

PS-1 Ohm's law practice

K6SQN

This is a practice sheet to determine if you understand and can solve problems with Ohm's law. If you know any two parameters of a circuit you can solve for the two unknowns. If you know I and E you can solve for P and R, etc. Here are the formulae you'll need

$E \times I = P$ in Watts $E/R = I$ in Amperes $E/I = R$ in Ohms $P/E = I$ in Amperes

Two resistor in Parallel = $R_1 + R_2 / R_1 + R_2 = R$ total

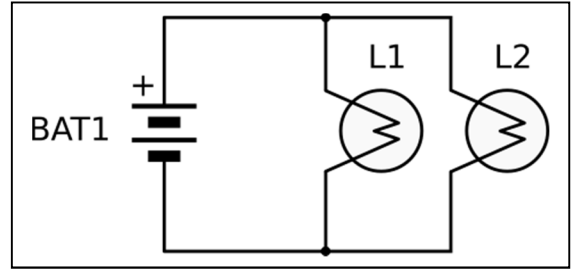
Two resistors in Series = $R_1 + R_2 = R$ Total

CIRCUIT 1:

Given: Battery is 12 Volts
L1 is a 24 Watt bulb at 12 volts
L2 is a 12 Watt bulb at 12 volts

Solve for:

- Resistance of L1 _____
- Resistance of L2 _____
- Current thru L1 _____
- Current thru L2 _____
- Total resistance of circuit _____

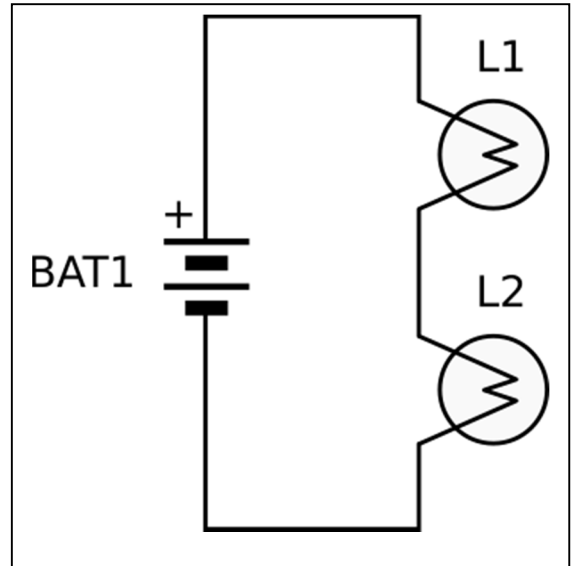


CIRCUIT 2:

Given: Battery is 12 Volts
L1 has a resistance of 12 Ohms
L2 has a resistance of 36 Ohm

Solve for:

- Voltage across L1 _____
- Voltage across L2 _____
- Wattage of L1 _____
- Wattage of L2 _____
- Total circuit current _____



CIRCUIT 3:

Given: Battery is 12 Volts
Bulb is 6 Volt, 24 Watt

Problem:

The 6 Volt bulb will burn out if connected to a 12 Volt Battery unless a voltage dropping resistor is placed between The battery and the bulb.

Solve for:

- Voltage across the resistor _____
- Value of the Series resistor _____
- Total circuit current _____
- Resistor Wattage _____

