Pending Internet Computerized Adaptive Test (PiCAT) Practice Test (Sample)

Study Guide

BY EXAMZIFY

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Questions

1. **What aspect of PiCAT preparation should not be overlooked?**

   A. Physical exercise before the test

   B. Familiarity with the testing platform and its navigation

   C. The nutritional content of the pre-test meal

   D. The time of day the test is scheduled

2. **When three strings attached to a box, with each string having a weight of 10 lbs, are pulled, which direction will the box move?**

   A. Left

   B. Right

   C. Up

   D. Down

3. **What physical principle allows water to flow from a higher elevation to a lower elevation in a connected tank system?**

   A. Hydraulic pressure

   B. Gravity

   C. Capillary action

   D. Surface tension

4. **What type of energy is converted to electrical energy by a car battery?**

   A. Mechanical

   B. Chemical

   C. Electrical

   D. Nuclear

5. **A woman finds an office twice the area of her current office, which has a perimeter of 88 feet. How many square feet is the new office?**

   A. 784 square feet

   B. 968 square feet

   C. 1024 square feet

   D. 1216 square feet

6. To make a hole in an exterior wall for placing a window, carpenters usually use a?

A. Drill

B. Reciprocating saw

C. Circular saw

D. Hand saw

7. What does a chemical formula of a compound describe?

A. The structure of the compound

B. The elements and their ratios in the compound

C. The temperature at which it reacts

D. The color of the compound

8. What are taps and dies used for in automotive contexts?

A. A to measure distances

B. B to cut threads for nuts and bolts

C. C to create electrical connections

D. D to polish surfaces

9. Who benefits the least from "one size fits all" merchandise?

A. Manufacturers

B. Store managers

C. Consumers

D. Computer networks

10. Which term best describes the economic condition of Kennicott after copper was depleted?

A. Thriving

B. Abandonment

C. Prospering

D. Stable

Answers

1. B
2. D
3. B
4. B
5. B
6. B
7. B
8. B
9. C
10. B

Explanations

1. What aspect of PiCAT preparation should not be overlooked?

A. Physical exercise before the test

B. Familiarity with the testing platform and its navigation

C. The nutritional content of the pre-test meal

D. The time of day the test is scheduled

Familiarity with the testing platform and its navigation is crucial for PiCAT preparation because it directly impacts your performance during the test. Understanding how to navigate the interface ensures that you can efficiently move through questions, access available resources, and manage your time effectively. This knowledge helps reduce test anxiety and allows you to focus more on the content of the questions rather than figuring out how to operate the system. While aspects like physical exercise, nutrition, and timing can have some influence on overall well-being and performance, they do not directly affect the mechanics of how to take the PiCAT. Familiarity with the platform, however, addresses the specific challenges presented by the test's format, making it an essential component of preparation.

2. When three strings attached to a box, with each string having a weight of 10 lbs, are pulled, which direction will the box move?

A. Left

B. Right

C. Up

D. Down

In this scenario, understanding the forces acting on the box is essential. If three strings, each attached to the box, are being pulled with a weight of 10 lbs each, it implies that there is a net upward force applied to the box. Since all strings are pulling upward, the box will experience a total upward force that exceeds its weight. This means the box will move in the direction of the net force, which is upward. Therefore, the correct response is that the box will move up as the combined force of the three strings (30 lbs) exceeds the gravitational force acting downwards. The other options, suggesting left, right, or down movements, do not accurately account for the predominant upward force resulting from the strings.

3. What physical principle allows water to flow from a higher elevation to a lower elevation in a connected tank system?

A. Hydraulic pressure

B. Gravity

C. Capillary action

D. Surface tension

The principle that allows water to flow from a higher elevation to a lower elevation in a connected tank system is gravity. Gravity is the force that pulls objects toward the center of the Earth, and in the case of water, this force causes it to move downward when there is a difference in elevation. When one tank is at a higher level than another, gravity acts on the water, creating a pressure difference that drives the flow from the higher tank to the lower one. This process is fundamental to many natural and engineered systems. For example, in hydrology, water flows in rivers and streams downhill due to the pull of gravity. Similarly, in plumbing systems, water moves through pipes from elevated tanks or sources to locations lower in elevation by the same principle. While hydraulic pressure is related to the movement of fluids and can affect how water flows, it is ultimately gravity that initiates and sustains the flow in this context. Capillary action and surface tension involve different properties of water, such as the attraction between water molecules and the surfaces they interact with, and do not play a primary role in the gravitational flow between tanks.

4. What type of energy is converted to electrical energy by a car battery?

A. Mechanical

B. Chemical

C. Electrical

D. Nuclear

A car battery converts chemical energy into electrical energy. Inside a car battery, there are chemical reactions that occur between the electrolyte and the electrodes. When the battery is connected to an electrical circuit, these reactions produce a flow of electrons, which generates electric current. This process is essential for starting the engine and powering electrical systems in the vehicle. The reason chemical energy is the focus here is that it specifically refers to the stored energy within the battery's components that is released during the reaction. Other forms of energy, such as mechanical or nuclear, do not directly apply to the operation of a car battery, as mechanical energy refers to movement and forces, while nuclear energy involves reactions at the atomic level, which are not part of standard car battery functioning. Similarly, electrical energy is already the output, not the input or stored form in the battery.

