Unit 11 – Exercise 3

- 1. In terms of experimental data how is resistance defined and what are its units?
- 2. Look back at the lab you did to discover Ohm's Law.
 - a) Sketch a graph of voltage vs. current that describes the behavior of a third resistor that has a much smaller resistance than the ones used in the lab activity.
 - b) How would the current through this resistor change as the voltage decreases?

3. While cooking dinner, the school's dining hall oven uses a 220 Volt line and draws 10 A of current when heated to its maximum temperature. What is the resistance of the oven when it is fully heated?

- 4. Old-fashioned holiday lights were connected in series across a 120 V household line. If the resistance in the string of lights is 12 ohms, what is the current flowing through the string of lights?
- 5. What is the voltage in a cell phone battery that has 0.4 A of current traveling through an internal resistance of 8.75 ohms?
- 6. Find the current through a 12 ohm circuit if 24 V is applied.

- 7. Find the potential difference across a circuit that draws 0.2 amps through a resistance of 4800 ohms.
- A circuit consists of a 12 V battery connected across a single resistor. If the current in the circuit is 3 A, calculate the size of the resistor.