

Name: _____ Date: ___Thursday 03/08/18___ Period: _____

Ohm's Law Worksheet

$$V = IR \quad R = \frac{V}{I} \quad I = \frac{V}{R}$$

Show all of your work. Have the correct units. Circle your answer.

1. What is the current in a 160V circuit if the resistance is 2Ω?

V=

I=

R=

2. What is the current in a 160V circuit if the resistance is 20Ω?

V=

I=

R=

3. What is the current in a 160V circuit if the resistance is 10Ω?

V=

I=

R=

4. What is the current in a 160V circuit if the resistance is 5Ω?

V=

I=

R=

5. Based on questions 2, 3, and 4, what happens to the current in a circuit as the resistance decreases? Increases?

6. What voltage is required to move 6A through 5Ω?

V=

I=

R=

7. What voltage is required to move 6A through 10Ω?

V=

I=

R=

8. What voltage is required to move 6A through 20Ω?

V=

I=

R=

9. Based on questions 6, 7, and 8, what happens to the voltage required in a circuit as the resistance decreases? Increases?

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10. What is the resistance of a circuit with three 1.5V batteries and running at a current of 5A?

V=

I=

R=

11. An alarm clock draws 0.7 A of current when connected to a 120 volt circuit. Calculate its resistance.

V=

I=

R=

12. A walkman uses four standard 1.5 V batteries. How much resistance is in the circuit if it uses a current of 0.02A?

V=

I=

R=

13. How much voltage would be necessary to generate 20 amps of current in a circuit that has 5.5 ohms of resistance?

V=

I=

R=

14. A light bulb has a resistance of 8 ohms and a maximum current of 10 A. How much voltage can be applied before the bulb will break?

V=

I=

R=

15. Create your own problem and have a classmate solve it.

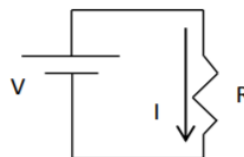
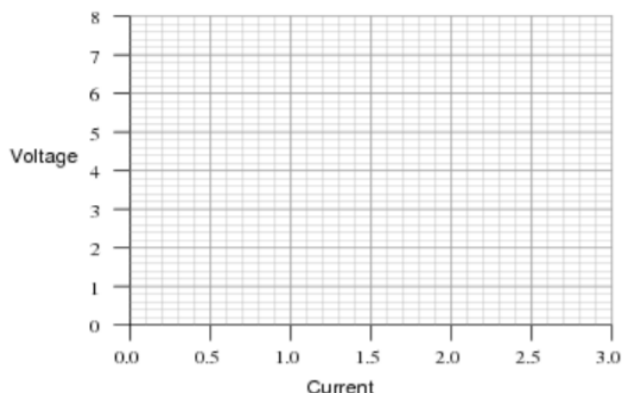
V=

I=

R=

Solved by: _____

Suppose you did a lab with this simple circuit and got the following data. Plot the points of the provided graph.



Voltage (V)	Current (A)
0.65	0.12
1.41	0.29
2.55	0.51
3.28	0.67
4.11	0.81
6.15	1.23

What mathematical relationship do you see between voltage and current?