

Recreational Vehicle (RV) Technician Practice Test (Sample)

Study Guide



Everything you need from our exam experts!

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SAMPLE

Questions

- 1. What is the resistance of a 120 volt, 1200 watt electric heater?**
 - A. 6 ohms**
 - B. 10 ohms**
 - C. 12 ohms**
 - D. 15 ohms**
- 2. What is the boiling temperature of propane at sea level?**
 - A. -32 degrees Fahrenheit**
 - B. -44 degrees Fahrenheit**
 - C. 0 degrees Fahrenheit**
 - D. 32 degrees Fahrenheit**
- 3. How is the composite resistance calculated when components with resistance are connected in parallel?**
 - A. Using a simple addition**
 - B. Using a complex formula**
 - C. Using the average of resistances**
 - D. Using Ohm's Law**
- 4. What component reduces propane container pressure to 10 PSI?**
 - A. Second stage of a regulator**
 - B. First stage of a regulator**
 - C. Relief valve**
 - D. Pressure gauge**
- 5. According to Ohm's law, how do you find the amperage in a circuit?**
 - A. Multiply volts by resistance**
 - B. Add volts and resistance**
 - C. Divide volts by resistance**
 - D. Subtract resistance from volts**

- 6. What is the maximum distance allowed between copper tubing supports?**
- A. 2 feet**
 - B. 4 feet**
 - C. 6 feet**
 - D. 8 feet**
- 7. What are the essential components of a complete electrical circuit?**
- A. Source, load, and generator**
 - B. Source, load, and conductor**
 - C. Battery, load, and transformer**
 - D. Load, resistor, and switch**
- 8. Why is it important to not connect all battery terminals directly together?**
- A. To maintain proper voltage**
 - B. To avoid short circuits**
 - C. To ensure safety**
 - D. All of the above**
- 9. If a customer complaint is resolved quickly, what percentage of customers will typically do business with the organization again?**
- A. 60%**
 - B. 75%**
 - C. 85%**
 - D. 90%**
- 10. Which of the following types of electrical drawings must a technician be familiar with?**
- A. Pictorial drawing**
 - B. Ladder diagram**
 - C. Schematic**
 - D. All of the above**

Answers

SAMPLE

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

SAMPLE

Explanations

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1. What is the resistance of a 120 volt, 1200 watt electric heater?

- A. 6 ohms**
- B. 10 ohms**
- C. 12 ohms**
- D. 15 ohms**

To determine the resistance of the electric heater, we can use the formula that relates power (P), voltage (V), and resistance (R) in an electrical circuit. The formula for power is given by: $P = \frac{V^2}{R}$ Rearranging this formula to solve for resistance gives: $R = \frac{V^2}{P}$ In this case, the voltage (V) is 120 volts and the power (P) is 1200 watts. Plugging these values into the rearranged formula: $R = \frac{(120)^2}{1200}$ Calculating this, we get: $R = \frac{14400}{1200} = 12 \text{ ohms}$ This calculation shows that the resistance of the heater is indeed 12 ohms. The correct answer is confirmed as 12 ohms, aligning with standard electrical principles regarding power, voltage, and resistance.

2. What is the boiling temperature of propane at sea level?

- A. -32 degrees Fahrenheit**
- B. -44 degrees Fahrenheit**
- C. 0 degrees Fahrenheit**
- D. 32 degrees Fahrenheit**

The boiling temperature of propane at sea level is approximately -44 degrees Fahrenheit. This means that at temperatures above this point, propane exists as a gas, and below this temperature, it can be found in a liquid state. Understanding the boiling point is crucial for RV technicians, as propane is commonly used as a fuel source for various appliances in recreational vehicles. Its properties can significantly impact the performance and safety of these systems. The other options represent temperatures that do not correlate with the known boiling point of propane under standard atmospheric conditions. For example, -32 degrees Fahrenheit and 0 degrees Fahrenheit are too high for propane to maintain its liquid state, while 32 degrees Fahrenheit, the freezing point of water, is also much higher than the boiling point of propane. This makes it essential for technicians to have accurate information to ensure proper handling and usage of propane in RV applications.

