**Voltage = Current \* Resistance**

**V(volts) = I(amps) \* R(ohms)**

1. What does R stand for?
2. What are the units for R?
3. How do you draw the unit for R?
4. What does V stand for?
5. What are the units for V?
6. What does I stand for?
7. What are the units for I?

**For each problem below, use the triangle to set up the equation. SHOW YOUR WORK**

8) There is a 28 Ω resistance in the heating element. It is plugged into a 110 V circuit. How much current passes through the heating element?

Voltage: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Equation:

Current: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Resistance: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9) A lamp operates at 115 V with a current of 0.45 A. What is the lamp’s resistance?

Voltage: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Equation:

Current: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Resistance: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10) What is the resistance of a light if the voltage is 12.0 V and the current is 0.30 A?

Voltage: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Equation:

Current: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Resistance: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11) What is the total voltage in a circuit if the current passing through is .75 amps, and the resistances is 35 ohms?

Voltage: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Equation:

Current: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Resistance: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12) If a toaster produces 8 ohms of resistance in a 120 V circuit, what is the amount of current in the circuit?

Voltage: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Equation:

Current: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Resistance: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13) What is the voltage of a circuit with 15 amps of current and a toaster with 12 ohms of resistance?

Voltage: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Equation:

Current: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Resistance: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14) How much resistance would occur in a circuit that had 120 Volts of electricity and had a current of .85 amps?

Voltage: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Equation:

Current: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Resistance: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15) A voltmeter would indicate how much voltage if a circuit had 2.5 amps of current and a total resistance of 65 ohms?

Voltage: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Equation:

Current: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Resistance: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_