basic food items. While this option is effective overall, it can take many years to implement and reach families in need. ◆ (D) Non-animal sources currently provide eighty percent of the intake for developing countries. However, the present need for vitamin A requires ten times the current quantity available. By increasing food from animals, agencies can provide diets richer in vitamin A

Internationally, the goal is to eliminate vitamin A deficiency in children and ,thus decrease preventable health issues. Countries providing supplements twice a year reach a minimum of seventy percent of children needing treatment. This is considered effective coverage. With the continuation of supplementation and other programs, vitamin A deficiency could be effectively eradicated in the near future .

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

One vitamin that is vitally important to the body is Vitamin A.

Where would the sentence best fit?

- (A) First square
- (B) Second square
- (C) Third square
- (D) Fourth square

2. Look at the four circles [●] that indicate where the following sentence could be added to the passage.

While the vitamin affects eye health, it also supports the immune system and keeps it functioning properly.

Where would the sentence best fit?

- (A) First circle
- (B) Second circle
- (C) Third circle
- (D) Fourth circle

3. Look at the four diamonds [◆] that indicate where the following sentence could be added to the passage.

Dietary diversification is the pairing of animal food products with nutritious fruits and vegetables, all of which are high in vitamin A.

Where would the sentence best fit?

- (A) First diamond
- (B) Second diamond
- (C) Third diamond
- (D) Fourth diamond

Reading 2: Psychology

Personal Control Beliefs

Whether or not people are conscious of it, they hold very specific beliefs about their perceived control, or lack thereof, over situations that occur in their lives. In reaction to a particular situation, people attempt to explain its outcome in terms of a cause-and-effect relationship. Experts in the field of psychology believe that people can be divided into two clear categories in regard to their personal control beliefs.

There are those with a pessimistic explanatory style and those who practice a more optimistic explanatory style. Personal control beliefs are the powers an individual feels he or she has over the outcomes of circumstances in his or her life. ■A) They develop over time as an individual experiences disappointment and failure and learns different methods for coping with them. ■B) A person's explanatory style is an unchanging cognitive characteristic of his or her personality. It reflects the way he or she thinks about the bad events in his or her life. ■C) Negative incidents happen to everyone, but individuals differ in the ways they view the causes behind such events. ■D)

Individuals who tend to take a fatalistic view of unmet expectations are said to have a pessimistic explanatory style. ●A) These people look internally at perceived failures, shortcomings, or what they consider to be inherent character flaws in themselves when a situation turns out negatively. ●B) Such people do not consider that outside factors could have contributed to the loss. Instead, they blame themselves and feel their shortcomings are too big to overcome. ●C) People who have this style tend to feel helpless and give up when they encounter setbacks. They feel they have no control over circumstances in their lives and therefore will likely fail ●D) People who espouse the pessimistic style usually adopt negative coping mechanisms. These serve to decrease overall motivation and prompt more negative emotions.

On the other hand, those with an optimistic explanatory style generally ascribe external factors to a negative result ◆A) For example, a person with an optimistic style might say, "I lost the tennis match because my coach wanted me to use the wrong type of serve." ◆B) Individuals

with this style see negative events as things that can be changed and controlled. The tennis player in this example might simply try a different type of serve next time, rather than feel she is a poor player. ♦ C) Such people believe negative occurrences are isolated and the result of outside factors. Optimistic people are found to have more positive coping strategies. Therefore, they seem to be more successful and have higher self-esteem. ♦ D) While an overly optimistic view could lead to an unhealthy and narcissistic opinion of oneself, most people consider the optimistic style to be beneficial. The key is a balance between being negatively affected by poor outcomes and realizing that while one may be somewhat responsible for a negative result, one also possesses the ability to make changes that can control future outcomes.

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

These beliefs govern how a person reacts when a desired outcome is achieved or when an outcome is different than expected.

Where would the sentence best fit?

- (A) First square
- (B) Second square
- (C) Third square
- (D) Fourth square

2. Look at the four circles [●] that indicate where the following sentence could be added to the passage.

For example, someone with a pessimistic style who just lost a tennis game might say, "I lost the match because I'm just not a good player."

Where would the sentence best fit?

- (A) First circle
- (B) Second circle
- (C) Third circle
- (D) Fourth circle

3. Look at the four diamonds [◆] that indicate where the following sentence could be added to the passage.

An optimistic view, however, can have negative consequences.

Where would the sentence best fit?

- (A) First diamond
- (B) Second diamond
- (C) Third diamond
- (D) Fourth diamond

Reading 3: Biology

Measuring Microbial Activity

Microbes, or tiny organisms, make up the majority of the Earth's living biomass. They are invisible to the naked *eye*. Therefore, biologists must use specific methods to study and measure the activity of these organisms. Although their minute size makes them somewhat difficult to observe, scientists have developed two tools for studying microbial activity. These are radioisotopes and microelectrodes.

