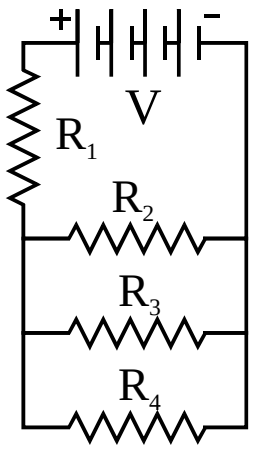
Name_____ Period _____ Date_____

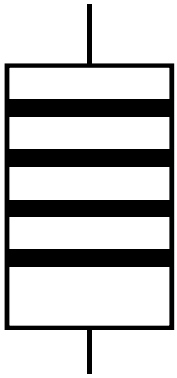
Quiz 12:3D DC Circuits – Resistors in Series & Parallel [I-L]

A battery, which has an EMF of V = 12.0 Volts, is connected in series with four resistors which have the following values: R_1 = 120 Ω, R_2 = 240 Ω, R_3 = 480 Ω and R_4 = 60.0 Ω.



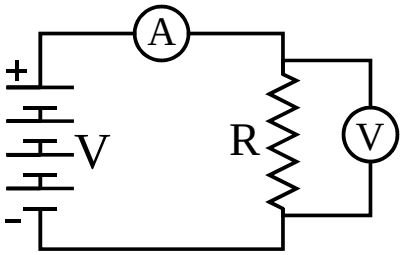
1. What will be the total resistance of this circuit? [3 pts]

2. What will be the current flowing through resistor R_1 in this circuit? [3 pts]



3. You are looking for a resistor which has a value of 1700 Ω +/- 10%. Fill in the blanks in the diagram of the resistor to the left that will give you the desired resistance. [3 pts]

A battery, which has an internal resistance of r = 1.50 Ω, is connected to a load resistance of R = 8.5 Ω. The resulting current flowing through the ammeter is measured to be I = 2.00 Amperes.



4. What will be the reading on the voltmeter across the **V** load resistance? [3 pts]

5. What is the EMF of this battery? [3 pts]