

Vasquez High School -- Physical Science -- Quest #5 -- Chapter 6 -- 55 points

Write TRUE if the statement is true OR write the word(s) that substitutes for the underlined word(s) that would make it true. Writing false only earns partial credit. Three points each.

- _____ 1) Voltage for electricity is like how strong a pump is when pumping water.
- _____ 2) When one charged object touches a non-charged object, some of the excess charge is transferred. We say that this is charging by induction.
- _____ 3) What comes out of a normal wall socket in the USA is 120 V.
- _____ 4) We measure electric charge in a unit we call electrons.
- _____ 5) A kilowatt-hour is a unit of electrical power.

Short Answer/Fill-in. Be clear in your answers. Read what you wrote. If I cannot read or understand it, zero points. Three points each.

- 6) Give a good example of a dry cell battery and a wet cell battery. _____
_____.
- 7) What do AC and DC stand for and what is the difference between them? _____

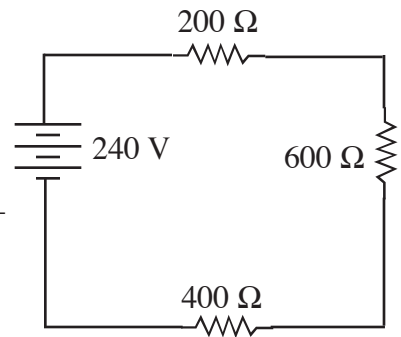
_____.
- 8) Describe precisely WHY a balloon sticks to the wall if you rub the balloon on a woolen sweater first.

_____.
- 9) How does the strength of the force of gravity compare with the strength of the force of electrical attraction?
_____.
- 10) After using a laptop computer for about an hour, you notice that the laptop is getting very hot. Explain why this occurs. _____
_____.
- 11) Write Ohm's Law using what the letters stand for, not just the letters: _____
_____.

Calculation Section. Be clear and neat and write the equations you use. Give units! Five points apiece.

12) Look at the circuit at the right and answer the following:

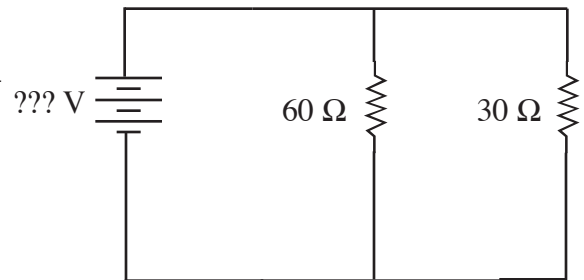
- a) What is the total resistance? _____
- b) What is the current in this circuit? _____
- c) What is the power used by the 200 ohm resistor? _____



Show work here:

13) Look at the circuit at the right and answer the following:

- a) What is the total resistance? _____
- b) What would the voltage have to be if the total current was 0.5 amp? _____



Show work here:

14) Mr. and Mrs. Smith went on vacation and left the 60 W porch light on for an entire week. If the energy company charges them a dime per kilowatt-hour, how much did they spend just by leaving the light on?

15) For one point each, write I if the item is a good insulator and C if it is a good conductor.

_____ steel _____ cheese _____ paper _____ aluminum _____ air

16) For two points, show in which direction the electrons flow in the circuit in problem 12 above by using an arrow and the symbol for electrons.