A radioisotope is an atom with an unstable nucleus. It releases its excess energy as radiation. The radiation chemically alters the microorganism. When used to study microbes, this

radiation allows microbiologists to assess the chemicals released. ■ A) Radioisotopes can be used to study microbial activity in a variety of environments. ■ B) They are often used in the field of medicine for certain tests and treatments. For example, doctors can inject a radioisotope into a patient suspected to have cancer. The patient then undergoes a PET scan. ■ C) The radioisotope highlights the tumors on the scan. This aids doctors in determining the exact cause of a medical condition. Subsequently, they can treat the illness. Radioisotopes can also be used to eliminate harmful bacteria in foods. ■ D) Some types of meat contain parasites or pathogenic bacteria. Radioactive isotopes can target the specific bacteria and irradiate them. This kills the bacteria without harming the rest of the meat.

A microelectrode is an electrical device that can deliver an electric current to a non-metallic surface. Microelectrodes can be used to detect metabolic, or energy-producing, processes in microbes. ● A) In one study, biologists tried to determine why one type of bacteria was able to multiply so quickly in a certain environment. ● B) They used microelectrodes to measure the levels of carbon dioxide and oxygen at different depths in a minute environment. They discovered that oxygen was depleted in the first fifty micrometers. As the oxygen decreased, the carbon dioxide increased. The toxic bacteria were allowed to thrive. ● C) The highly specific nature of the microelectrodes provided scientist\$ with the exact answers they needed. ● D)

The radioactive nature of radioisotopes and the ability of microelectrodes to work within tiny environments render both of these methods useful to biologists in various ways. ◆ A) For example, microbial diseases such as the West Nile virus (WNV) and cholera negatively affect the world's mortality and morbidity rates. ◆ B) In 2005, 2,949 cases of WNV were reported in the United States. There were 116 deaths from the virus. ◆ C) In addition, many of the negative changes made in the Earth's environment begin at the microbial level. Since microbes are some of nature's tiniest organisms, they provide valuable information about making positive changes in the environment that start at the most fundamental level. ◆ D) Through the study of microbial activity, biologists have discovered more about the production and consumption of gases that affect the atmosphere. They have also learned about the transformation of these greenhouse gases and other toxic elements. Scientists use this information to develop strategies that may help reverse negative climatic trends.

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

This scan shows any tumors or abnormal cells in the patient's body.

Where would the sentence best fit?

- (A) First square
- (B) Second square
- (C) Third square
- (D) Fourth square

2. Look at the four circles [●] that indicate where the following sentence could be added to the passage.

In addition, their size allows them to move within tiny environments and study the electrical characteristics of microorganisms.

Where would the sentence best fit?

- (A) First circle
- (B) Second circle
- (C) Third circle
- (D) Fourth circle

3. Look at the four diamonds [◆] that indicate where the following sentence could be added to the passage.

These diseases, as they grow and spread, infect and even kill many people.

Where would the sentence best fit?

- (A) First diamond
- (B) Second diamond
- (C) Third diamond
- (D) Fourth diamond

Reading 4: Biology

Boom and Bust Cycles in Population

The population of any given species has natural growth and reduction cycles. Through these natural cycles, most species and populations tend to remain relatively stable. However, due to environmental factors, some species can experience large fluctuations between an enlarged population and greatly decreased numbers in their population. This occurrence has been coined the "boom-and-bust cycle" in population growth.

The changes in the boom-and-bust cycle are perpetual. They build upon and lead into each other. ■ **A**) When a population has an increased number of members, competition for a set amount of resources begins. ■ **B**) Also, the number of predators tends to increase as the prey population increases: more food for predators means they will reproduce in greater numbers as well. ■ **C**) Conversely, with fiercer competition for resources and an expanded group of predators, the population will begin to experience higher death rates. ■ **D**) As the population dies, the number of predators will correspondingly shrink due to the lack of food. Resources replenish during the bust period. With less predation, the population has a chance to repopulate their environment, and birth rates increase, thus beginning the cycle again.

Favorable conditions such as warmer weather and rainfall foster an environment in which species are free to reproduce and increase in number. ● **A**) Some species experience these kinds of favorable conditions on a yearly basis. ● **B**) They produce many offspring during the spring and summer, but then the entire population experiences a crash when the colder months of the year hit. ● **C**) Many populations experience this cycle at a much slower rate. ● **D**) Their growth and subsequent decline are influenced by environmental factors such as the availability of food and living space. The lemming populations of the arctic are a good example. Lemmings thrive as long as there is ample vegetation for all members of the population. As the population grows and the food supply starts to dwindle, lemmings will often emigrate from highly crowded areas. It is during these times of exodus that many lemmings die. Some accidentally drown when they try to swim across large bodies of water to find new homes. Also, the lemmings become easy targets for predators when they are on the *move*. In areas where numbers are depleted, the land and its resources will be replenished. Vegetation grows, and, before long, lemmings migrate again to these areas. In other animal populations, predatory behavior plays a bigger role in carrying on this cycle.

