Physics 100   Name: _____
Electric Current and Circuits
Notes Part 2: Ohm's Law, and a brief introduction to Series Circuits and Parallel Circuits

1.   Define the following terms. Give their units and symbols.

        Voltage:

        Current:

        Resistance:

2.   The terms above are related by an equation known as Ohm's Law. Write Ohm's Law.

3.   If a circuit has a resistance of 5Ω and 3A of current is running through the circuit, what is the circuit's
        voltage?

4.   How much current runs through a circuit with a voltage of 20V and a resistance of 4Ω?

5. How much resistance is in a circuit if the voltage is 12V and there are 6A of current running through the circuit?

6. Write Ohm's law in a way that shows what is happening in a circuit when…

    a. Voltage is kept the same, but resistance is decreased.

    b. Voltage is kept the same, but current decreases.

    c. Current increases, but resistance is kept constant.

    d. Resistance decreases, but current is kept constant.

7. Draw a circuit with two resistors in **series**. Use a 12V battery and two 3Ω light bulbs.

8. Draw a circuit with two resistors in **parallel**. Use a 12V battery and two 3Ω light bulbs.

9. Which of the above types of circuits is more common in household wiring? Why?