

OHM'S LAW PRACTICE PROBLEMS

1. 3 V is applied across a 6 Ω resistor. What is the current?

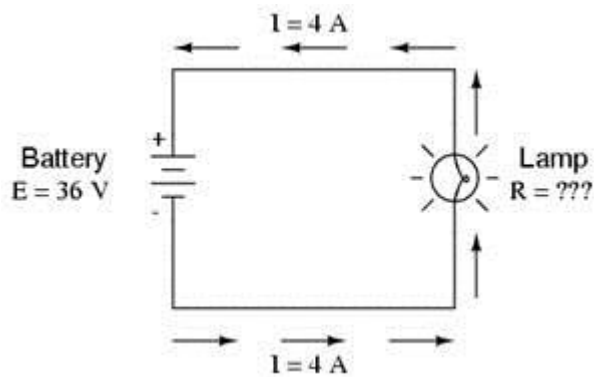
$I = V/R$ $3/6 = 0.5 \text{ A}$

2. A 1.2 k Ω (1 kΩ = 1000 Ω) resistor passes a current of 0.2 A. What is the voltage across it?

$V = I \times R$ $0.2 \times 1200 = 240 \text{ V}$

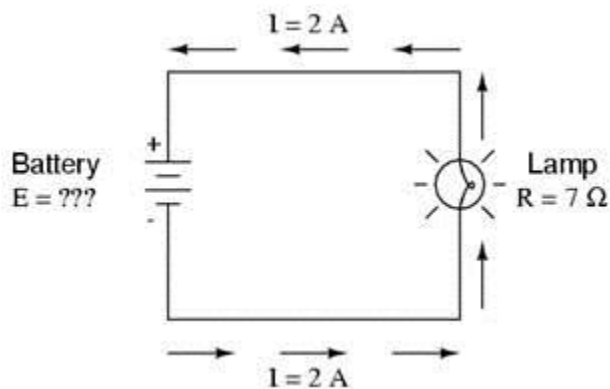
3. What is the resistance offered by the lamp?

$R = V/I$ $36/4 = 9 \Omega$



4. What is the voltage provided by the battery?

$V = I \times R$ $2 \times 7 = 14 \text{ V}$



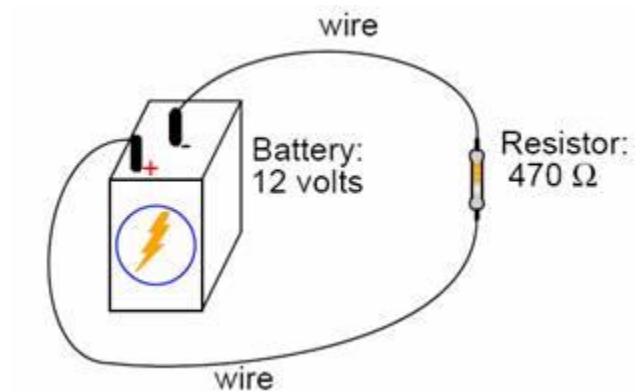
5. What is the voltage of a circuit with a resistance of 250 ohms and a current of 0.95 amps?

$$V = I \times R$$

$$0.95 \times 250 = 237.5 \text{ V}$$

6. Explain, step by step, how to calculate the amount of current (I) that will go through the resistor in this circuit:

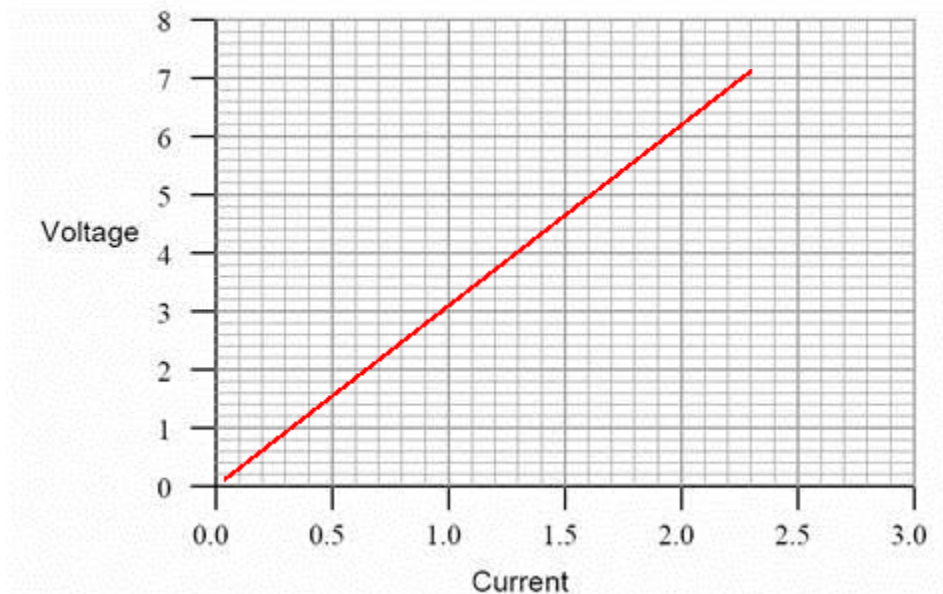
Take the volts and divide them by the resistance:



$$12 \text{ V} \div 470 \text{ } \Omega = 0.026 \text{ A}$$

7. Plot these figures on the following graph:

Current	Voltage
0.22 A	0.66 V
0.47 A	1.42 V
0.85 A	2.54 V
1.05 A	3.16 V
1.50 A	4.51 V
1.80 A	5.41 V
2.00 A	5.99 V
2.51 A	7.49 V



8. Explain the relationship between current and voltage:

As the voltage increase the current increases as well. The graph shows a linear relationship.