Rabbit populations are known for their large numbers and ability to reproduce at a swift rate. They are preyed upon by bigger mammals, which can help maintain equilibrium in their population in most cases. In one Canadian study, biologists theorized that the rabbit population might experience the boom-and-bust cycle if a particular species was their only predator. To test their theory, they studied the availability of animal pelts, or skins, on the market between 1845 and 1935. The number of pelts available would correspond with population size. Throughout the ninety years of the study, the numbers of rabbit pelts and the pelts of their predator, the lynx, rose and fell

in a dramatic fashion. ♦A) When the number of rabbit pelts grew to be quite large, it meant that the rabbits were thriving and reproducing. ♦B) Not long after the rabbit population reached a peak, the number of pelts began to decrease, while the number of lynx pelts began to increase. ♦C) Likewise, as the lynx pelts reached a peak, lynx populations decreased, and the rabbit population began to re-establish itself. ♦D) Scientists believe that this example of the boom-and-bust cycle is the exception rather than the norm.

Generally speaking, populations of different species maintain a certain balance in their growth patterns. The boom-and-bust periods within this cycle are special circumstances that only occur for a limited amount of time. Just the same, there are times when environmental factors can lead to a cycle of great growth and consequent diminution in the species populations of the world

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

Consequently, higher mortality rates lead the population toward the "bust" portion of the cycle.

Where would the sentence best fit?

- (A) First square
- (S) Second square
- (C) Third square
- (D) Fourth square

2. Look at the four circles [●] that indicate where the following sentence could be added to the passage.

For example, insect populations experience immense growth during the warmer months of the year.

Where would the sentence best fit?

- (A) First circle
- (B) Second circle
- (C) Third circle
- (D) Fourth circle

3. Look at the four diamonds [◆] that indicate where the following sentence could be added to the passage.

This cycle repeated itself throughout the study, with the greatest increase in rabbit pelts being soon followed by a great increase in lynx pelts.

Where would the sentence best fit?

- (A) First diamond
- (B) Second diamond
- (C) Third diamond
- (D) Fourth diamond

Chapter 9: Prose Summary Questions

Necessary Skills

- Recognizing the organization and relative importance of information presented in the passage
- Understanding and locating specific points in a passage key to the gist of a passage as a whole
- Organizing information presented in a passage into a mental outline

Example Questions

- 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. The question is worth 2 points.

[You will see a sentence in bold here.]

Strategies

Distinguish main ideas from minor ideas, and essential information from non-essential information.

- Remember that correct answer choices will not be identical to any particular sentence in the passage.
-

Reading 1: Zoology

Intelligence in Dogs

Nearly all pet owners believe that their animal companion has a personality of some sort. Although it is clear that animals act differently, it remains unclear if pets are capable of reasoning. A number of studies have been conducted in the past several years that suggest that animals are, in fact, quite intelligent, but are nonetheless influenced heavily by the presence of their owners. A recent case studying the cognitive ability of dogs was performed by researchers at a university in Budapest. It revealed that canines are incredibly able thinkers under the right circumstances.

The study took a sampling of forty-two adult dogs of varying ages and breeds. There were no limitations on the selection of the dogs except that they had to enjoy playing with toys. Each dog was brought into a room with a researcher, who would place a ball under several small pots and show the dog which pots did not contain the ball. The pots would then be shuffled around on a surface. In this first round of the study, the researcher would occasionally pause and pay attention to one of the pots that did not contain the ball. He or she would look at the pot, stare at the dog, and then go back to shuffling. In most cases, the dogs picked out the pot to which the researcher gave special attention, not the pot with the ball underneath it.

In the second round, the same dogs were placed in a room with the same pots. However, in this second round, the pots' movement was controlled with wires, and no human was visible. Once again, the pots not containing the ball would be revealed and the pots would then be shuffled. With no visible human cues, most dogs in the second round were able to quickly pick out the pot containing the ball.

Researchers concluded from this experiment that dogs were capable of deductive reasoning. Since the dogs were capable of picking out the correct pot in the absence of a human, researchers concluded that they had the ability to make deductions and solve simple problems. Other animals known for their remarkable intelligence, such as chimpanzees and grey parrots, have displayed similar reasoning abilities. The inclination to be influenced by researchers, however, suggests that the dogs are social animals as well and are open to being taught. The dogs' behavior was strikingly similar to that of infants, who possess basic problem-solving abilities but are strongly influenced by cues from their parents.

While the study is by no means conclusive, it does suggest that the domesticated animals people keep as pets are capable of thoughtful analysis. This analytical ability, however, may not always be readily apparent in the presence of humans, since dogs are influenced heavily by the behavior of humans. Furthermore, the study suggests that animals may be more psychologically advanced than we have traditionally thought. Clearly, further research will be necessary to determine the extent of animal intelligence.

