

Automotive Technology 7<sup>th</sup> Edition  
Chapter 37: Electrical Circuits and Ohm's Law  
Short Answer Quiz

Name:

Date:

1. Describe the essential parts of a complete electrical circuit and explain their functions.
2. Explain the difference between a short-to-voltage and a short-to-ground in an electrical circuit. How do they affect the circuit?
3. Illustrate with an example how electrical flow through a circuit is similar to water flowing over a waterwheel.
4. What are the common causes of high resistance in an electrical circuit, and what problems can it lead to in a vehicle?
5. Describe the "Magic Circle" of formulas involving Ohm's law. How can it be used to solve electrical problems?

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6. Explain the concept of Watt's law and its significance in electrical circuits. How is it related to the power of electric motors?

7. Discuss the features of a short circuit. How does it differ from an open circuit in terms of current flow and resistance?

8. Describe the role of switches and controls in an electrical circuit. How do they influence the flow of current?

9. Explain the concept of continuity in an electrical circuit. What happens when there is a lack of continuity?

10. Describe a scenario where high resistance in an electrical circuit can lead to problems in a vehicle's operation. How can such issues be diagnosed and resolved?