



## Answers Voltage Questions Pg 303 #1,2,4



• #1. a) It is necessary for electrons to move continuously around the circuit so that the electrons can release energy to the load in the circuit.

b) Electric charges flow from the negative to the positive.

#2. a) Electric potential is the energy each electron has

b) The SI unit is volt, the symbol is V

#4. There is 20 times more energy in the electrons of 120 V source than there is on the negative terminal of a 6 V source.

# pg 315 #1,3,5

1. a) Electric current is measure of the rate at which electric charges move past a given point in a circuit.

b) the SI unit is ampere and the symbol used to represent it is A.

3. a) The ammeter needle will only indicate the current if its positive terminal is connected to that part of the circuit nearest the positive terminal of the source of electrical energy.

b) If the ammeter is connected incorrectly the meter needle will try to rotate in the wrong direction and you will not obtain useful data.

5. It is dangerous to help someone who is experiencing an electric shock, because the shock will move through the person into you.

# Pg 319 #1,6,8

1. a) Electrical Resistance is the ability to stop or slow the flow of electrons through a circuit.

b) The SI unit is the Ohm and the symbol is R.

6. The wire in the electrical cord has a lower resistance than that of the heating element inside. The heating element is the electrical load in the kettle and converts the electrical energy from the source into heat. If the heating element had a lower resistance than the element, most of the electrical energy would be converted to heat in the cord instead of in the kettle and would not heat the water.

8. Tungsten is a higher resistance wire compared to copper. Tungsten is used in things like light bulbs and heating elements areas where you would want more heat produced. Higher resistance equates to more heat being produced.

## Attachments

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