1. 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 passage discusses the process by which researchers studied the intelligence of dogs and what they concluded.

-
-



Answer Choices

- (A) When in the presence of researchers, dogs were more likely to rely on the researchers' hints.
 - (B) When the tests were controlled by wires instead of people, the dogs displayed deductive reasoning.
 - (C) The dogs chosen for the study were not chosen by their breed or specific age.
 - (D) Dogs possess problem-solving ability, but can be easily influenced by cues from humans.
 - (E) It is hard to understand how smart a dog may be, as it is influenced by visual cues.
 - (F) Other intelligent animals, like chimpanzees and grey parrots, have similar reasoning abilities.
-

Reading 2: Music History

Troubadours and Trouveres

Musical historians are hard-pressed to find sources of music outside of the church prior to the Renaissance. There are sparse records of folk songs, but liturgical chants are by far the most common songs from this period. The troubadours and trouveres of the 12th and 13th centuries, however, provide a valuable glimpse into the history of music outside of the confines of the church. While records of them are by no means extensive, they are nonetheless considerable and worthwhile.

Troubadours and trouveres were similar kinds of musicians that inhabited different areas and spoke in different languages. Their positions were not exclusive to class in either case. Although most of them were from the nobility, anyone who was lyrically talented and appreciated the concept of *love* could adopt their craft. Troubadours resided primarily in southern France and northern Italy. They performed mostly using Provençal, a popular language of the time. Trouveres were found in northern France and used a variety of similar regional languages from England, Picardy, Normandy, and Champagne. The origin of their musical style is debated. Some have argued that it has roots in Celtic culture, and others have argued that it was a musical tradition borrowed from the Arabic world. Regardless of its actual origins, the music was truly unique for its day and age.

The musical compositions of both the troubadours and trouveres were concerned primarily with the subject of *love*. The subjects of their songs *covered* a broad range of situations and feelings. These included simple declarations of *love*, discordant verses on *love*, a lover's defense of his feelings, stories of a romantic encounter between a knight and a female shepherd, and many others. While the subject was almost exclusively *love*, the works of the troubadours and trouveres also *reveal* a remarkable awareness of style and an amazing technical ability.

Whereas the liturgical chants popular in the church were primarily focused on *verse*, it is believed that the work of troubadours and trouveres placed equal emphasis on the lyrics of a song and its musical accompaniment. Their musical style certainly popularized the use of musical instruments in songs in Renaissance Europe. Yet while the *verse* was strongly associated with the music, the songs could easily be adapted for a variety of tones and rhythms. Songs were passed among musicians orally, although the works of trouveres in northern France were sometimes documented by literary groups. Given their mostly oral tradition, the songs were typically not documented. Moreover, the musical aspect was very rarely documented.

As such, it is difficult to pinpoint if the work of the troubadours and trouveres was centered on the lyrical aspect or the musical aspect of their songs. Scholars have suggested that the songs were written to be performed in a declamatory way. However, such an assertion clearly puts the

emphasis on the verse, not the music. In spite of the lack of consensus surrounding their work, the troubadours and trouveres no doubt made an important contribution to the musical world with the introduction and widespread use of musical instruments.

1. 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 idea 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 passage discusses the music developed by troubadours and trouveres in the 12th and 13th centuries.

Answer Choices

- (A) The origins of the troubadour and trouveres tradition are not clear.
- (B) Troubadours and trouveres were lyrical musicians in the south and north of France, respectively.
- (C) Their music contained remarkable stylistic and technical elements and was usually centered on the subject of love.
- (D) Trouveres were from the northern portion of France and spoke a number of related regional dialects.
- (E) Scholars have argued that their work was meant to be performed like a dramatic poetic story.
- (F) Their music was not well-documented, and it remains unclear if it was oriented around musical elements or lyrical elements.

Reading 3: Medicine

The Function of Appendix

The appendix is a small organ shaped like a pouch located along the intestinal tract of the human body. Since its discovery, physicians have been unable to reach a consensus regarding its purpose. They have, however, been able to confirm that the inside of the appendix is lined with tissue called biofilm, designed to kill harmful bacteria.

Although there are a number of harmful bacteria that can enter the intestinal tract, the contents of the digestive tract do not enter the appendix, nor is the appendix known to secrete anything into the intestine. Thus, it was unclear how this immune tissue was used. Given the lack of an apparent purpose for the appendix, many physicians went so far as to suggest that it served no purpose whatsoever. However, recent studies have shed some light on the possible uses of the appendix.

