

Physics

Quiz: Circuits, Form: **A**

Name: _____

Date: _____

Period: _____

Peer Reviewer: _____

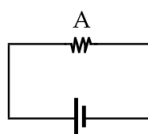
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Section 1. Multiple Choice

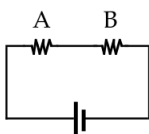
Choose the best answer to each question.

+1	0	-1	Σ

- Are charges used up in the production of light in a light bulb?
 - Yes, charge is used up. Charges moving through the filament produce “friction” which heats up the filament and produces light.
 - Yes, charge is used up. Charges are emitted as photons and are lost.
 - Yes, charge is used up. Charges are absorbed by the filament and are lost.
 - No, charge is conserved. Charges are simply converted to another form such as heat and light.
 - No, charge is conserved. Charges moving through the filament produce “friction” which heats up the filament and produces light.
- How does the power delivered to resistor A change when resistor B is added to the circuit? (Both resistors are the same resistance.)



Before




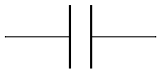


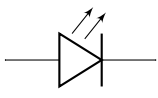
After

- The power quadruples.
 - The power doubles
 - The power stays the same.
 - The power is reduced by half.
 - The power is reduced to one quarter.
- Why do the lights in your home come on almost instantaneously when you turn on the switch?
 - When the circuit is completed, there is a rapid rearrangement of surface charges in the circuit.
 - Charges store energy. When the circuit is completed, the energy is released.
 - Charges in the wire travel very fast.
 - The circuits in a home are wired in parallel. Thus, a current is already flowing.
 - Charges in the wire are like marbles in a tube. When the circuit is completed, the charges push each other through the wire.
 - The amount of charge that flows through a point on a wire per unit of time is called -
 - Voltage
 - Power
 - Current
 - Resistance
 - Energy

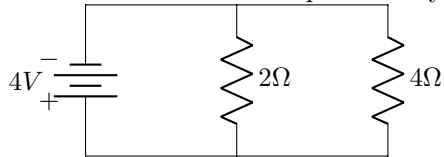
5. A circuit that does not have a complete path between the two sides of the source is called -

- (a) Open
- (b) Closed
- (c) Short
- (d) interrupted
- (e) Parallel

6. Which of the following symbols would represent a resistor?

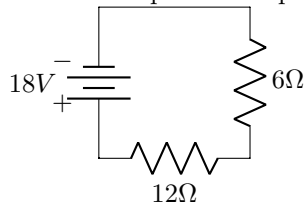
- (a) 
- (b) 
- (c) 
- (d) 
- (e) 

7. What is the total current provided by the source in the circuit below?



- (a) $6A$
- (b) $4A$
- (c) $3A$
- (d) $2A$
- (e) $1.333A$

8. What is the power dissipated by $6\ \Omega$ resistor in the circuit below?



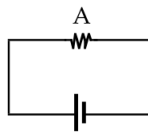
- (a) $6W$
- (b) $4W$
- (c) $2W$
- (d) $1W$
- (e) It cannot be determined.

Answer Key for Exam A

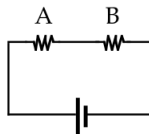
Section 1. Multiple Choice

Choose the best answer to each question.

1. Are charges used up in the production of light in a light bulb?
 - (a) Yes, charge is used up. Charges moving through the filament produce “friction” which heats up the filament and produces light.
 - (b) Yes, charge is used up. Charges are emitted as photons and are lost.
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 - (d) No, charge is conserved. Charges are simply converted to another form such as heat and light.
 - (e) No, charge is conserved. Charges moving through the filament produce “friction” which heats up the filament and produces light.
2. How does the power delivered to resistor A change when resistor B is added to the circuit? (Both resistors are the same resistance.)



Before




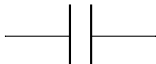


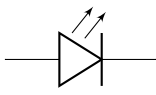
After

- (a) The power quadruples.
 - (b) The power doubles
 - (c) The power stays the same.
 - (d) The power is reduced by half.
 - (e) The power is reduced to one quarter.
3. Why do the lights in your home come on almost instantaneously when you turn on the switch?
 - (a) When the circuit is completed, there is a rapid rearrangement of surface charges in the circuit.
 - (b) Charges store energy. When the circuit is completed, the energy is released.
 - (c) Charges in the wire travel very fast.
 - (d) The circuits in a home are wired in parallel. Thus, a current is already flowing.
 - (e) Charges in the wire are like marbles in a tube. When the circuit is completed, the charges push each other through the wire.
4. The amount of charge that flows through a point on a wire per unit of time is called -
 - (a) Voltage
 - (b) Power
 - (c) Current
 - (d) Resistance
 - (e) Energy

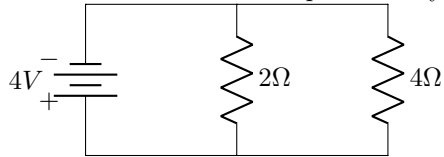
5. A circuit that does not have a complete path between the two sides of the source is called -

- ☒ (a) Open
- (b) Closed
- (c) Short
- (d) interrupted
- (e) Parallel

6. Which of the following symbols would represent a resistor?

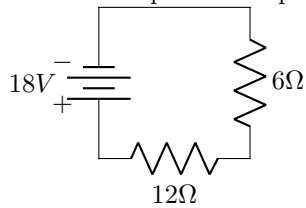
- ☒ (a) 
- (b) 
- (c) 
- (d) 
- (e) 

7. What is the total current provided by the source in the circuit below?



- (a) $6A$
- (b) $4A$
- (c) $3A$
- ☒ (d) $2A$
- (e) $1.333A$

8. What is the power dissipated by 6Ω resistor in the circuit below?



- ☒ (a) $6W$
- (b) $4W$
- (c) $2W$
- (d) $1W$
- (e) It cannot be determined.