Name: _____

Date: _____

Section C D F

The Masters School
Mr. Alex Rawson
Physics

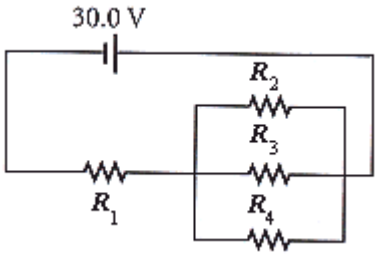
Circuitry III

1. An 11.0 Ω resistor and a 6.0 Ω resistor are connected in series with a battery. The potential difference across the 6.0 Ω resistor is measured as 9 V. Find the potential difference across the battery. (Your answer should be between 20 – 30 Volts)

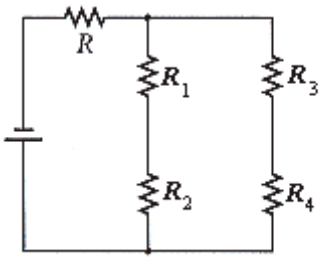
2. A 18.0 Ω resistor and a 6.0 Ω resistor are connected in parallel to a battery, and the current in the 18.0 Ω resistor is found to be 0.45 A. Find the potential difference across the battery. (Your answer should be between 5 – 10 Volts)

3. Two identical parallel-wired strings of 40 bulbs are connected to each other in series. If the equivalent resistance of the combination is 130.0 Ω when it is connected across a potential difference of 120.0 V, what is the resistance of each individual bulb? (Your answer should be between 2 – 3 kΩ)

4. Find the equivalent resistance of the circuit shown below, if R_1 = 13.0 Ω, R_2 = 24.0 Ω, R_3 = 10.0 Ω and R_4 = 3.0 Ω. (Your answer should be between 15 – 20 Ω)



5. The equivalent resistance of the circuit below is 60.0 Ω. If R_1 = 45.0 Ω, R_2 = 5.0 Ω, R_3 = 5.0 Ω and R_4 = 45.0 Ω, find the resistance of R. (Your answer should be between 34 – 40 Ω)



6. Re-draw the schematic diagram below, and then find the equivalent resistance of the circuit. Let R_1 = 8.0 Ω, R_2 = 6.0 Ω, R_3 = 7.0 Ω, R_4 = 6.0 Ω and R_5 = 4.5 Ω. (Your answer should be between 15 – 20 Ω)