Researchers from Duke University began their study by examining the inner wall of the appendix coated in a thin biofilm. They found that the biofilm is a mixture of mucus, bacterial colonies, and immune system molecules. These immune molecules in the biofilm protect helpful bacteria colonies. Meanwhile, the biofilm extends outward into the actual intestinal tract where the appendix connects. Because of protection the biofilm offers to helpful bacteria that inhabit the intestine, researchers suspect that the appendix is used to house this bacteria and to keep a "reserve" of them on hand.

With this hypothesis, scientists began conducting research into the contents of patients' intestinal tracts. Normally, helpful bacteria exist within the intestinal tract to aid in the digestive process. The digestive tract houses these helpful bacteria, and the immune molecules keep harmful

bacteria from entering. However, the immune molecules cannot always keep out the harmful bacteria. When they do enter, they can cause ailments such as diarrhea. When a person has diarrhea, the contents of the intestinal tract, including the helpful bacteria, are entirely flushed out. Researchers found that patients' intestinal tracts were quickly repopulated with good bacteria shortly after they were emptied. This observation reinforces the hypothesis that the appendix acts as a reserve for good bacteria. After the intestinal tract was emptied, the appendix could release a portion of the good bacteria back into the gut. Other observations support this hypothesis. In third-world countries where harmful intestinal viruses are common, it is possible that the biofilm coating the appendix and a part of the intestine are flushed out. The theory also helps explain why removal of the appendix—a common procedure in developed countries—has no discernable effect on a person. Since the reserves of helpful bacteria are not needed, their absence has no negative impact on people without appendixes in civilized countries.

This hypothesis remains untested, however. It is difficult for doctors to actively monitor the intestinal activity so closely in a normal human being. Furthermore, accurate tests cannot be performed in other animals. Only rabbits, possums, and wombats are known to have appendixes. Furthermore, their appendixes are markedly different from their human counterparts. As such, science cannot be sure of the precise function of the appendix.

1. 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 passage discusses a new theory regarding the purpose of the appendix .

Answer Choices

- (A) Researchers found that the biofilm coating the appendix allowed helpful bacteria to thrive in the appendix.
- (B) When the intestine was emptied completely, researchers found that helpful bacteria returned to the intestine very quickly.
- (C) The appendix is covered in a thin coating of mucus, immune molecules, and bacterial colonies.
- (D) Researchers concluded that the appendix could act as an area to hold reserves of helpful bacteria.
- (E) Rabbits, possums, and wombats also have appendixes.
- (F) Since a functioning appendix is difficult to actively observe, discovering its purpose can be difficult.

Reading 4: Psychology

Personality Disorders

Personality disorders are a class of mental disorders. They affect the way people view themselves, other people, and the world around them. Personality disorders are broadly classified. They include multiple personality disorder, which describes a person who thinks of himself as more than one person. He behaves differently according to each personality. They also include extreme narcissism. This describes a person who focuses on herself so much as to severely hinder her behavior and perceptions of the world. Personality disorders are typically identified by psychologists late into their development. Thus, their original causes are difficult to pinpoint.

There are a number of possible factors, however, that may contribute to the formation of a personality disorder.

The most obvious factor -and perhaps the easiest to identify are biological causes. Particular traits that infants inherit from their parents may contribute to the development of a personality disorder. Some researchers have also suggested that there may be a genetic basis, independent of heritable traits, that makes an individual more likely to develop certain disorders. However, it has been determined that nearly all known personality disorders are not caused entirely by genetic makeup. Socio-cultural and other psychological factors inevitably play a role.

Psychological factors are most likely to play a role in personality disorders. It is believed that individuals are most affected by experiences early on in life. Interestingly, there is very little research to support this notion. One study reported that seventy-one percent of patients with borderline personality disorder claimed that they had been abused as children. Another study found that eighty-one percent of borderline patients reported some form of trauma in early childhood. However, such evidence is by no means conclusive. The research is based on the reports of patients already believed to have a personality disorder. As a result, their perceptions of the past may be distorted. A patient with borderline narcissism disorder, for instance, may exaggerate a past experience because of his sense of self-importance. Further research has suggested that perceived trauma may not have actually occurred early on in a patient's life, but rather much later. As such, it is unclear how much of a role traumatic situations have on one's personality. Many experts suspect a connection. Nonetheless, they are unable to verify it.

Social factors are also thought to play a significant role in the development of personality disorders, perhaps more than any other. Some researchers, for instance, have argued that infants go through a phase in which they believe that all events of the world revolve around them. In most individuals, this phase eventually passes and infants come to terms with social reality. However, this period is key in helping individuals retain a sense of self-confidence. If parents do not provide some assurance that their child deserves respect and attention, he or she may develop a personality disorder. Conversely, others have argued that too much attention from parents during childhood can result in the development of a narcissistic personality disorder.

