Ohm’s law and Electricity Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. State Ohm’s law in an equation form in terms of voltage and current.

2. Define power in an equation form in terms of voltage and current.

3. A 9 V battery is connected to a resistor in a complete circuit for which the current is measured to be 2.0 A. Calculate the value of the resistor.

4. When an appliance is plugged in a 220-volt outlet, it draws a current of 5 amperes. Calculate the power of the appliance.

5. If the above appliance is used 2 hours a day, 2 days per month, and if the cost of electricity is 12 cents per kWH, how much does it cost to operate the appliance for a year?

6. A 20 W, a 70 W, and a 50W resistor are connected in parallel with a 120 V source.

1. Draw a circuit diagram of the above situation.
2. Calculate the current through each of the resistor.
3. Calculate the current that is supplied by the source.
4. Show how you will connect an ammeter and a voltmeter to measure the voltage across and the current through the 70-W resistor.