Name: _____ Date: _____

Ohm's Law Worksheet B
Solve all problems using your notes. Write out the full equation each time you use it to solve a problem.

1. An alarm clock draws 0.5 A of current when connected to a 120 volt circuit. Calculate its resistance.

2. A subwoofer needs a household voltage of 110 V to push a current of 5.5 A through its coil. What is the resistance of the subwoofer?

3. A Walkman uses a standard 1.5 V battery. How much resistance is in the circuit if it uses a current of 0.001 A?

4. A circuit contains a 1.5 volt battery and a bulb with a resistance of 3 ohms. Calculate the current.

5. What current flows through a hair dryer plugged into a 120 volt circuit if it has a resistance of 25 ohms?

6. What happens to the current in a circuit if a 1.5-volt battery is removed and is replaced by a 3-volt battery?

7. If a toaster produces 12 ohms of resistance in a 120-volt circuit, what is the amount of current in the circuit?

8. A 12 volt car battery pushes charge through a headlight circuit with a resistance of 10 ohms. How much current is passing through the circuit?

9. How much voltage would be necessary to generate 10 amps of current in a circuit that has 5 ohms of resistance?

10. An electric heater works by passing a current of 100 A through a coiled metal wire, making it red hot. If the resistance of the wire is 1.1 ohms, what voltage must be applied to it?

11. A light bulb has a resistance of 5 ohms and a maximum current of 10 A. How much voltage can be applied before the bulb will break?

12. What happens to the current in a circuit if a 10 Ω resistor is removed and replaced by a 20 Ω resistor?

13. Suppose you conducted a lab with a simple circuit and got the following data. Plot the datapoints on the graph below.
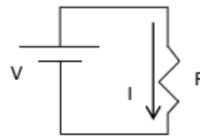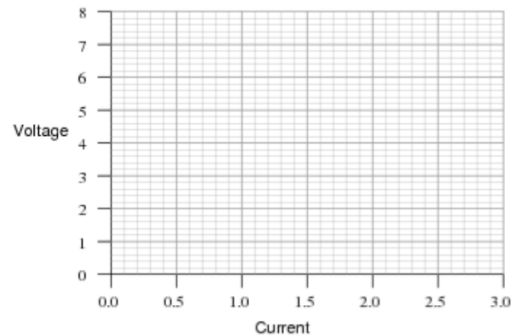
Voltage (V)	Current (A)
0.65	0.12
1.41	0.29
2.55	0.51
3.28	0.67
4.11	0.81
6.15	1.23

14. What mathematical relationship does the graph show between voltage and current (direct or inverse)?

15. Is the resistance constant?