Some psychologists have gone so far as to suggest that sociocultural factors may contribute to personality disorders. These theories go beyond simple social situations on an individual level. They suggest that one's culture can affect personality. People, for instance, brought up in an oppressive society and taught that they exist only to serve the state may, on returning to normal conditions, feel overwhelmed by the attention they get as individuals. As a result, they may experience severe anxiety when asked to talk about themselves. Other theories suggest that many developed nations are responsible for the expectation of individuals that material goods provide meaning. Given the broad nature of socio-cultural theories of personality disorder, they are nearly impossible to prove or disprove. They remain, however, a source of debate for most psychologists.

Our understanding of personality disorders is by no means complete. Their causes may vary dramatically from person to person. Psychologists have been criticized because they claim to know what is normal. They serve as the arbiters of what is unusual. In addition, some have questioned the usefulness of broadly identifying contributing factors to personality disorders. Each individual case varies. Clearly, further research must be done to adequately identify not only causes and treatments, but also what is and what is not a disorder.

1. 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 idea 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 passage discusses factors that may contribute to the development of personality disorders .



Answer Choices

- (A) Inherited traits and genes may contribute to an individual's development of a personality disorder.
 - (B) It is unclear how worthwhile generalizations on the causes of personality disorders are, as they vary from case to case.
 - (C) Psychological trauma, especially early in life, is suspected to play a major role in personality disorders.
 - (D) Social factors, especially those in a child's upbringing, and socio-cultural factors can have an impact on personality disorders.
 - (E) As personality disorders are typically identified only after they have developed, it is difficult to pinpoint their causes.
 - (F) Psychologists have been criticized for claiming to have knowledge of what is and is not normal.
-

Chapter 10: Chart/ Table Questions

Necessary Skills

- Recognizing the organization and purpose of a passage
- Understanding rhetorical functions such as cause-effect relationships, compare/ contrast relationships, and arguments
- Identifying and organizing important ideas and points from a passage and placing them in the appropriate context

Example Question

- Complete the table below to summarize information about concepts discussed in the passage. Match the appropriate statements to the concepts with which they are associated. TWO of the answer choices will NOT be used. **This question is worth 3 points.**

Strategies

- Separate main ideas from minor ideas, and essential information from non-essential information.
 - Remember that major ideas are ones that would be included in a higher-level outline of the passage.
-

Reading 1: Computer Science

Phishing

As a growing number of companies rely on the Internet for one or more aspects of their businesses, the prevalence of phishing scams has markedly increased. Phishing can be defined as an attempt by a computer user to gain another user's sensitive information by impersonating a trustworthy website. This sensitive information, which may include passwords, bank account numbers, and personal identification numbers, can then be used to steal the victim's money or *even* appropriate their identity. Phishing scams are often *very* convincing. Those behind the scams frequently create websites or emails that exactly imitate the form of a trusted site. This reduces the likelihood that a victim will recognize it as a fraud. Thus, both computer users and members of government have recognized phishing as a serious new threat to the safety of private information. A number of measures have been introduced to reduce the incidence of phishing scams. These solutions, which include education for computer users and legislation by federal governments, are the first step in protecting sensitive information on the Internet.

Educating computer users about threats posed by phishing can significantly increase their awareness of the vulnerability of online information. Due to the relatively recent emergence of phishing scams, many computer users are unaware that their information can be stolen through fake websites or emails. An organization called the Anti-Phishing Working Group has developed an online tutorial that teaches computer users to be cautious of email messages that urgently request personal information. Many similar websites also offer helpful tips for those hoping to learn how to avoid phishing scams. For instance, phishing scams often direct users to a Website that looks authentic. However, the user can check the address bar on his or her browser to verify that the site has the same URL as the trusted site. Otherwise, the user will know that the site is fraudulent. In addition, many websites, including those of many major online businesses, stress the fact that an online business will never ask for personal information through email. Thus, users can immediately disregard such emails.

Governments have also joined the fight against phishing scams. In particular, the US government has developed legislation that targets phishers specifically. Those who are caught can now face fines and imprisonment. On March 1, 2005, the US government created the Anti-Phishing Act of 2005. It proposed that criminals who develop fraudulent websites and email messages could be fined up to \$250,000 and jailed for up to five years. In addition, governments are increasing their efforts to catch suspected phishers. A man was convicted in 2007 of sending fraudulent phishing emails to thousands of users of a popular online service provider. The courts did not take his offence lightly. He faces over 101 years in prison due to the many counts of fraud he was convicted of. Governments around the world hope that similar convictions will deter future phishers and reduce the overall frequency of phishing scams.

1. Directions: Complete the table below to summarize information about phishing discussed in the passage. Match the appropriate statements to the concept with which they are associated. TWO of the answer choices will NOT be used. *This question is worth 3 points.*

Concept	Statements
Education	● ● ●
Legislation	● ●

Answer Choices

- (A) Online tutorials help users identify phishing scams.
- (B) Internet companies demonstrate how phishing works.
- (C) Conviction of phishers can prevent future scams.
- (D) Users can verify a website using the addressbar.
- (E) Governments create anti-phishing organizations.
- (F) Businesses state that they do not ask for personal information.
- (G) Phishers are caught and fined or placed in jail.

