

Name: _____

Class Period: _____

Physics: Circuits
Ohm's Law and Power Homework

Conceptual Questions:

1. Assuming you would like a working circuit with a flowing current, why should there be no openings or gaps in the circuit?

2. What is the difference between DC and AC current?

Mathematical Questions:

3. A typical tv draws 2.50 A of current when connected to an electric potential difference of 115 v. What is the resistance of the tv?

4. The current flowing through a circuit connected to a microwave is 6.25 A. If the resistance of the microwave is 17.6 Ω , what is the electric potential difference at the battery?

5. A small flashlight draws 300.0 **mA** of current from a 1.50 v battery.
 - A. What is the resistance of the bulb?
 - B. If the battery begins to die and the voltage drops to 1.20 v, what is the new current (assuming the resistance of the light bulb remains the same)?

6.
 - A. What is the resistance and current through a 60.0 W light bulb if it is connected to a 120.0 v source?
 - B. What is the resistance and current through a 440.0 W light bulb using the same battery?