Name _____ Date _____ Period _____

Series and Parallel Circuit Worksheet

Resolve the following problems **and** draw the schematic diagram.
Show your work.

1. Calculate the total resistance for a 650 ohm, a 350 ohm, and a 1000 ohm resistor connected in series.

2. Calculate the total resistance for ten 120 ohm resistors in series.

3. A string of fifty 15 ohm Christmas tree lights are connected in series. One burns out, they all burn out. Calculate the total resistance.

4. Calculate the total resistance for two 180 ohm resistors connected in parallel.
5. A 10 ohm, 20 ohm, and 100 ohm resistors are connected in parallel. Calculate the total resistance.

6. A string of fifty 15 ohm Christmas tree light are connected in parallel. One burns out, the rest will stay lit. Calculate the total resistance.

7. Two 100 ohm resistors are connected in series and they are connected to a 1.5 VDC battery. What is the total current flowing in the circuit?

8. Those fifty 15 ohm, series connected Christmas tree lights, calculate the total current in the circuit if they are connected to a 115 VAC source.

9. Those fifty 15 ohm parallel connected Christmas tree lights. Calculate the total current in the circuit if they are connected to a 115 VAC source.

10. Three 1.2 ohm lamps are connected in series and connected to a 3 volt battery. Calculate the total current in the circuit.

11. Three identical lamps are connected in series to each other and then connected to a 6 V battery. What is the voltage drop across each lamp?

12. How does the current behave in a series circuit?

13. Two 33 ohm resistors are connected in parallel followed by two more 33 ohm resistors connected in parallel. What value of a single resistor would be used to replace these four resistors?