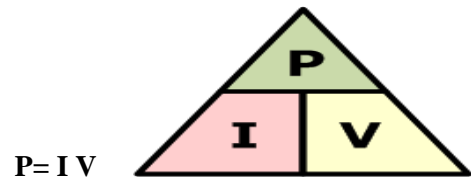
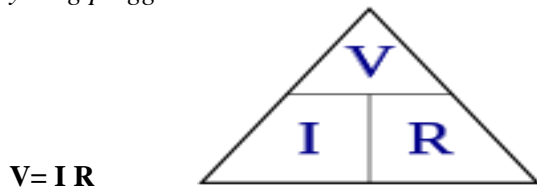


DON'T WRITE ON THIS PAPER

Practice – Ohm's Law and Electrical Power

Directions: For each problem show all work on a separate sheet of paper. This means write the givens, formula, plug in, answer, units, and circle your answer. Answers are in bold so you can check your work. Assume 120 volts for anything plugged into a wall.



Electric Power- Single Step Problems

- 1) How much current flows through the filament of a 75 W light bulb **plugged in at home**? **0.625 A**
- 2) How much current does a 900 W microwave use plugged in at home? **7.5 A**
- 3) If a kitchen appliance plugged in at home uses 3 A, how much power does it need? **360 W**
- 4) What is the voltage in a circuit that uses 2640 W of power if 11 A of current flows in the circuit? **240 v**
- 5) If 8 amps of current flow through a hair dryer plugged in at home. How much electrical power does it use?
960 W
- 6) A toaster oven uses 10 A when plugged in at home. How much power does it use? **1200 W**
- 7) Your fuse panel at home has a 15 A circuit breaker. If more than 15 A try to flow in that circuit at one time, it will pop the breaker and shut down the circuit. You are cooking hot pockets in a microwave, and your mom turns on the vacuum cleaner. The microwave uses 1200 watts and the vacuum cleaner has 800 W. If the vacuum cleaner and microwave are turned on at the same time, will they pop the circuit breaker? What if it's a 900 watt microwave?

Electric Power and Ohm's Law- Multi-Step Problems

- 8) A 40v circuit has a resistance of 80 Ω . How much current flows through it? How much power does the circuit use? **a) 0.5 A, b) 20 W**
- 9) If 4 A flows through a circuit with a resistance of 8 Ω . What's the potential difference (voltage) across the circuit? How much power is in the circuit? **a) 32 v, b) 128 W**
- 10) What is the resistance of a 600 W drill plugged into an outlet at home? **24 Ω**
- 11) How much power does a 25 Ω hair dryer that is plugged in at home use? **576 W**
- 12) How much resistance does a 900 W microwave plugged in at home have? **16 Ω**