Reading 2: Business

Types of Business Mergers

When companies want to expand their operations in an attempt to create long-term profitability, they often rely on mergers. A merger is a form of corporate restructuring that occurs when two or more companies combine to form a single entity. There are three types of mergers: horizontal, vertical, and conglomerate.

Horizontal mergers occur when companies in the same industry combine. This is done in order to expand product lines, reduce costs, or eliminate competition. Horizontal mergers can have either an insignificant or considerable impact on a particular industry depending on the sizes of the companies merging. If two small, local grocery stores merge together, there will likely be no effect on the market as a whole. On the other hand, mergers between companies with large shares of the market can significantly change the industry so much that such mergers are often blocked. For example, the US government prevented a merger between two major US office supply chains after finding that the merger would have given the new company an unfair advantage over its competitors, allowing the company to raise prices by as much as thirteen percent.

Another type of merger is the vertical merger, in which a company purchases another company that is involved in a different stage of the sales or production process. This cuts costs since the company that supplies the materials and the company that produces and distributes products are now one organization. For instance, if a publishing house buys a paper company, the publishing house can reduce its expenditures on paper. The publishing house can purchase paper at base cost, so there is less money tied up in the production process. Vertical mergers can negatively affect competition; materials may be harder to obtain or more expensive to purchase since a rival company now owns the material manufacturing company.

In a conglomerate merger, companies in different markets combine. The companies operate in separate industries and by merging; there is little effect on competition in either market. For

example, a clothing company might merge with a soft drink company. If the soft drink market goes down, the soft drink side of the company may lose profit. However, if the clothing market is good, the clothing side of the company might be able to make up for the losses sustained by the soft drinks. Conglomerate mergers are often done as a way to reduce risk and create a more stable pattern of sales, since the company's capacity for profit is not concentrated in one specific market. Companies initiate mergers for a number of different reasons. Each type of merger can save on costs by allowing merged companies to reduce the number of employees if positions overlap. Instead of having two marketing directors, one at each company, a single marketing director will suffice for the newly formed company. Business mergers can help expanding companies grow at a rapid rate without having to put in the money and time to create another company from the ground up.

- 1. Directions:** Complete the table below to summarize information about mergers discussed in the passage. Match the appropriate statements to the type of merger to which they relate. TWO of the answer choices will NOT be used. *This question is worth 3 points.*

Merger	Statements
Horizontal	● ●
Vertical	● ●
Conglomerate	●

Answer Choices:

- (A) Companies are involved in different aspects of sales or production.
 (B) The companies want to ensure future losses.
 (C) A small or giant impact on a sales market may result.
 (D) The manufacturing costs for a merged company are reduced.
 (E) Companies having similar products become one enterprise.
 (F) An increase in the number of employees may occur.
 (G) The companies have unrelated products.

Reading 3: Literature

The Evolution of Short Story

The earliest forms of the short story were oral folk tales, fairy tales, fables, and parables. All shared common characteristics of having moral lessons and being brief. While the modern short story evolved from these early narrative forms, the only characteristic it retained was brevity. From the time short stories began to be written down, they continued to evolve until the 19th century, when they developed into the genre known today.

Around the 14th century, short narratives began to appear in popular written works. The audience for these first collections of short stories was the upper class, who could afford books and were literate. Most notable was Geoffrey Chaucer's *Canterbury Tales*. It is a collection of short stories within a larger frame narrative about a pilgrimage to Canterbury Cathedral in England. Some of the pilgrims' stories mention socioeconomic issues of the time, like class divisions between the nobility, the clergy, and the commoners. The common man is frequently portrayed as a buffoon, as demonstrated by his ridiculous actions, and is not given a lengthy character description. Impressions about the fictional characters are made as they tell their stories. They are

satirical representations about those who held such positions at the time, not individuals in their own right. Similarly, in the latter part of the 17th century, Charles Perrault published a book of fairy tales, many of which were adapted from earlier versions to entertain the adult audiences of French literary salons. Perrault's fairy tales were a combination of the rustic folklore and sophisticated mannerisms with which his readers were familiar. Perrault's fairy tales later became known as the Tales of Mother Goose.

It was not until the middle to late 1800s that the short story really emerged as a literary genre and gained popularity. In these tales, the small number of characters allows the author to fully develop the personalities of each one. The modern short story also starts at or near the main action that the story revolves around. American authors Edgar Allan Poe and Nathaniel Hawthorne each produced a collection of short stories during this time. Their works were well received by the massive literate middle class, who could sympathize with the motivations and emotions of the characters. The settings were enormously detailed and often took place in the present time or in recent history. The most influential factor of the rising popularity of short stories was the growing number of print magazines and journals. There was an increasing demand for short narratives that told a complete story within a single issue, unlike novels that had to be printed in installments. By publishing short stories in magazines and journals, they became accessible to the population at large for the first time.