3. How is the composite resistance calculated when components with resistance are connected in parallel?

- A. Using a simple addition**
- B. Using a complex formula**
- C. Using the average of resistances**
- D. Using Ohm's Law**

When calculating the composite resistance of components that are connected in parallel, the method involves a specific formula that accounts for the reciprocal nature of each resistance involved. In parallel circuits, the total resistance can be determined through the formula: $1/R_{\text{total}} = 1/R_1 + 1/R_2 + 1/R_3 + \dots$. This means that instead of straightforwardly adding the resistances, as one might do in series connections, the reciprocals of each individual resistance are summed up. After this addition, you take the reciprocal of that sum to find the total or equivalent resistance. The reasoning behind this is fundamental to how electrical currents distribute themselves across pathways in a parallel circuit, with each path allowing current to flow independently. Therefore, while there can be complex aspects to the calculations involved—especially when many resistors are present—the essence is captured in the complexity of the formula rather than in simple arithmetic operations. Other options, such as averaging resistances or applying Ohm's Law directly without considering the reciprocal nature, do not accurately represent how to calculate the total resistance in a parallel configuration, thus emphasizing the importance of using the established formula for clarity and accuracy.

4. What component reduces propane container pressure to 10 PSI?

- A. Second stage of a regulator**
- B. First stage of a regulator**
- C. Relief valve**
- D. Pressure gauge**

The component that reduces propane container pressure to 10 PSI is the first stage of a regulator. This stage is crucial because it takes the high pressure coming from the propane tank and lowers it to a more manageable level for the second stage of the regulator, which typically further reduces the pressure to a level suitable for use in appliances. The first stage ensures that the delivery pressure is consistent and safe, which is vital for the reliable operation of propane-powered systems in RVs. In the context of propane systems, the first stage regulator serves as the initial barrier for pressure regulation, providing a step-down from the tank's high pressure. By maintaining the pressure at 10 PSI, it protects downstream components and ensures efficiency in the propane combustion process. Moreover, this initial reduction is essential for satisfying safety regulations and ensuring the equipment operates within its specified parameters.

5. According to Ohm's law, how do you find the amperage in a circuit?

- A. Multiply volts by resistance**
- B. Add volts and resistance**
- C. Divide volts by resistance**
- D. Subtract resistance from volts**

Ohm's law states that the current (amperage) in a circuit is directly proportional to the voltage and inversely proportional to the resistance. The formula for Ohm's law can be expressed as: $I = V / R$ where I represents the current in amperes (A), V is the voltage in volts (V), and R is the resistance in ohms (Ω). This means that to find the amperage in a circuit, you need to take the voltage and divide it by the resistance. This relationship helps in understanding how changes in voltage or resistance will affect the current flowing through a circuit. Understanding this principle is crucial for troubleshooting and designing electrical systems in recreational vehicles, as it allows technicians to determine how much current will flow under specific voltage and resistance conditions, ensuring safe and efficient operation of electrical components.

6. What is the maximum distance allowed between copper tubing supports?

- A. 2 feet**
- B. 4 feet**
- C. 6 feet**
- D. 8 feet**

The maximum distance allowed between copper tubing supports is four feet. This standard is established to ensure that the tubing is adequately supported throughout its run, preventing sagging, stress points, and potential damage to the pipe, which could lead to leaks or system failures. Adequate support also helps maintain the integrity of the plumbing system, ensuring that it operates effectively and safely. Proper spacing for support is crucial in both residential and commercial installations. By maintaining this four-foot interval, technicians can safeguard against movement and thermal expansion that occurs with temperature fluctuations, further preserving the longevity and functionality of the tubing.