5. A woman finds an office twice the area of her current office, which has a perimeter of 88 feet. How many square feet is the new office?

A. 784 square feet

B. 968 square feet

C. 1024 square feet

D. 1216 square feet

To find the area of the new office, we first need to determine the area of the woman's current office based on the provided perimeter of 88 feet. The perimeter \(P \) of a rectangle is given by the formula \(P = 2 \times (length + width) \). Since the perimeter is 88 feet, we can write the equation: \[2 \times (length + width) = 88 \] Dividing both sides by 2 gives us: \[length + width = 44 \] To find the area \(A \) of the office, we use the formula \(A = length \times width \). The dimensions (length and width) can vary, but the sum of the two dimensions must equal 44. If we consider different pairs of dimensions that satisfy this equation, we can calculate areas based on possible values for length and width. However, without specific dimensions, we can assume the woman's current office is rectangular. To find a specific numerical area, let's assume a scenario that optimizes the area – typically, the area is maximized when the shape is a square (or close to it in this case). If we assume both dimensions are equal, we can set length and width

6. To make a hole in an exterior wall for placing a window, carpenters usually use a?

A. Drill

B. Reciprocating saw

C. Circular saw

D. Hand saw

Using a reciprocating saw is the most suitable choice for making a hole in an exterior wall for placing a window. This tool is designed for demolition and cutting through various materials, including wood and drywall, which are common in exterior walls. The reciprocating saw's ability to cut in a straight line while being portable and easy to maneuver makes it ideal for such tasks, allowing carpenters to create openings accurately and efficiently. The other tools, while useful in various situations, are not as effective for this specific application. For instance, a drill is typically intended for creating holes but lacks the necessary cutting capacity for larger openings required for windows. A circular saw is primarily used for making straight cuts on larger panels of material, which are usually too broad for the precise adjustments needed around a window frame. A hand saw, although it can be used for cutting, is less efficient and requires more physical effort and time to accomplish the task in comparison to a reciprocating saw.

7. What does a chemical formula of a compound describe?

A. The structure of the compound

B. The elements and their ratios in the compound

C. The temperature at which it reacts

D. The color of the compound

A chemical formula of a compound describes the elements present in the compound and the relative proportions of those elements. It provides a concise way to communicate the composition of a substance, indicating which types of atoms are in the compound and how many of each type there are. For example, in water (H2O), the formula indicates that there are two hydrogen atoms for every one oxygen atom. This aspect of a chemical formula allows scientists to understand the basic makeup of the compound without needing to delve into its structure, reactions, or physical properties. While the structure of a compound is important, it is typically represented by different types of representations, such as structural formulas or models, rather than the chemical formula itself. Similarly, information about temperature and color is related to the behavior and physical characteristics of the compound rather than its fundamental composition.

8. What are taps and dies used for in automotive contexts?

A. A to measure distances

B. B to cut threads for nuts and bolts

C. C to create electrical connections

D. D to polish surfaces

Taps and dies are specialized tools used for cutting threads on metals, which is essential in the automotive industry for creating strong mechanical connections. In this context, taps are used to cut internal threads in holes, allowing for the insertion of screws or bolts, while dies are used to cut external threads on rods or studs. This threading process is critical because it provides the necessary interlocking mechanism that ensures components are securely fastened together, which is vital for both safety and performance in vehicles. In contrast, tools used for measuring distances, creating electrical connections, or polishing surfaces serve entirely different purposes and wouldn't fulfill the specific requirements for creating threaded connections essential to automotive applications.

9. Who benefits the least from "one size fits all" merchandise?

A. Manufacturers

B. Store managers

<u>C. Consumers</u>

D. Computer networks

Consumers benefit the least from "one size fits all" merchandise because this approach does not take individual preferences, sizes, or needs into account. When products are designed to meet a standard set of characteristics, they may not suit everyone. For instance, clothing that is marketed as "one size fits all" often fails to accommodate the diverse body types and style preferences of different individuals. As a result, consumers may find that the products do not provide the comfort, fit, or utility they desire, leading to dissatisfaction. In contrast, manufacturers and store managers tend to see advantages from this approach due to economies of scale and simplified inventory management. By producing and stocking a uniform product, manufacturers can reduce costs, while store managers can avoid the complexities of managing a wide range of sizes and styles. Computer networks, while involved in the distribution and management processes, do not directly feel the impact of product fit or suitability. Thus, consumers are ultimately the group that experiences the least benefit from merchandise that does not consider individual variability.

10. Which term best describes the economic condition of Kennicott after copper was depleted?

A. Thriving

<u>B. Abandonment</u>

C. Prospering

D. Stable

The term that best describes the economic condition of Kennicott after copper was depleted is abandonment. This term aligns with the fate of many mining towns that experience a boom when resources are plentiful but face sharp declines once the resources are exhausted. In the case of Kennicott, once the copper mines were no longer productive, the economic vitality vanished, leading to the town being largely deserted. This reflects the historical phenomenon where mining communities often depended entirely on the continued extraction of minerals for their survival, and once that was gone, there was little else to sustain the population or economy. The other options, like thriving, prospering, and stable, do not fit this narrative, as they suggest a continued or improved economic condition, which was not the case for Kennicott after the depletion of copper resources.