The first literary theories about the short story were published during the latter part of the 19th century. This ensured its place as a literary genre. Many magazines today still publish short stories, and authors release collections of short stories to showcase their talents. Perhaps the reason short stories have always been so popular is because they give people the chance to escape into another world, if only for a brief amount of time.

- Directions:** Complete the table below to summarize information about the short story discussed in the passage. Select the appropriate phrases from the answer choices and match them to the time period to which they relate. TWO of the answer choices will NOT be used.

This question is worth 3 points.

Time Period	Statements
Pre-19 th Century	● ● ●
Post-19 th Century	● ●

Answer Choices

- (A) Written as entertainment for those of high social rank
- (B) Popularized through periodical media
- (C) Contained longer length of story
- (D) Generalization of characters
- (E) Highly developed settings and characters
- (F) Were told strictly to teach others morals
- (G) Was considered a distinct genre of literature

Reading 4: Psychology

Conflicts

Conflicts, whether minor or significant, are present in many parts of people's lives. While the necessity of conflict is common to all, the manners in which individuals solve their conflicts vary widely. Many psychologists study what they have termed personal conflict styles. While each style varies in many ways, three of them are generally considered negative conflict styles. Called direct aggression, passive aggression, and nonassertive behavior, these styles are distinctly different and rarely solve a given conflict successfully.

Direct aggression can be understood as one of the most harmful conflict styles for both parties involved. Direct aggression is considered a highly combative style, in which an individual verbally attacks the other person involved. This may include verbal criticism of a person's character or appearance, teasing, threats, and the use of intimidating body language. This behavior can have various impacts both upon the aggressor and the other party. Perhaps most obvious are the effects, upon the target of the aggression. Victims can feel sadness, humiliation, embarrassment, or even be driven to aggression themselves. In a volatile situation, parties may be driven to physical violence, especially if both individuals use a style of direct aggression. Thus, the original aggressor may be in danger of physical harm due to the use of an aggressive conflict style. Rather than solving the conflict, aggression generally exacerbates a problem or introduces new conflicts. To exemplify direct aggression, imagine an older brother who teases or embarrasses a little brother when he wants to play with the younger child's toy. While it is likely that the older brother will not get his way, even his success may lead to further problems. Anger may grow in the younger brother, leading to an increase in conflict in the future .

A similar reliance upon aggressive behavior can be seen in the passive aggressive style. In contrast with the obvious antagonism of direct aggressors, passive aggression can be understood as an indirect communication of hostility. Generally, individuals find roundabout ways to express aggression, often avoiding direct conflict. Like direct aggression, passive aggressive behavior rarely has a positive effect upon the resolution of a conflict. Generally, the aggressor struggles to convey displeasure with a given situation. He or she attempts to send subtle messages to the other party, while perpetuating a front of friendliness. While this pretense can often last for the duration of one or many conflicts, its eventual breakdown can cause strong feelings of anger or emotional pain in the aggressor's victim. For example, a girl may become angry with a friend. However, instead of expressing her anger, she speaks negatively and spreads rumors about the friend to others, while remaining amiable to her face. Thus, the conflict is not resolved. The friend may not even realize that a conflict exists. However, the friend may discover after some time that the girl is behind the rumors. The conflict will understandably escalate after this point. Like direct aggression, the passive aggressive style rarely leads to a successful resolution and, instead, create new conflicts.

Nonassertive behavior is another conflict style that is generally believed to engender negative results. However, it can in some cases be successfully used to avoid minor conflicts. Nonassertive behavior is defined as an unwillingness to participate in and solve a conflict. Nonassertive behavior can be caused by a fear of the other person or a lack of self-confidence. In general, nonassertive behavior manifests in one of two ways: through accommodation, in which the individual ignores his or her own needs in order to oblige the other party, or through avoidance,

in which the individual simply refuses to face the conflict. In either case, the individual believes that, by not dealing with the issue, it will simply go away. In some situations, this behavior is successful. When faced with a very minor situation, many people who use nonassertive behavior can successfully avoid a more serious conflict by either staying away from or accommodating the other person. However, this is rarely satisfying. Also, such behavior can often lead to a worse problem, especially if the conflict involves recurring behavior. For example, a roommate's thumping bass may keep an individual up one night. At first, the problem may seem minor. But if the issue persists, the individual's failure to confront the problem may lead to a resentment of the roommate. In turn, this could harm a previously strong relationship.

- 1. Directions:** Complete the table below to summarize information about conflicts discussed in the passage. Match the appropriate statements to the conflict style to which they relate. TWO of the answer choices will NOT be used. *This question is worth 4 points.*

Conflict Style	Statements
Direct Aggression	● ● ●
Passive Aggression	● ●
Non-passive Behavior	● ●