7. What are the essential components of a complete electrical circuit?

- A. Source, load, and generator**
- B. Source, load, and conductor**
- C. Battery, load, and transformer**
- D. Load, resistor, and switch**

In the context of a complete electrical circuit, the essential components include a source, load, and conductor. The source provides electrical energy, which can be in the form of a battery or another power supply. The load is the component that consumes electrical energy to perform a task, such as a light bulb or motor. Conductors are the pathways that allow electric current to flow between the source and the load, typically made of metal wire. Understanding these components is crucial for RV technicians, as they must be able to diagnose and repair electrical systems within recreational vehicles. Each of these elements serves a vital function: the source supplies power, the load converts that power into useful work or energy, and the conductor facilitates the flow of electrical energy to connect these two parts. The incorrect options refer to components that, while potentially relevant to aspects of an electrical circuit, do not accurately identify the fundamental elements required to form a complete circuit. Specifying incorrect combinations highlights the importance of understanding basic electrical principles, ensuring that RV technicians can effectively troubleshoot and maintain electrical systems in RVs.

8. Why is it important to not connect all battery terminals directly together?

- A. To maintain proper voltage**
- B. To avoid short circuits**
- C. To ensure safety**
- D. All of the above**

Connecting all battery terminals directly together is crucial to avoid various potential problems. When battery terminals are interconnected without proper configuration, it can lead to an increase in current that flows through the system. This can ultimately result in both a loss of voltage regulation and the risk of a short circuit. Maintaining proper voltage is essential as it ensures that the electrical systems in the RV operate effectively without being overloaded. Each battery may be part of a series or parallel configuration, and improper connections can disrupt the intended voltage and current flow. Moreover, avoiding short circuits is vital because they can cause components to overheat, leading to damage or even fires. A short circuit occurs when electricity follows an unintended path, often due to direct connections between positive terminals of multiple batteries, which can cause a surge of current. Safety is also a critical factor. Any incorrect connections can pose significant dangers not just to the RV but to individuals as well. Electrical mishaps can lead to severe injuries or property damage. Therefore, the importance of not connecting all battery terminals directly together encompasses maintaining proper voltage levels, avoiding short circuits, and ensuring overall safety in electrical systems. This comprehensive approach underlines the necessity for correct wiring and connections in RV battery systems.

9. If a customer complaint is resolved quickly, what percentage of customers will typically do business with the organization again?

- A. 60%**
- B. 75%**
- C. 85%**
- D. 90%**

When a customer complaint is resolved quickly, studies have shown that a significant portion of customers are likely to return to do business with the organization. In fact, research suggests that approximately 90% of customers will continue to engage with a company if their issues are resolved efficiently and to their satisfaction. This high percentage reflects the importance of effective customer service in fostering loyalty. When customers feel their concerns are addressed promptly, it not only helps in retaining them but also enhances their overall experience, making them more likely to recommend the business to others. Providing quick resolutions demonstrates that the organization values its customers and is committed to their satisfaction, which can greatly influence a customer's decision to return. This level of service creates a positive impression and builds trust, which is critical for long-term customer relationships. By contrast, lower percentages, such as those suggested by the other options, do not capture the strong correlation between quick resolution and customer loyalty reflected in these studies.

10. Which of the following types of electrical drawings must a technician be familiar with?

- A. Pictorial drawing**
- B. Ladder diagram**
- C. Schematic**
- D. All of the above**

Technicians working with electrical systems in recreational vehicles must be familiar with various types of electrical drawings, each serving a unique purpose in understanding and troubleshooting these systems. Pictorial drawings provide a visual representation of the electrical components and their arrangement, helping technicians quickly identify parts and their connections in a physical layout. This type of drawing can be particularly helpful during initial assessments or installations. Ladder diagrams illustrate the control logic of electrical circuits, presenting the "ladder" structure of the system. They are instrumental for understanding how various switches, relays, and other components interact, allowing technicians to diagnose control issues efficiently. Schematic diagrams are crucial as they represent the electrical connections and functions of a circuit in a simplified format, enabling technicians to trace the flow of electricity and diagnose problems systematically. Being familiar with all these types of electrical drawings empowers technicians with the knowledge needed to effectively troubleshoot, repair, and maintain the complex electrical systems found in recreational vehicles. Each drawing type contributes a different perspective, enhancing the technician's ability to work confidently across various scenarios encountered in RV maintenance and repair.