

Name: _____

Class Period: _____

Physics: Circuits
Series and Parallel Circuits Homework

Conceptual Question:

1. List the properties of a series circuit and parallel circuit with regard to current, voltage, and equivalent resistance.

Series

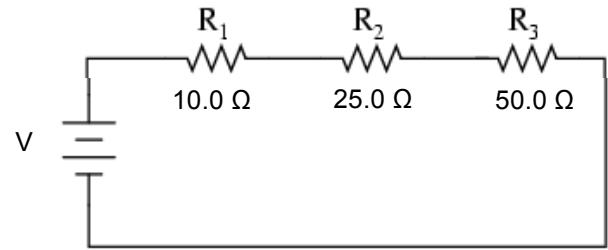
Parallel

Mathematical Questions

2. A $30.0\ \Omega$ and a $24.0\ \Omega$ resistor are connected in series to a $15.0\ \text{V}$ battery.
 - A. Draw a sketch of this circuit
 - B. What is the equivalent resistance?
 - C. What is the current flowing through the resistors?
 - D. What is the voltage drop across each resistor?

3. A flashing neon sign in Las Vegas has two fluorescent lights that are **parallel** to each other. The first contributes $9.00\ \Omega$ of resistance while the other $18.0\ \Omega$. Draw a sketch of this circuit and find the equivalent resistance for this sign.

4. A series circuit is shown to the right. If the current through this circuit is 0.106 A, calculate the following:
- The equivalent resistance
 - The current through the circuit
 - The voltage dropped across each resistor.



5. For the circuit to the right, calculate the following:
- The equivalent resistance
 - The total current at the battery.
 - The voltage dropped across each resistor.
 - The current through each resistor

