Section 11.1 Practical Circuits – Answer Key

1) Define *Series Circuit.* **A series circuit is a circuit that has only one path for current to flow.**

2) What could you compare a series circuit to? **You could compare a series circuit to a race track with several sharp curves.**

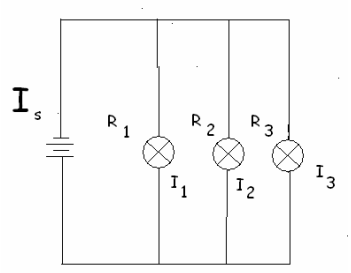
3) How are the electrons different from the cars on a racetrack? **The electrons can't accumulate, or pile up, at any point in a circuit.**

4) Define *Parallel Circuit*. **A parallel circuit is a circuit that has more than one path for current to flow.**

5) What could you compare a parallel circuit to? **You could compare a parallel circuit to city streets, where electrons (cars) have many pathways to travel.**

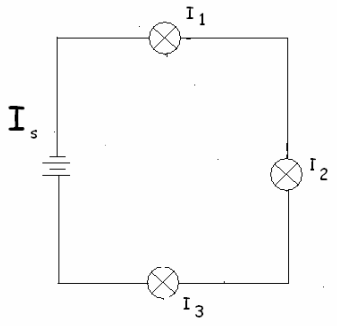
6) Where do all the charges return to? **All charges return to the energy source to be re-energized, after traveling around the circuit.**

7) Draw the diagrams, equations and explanations (your own words) on page 358 (Stretch Your Mind).



$I_s = I_1 + I_2 + I_3$

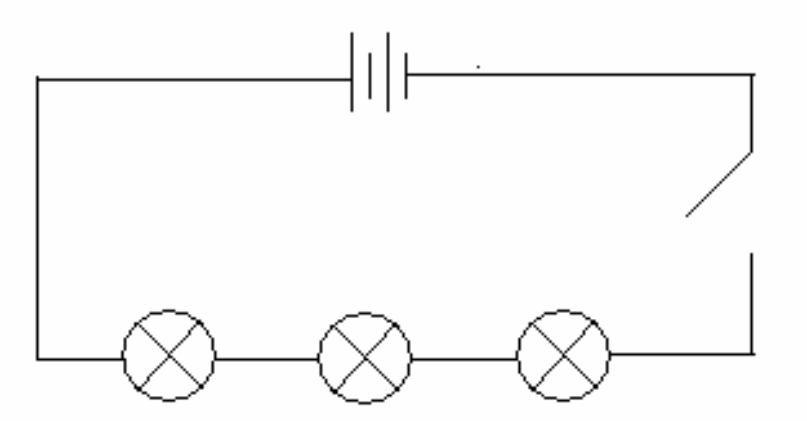
The sum of the current going through each resistor is the same current that leaves and enters the battery.



$I_s = I_1 = I_2 = I_3$

The current going through each of the three loads is the same current leaving and going into the battery.

8) Make a circuit diagram of a series circuit consisting of three light bulbs, a switch, and a battery.



9) Make a circuit diagram starting with a battery and a switch. Then, add three light bulbs in parallel with each other.