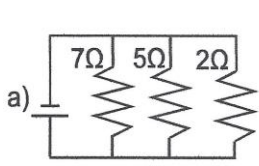
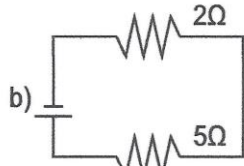


## CIRCUITS WORKSHEET

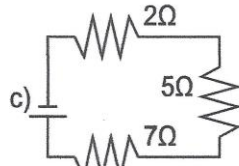
1. Determine the equivalent (total) resistance for each of the following circuits below.



$R_{eq} = \underline{\hspace{2cm}}$

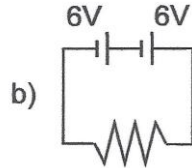
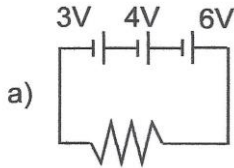


$R_{eq} = \underline{\hspace{2cm}}$



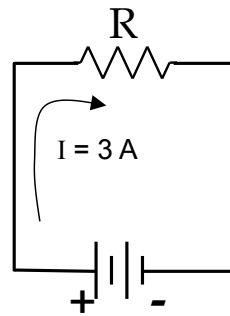
$R_{eq} = \underline{\hspace{2cm}}$

2. Determine the total voltage (electric potential) for each of the following circuits below.

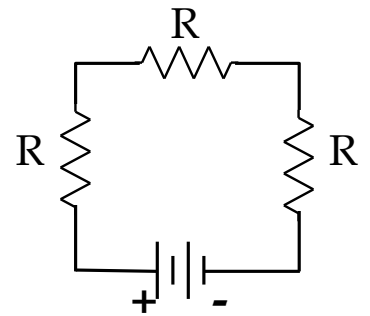


3. In a series circuit there is just one path so the charge flow is constant everywhere (charge is not lost or gained). Circuit **B** was made by adding 2 more identical resistors in series to circuit **A**

- a) How is the charge flow out of the battery (and back into it) affected by adding more bulbs in series?



**Circuit A**



**Circuit B**

- b) If the resistors were light bulbs, how do you expect the brightness of the bulbs to be affected by adding more bulbs in series?
- c) How is the brightness in the 2 circuits related to charge flow or current?
- d) How does the current in circuit B compare to circuit A?
- e) How is current ( $I$ ) related to the resistance of the circuit?
- f) If the resistance of a circuit is quadrupled, by what factor does the current change?