Due Thurs., April 24

PREAP2008 Electricity 4

1. Voltage (V), Current (I), or Resistance (R)?

A) ____Flowing electrons.
B) ____Pushes electricity in circuits.
C) ____Like a water pump.
D) ____Measured in Ω.
E) ____Measured in A.
F) ____A battery gives this.
G) ____Measured in V.
H) ____Slows down current in a circuit.
I) ____Does work in an electric circuit.
J) ____Gives electric energy.
K) ____12 ohms
L) ____ 36 volts.
M) ____ 5 amps.
N) ____ Adds voltage
O) ____ Subtracts voltage
P) ____ Can only change if there is a split or a join.

2. Voltage (V), Current (I), or Resistance (R)?

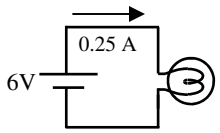
A _____ If you increase resistance what decreases?
B. _____ If you increases voltage what increases?
C. _____ If the current decreased what increased?
D. _____ If current increased what increased?
E. ____ If current increased what decreased?
F. _____ If resistance is decreased, what increases?
G. _____ More batteries will increase these two quantities.
H. ____ More light bulbs will increase this.

3. Conductor or Insulator?

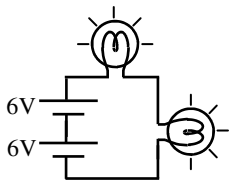
A Wood is a bad: _____
B. Metals are usually a good: _____
C. Plastic is a good: _____
D. 20 Ω is a worse _____ than 100 Ω resistor.

Show equations and work for all of the following.

4. How much voltage is necessary to push 4 A thru 6 Ω?

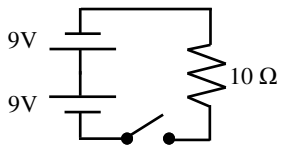


5. How big of a resistor is the light bulb in the circuit at the left?



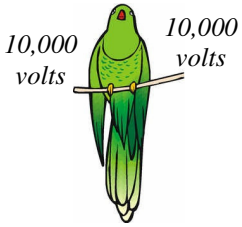
6. Use the circuit at the right to answer the following.
   A. Batteries add or subtract voltage?
   B. Mark the positive and negative sides of the battery.
   C. What is the total voltage in the circuit? (*Label it Vt.)*
   D. If the total current in the circuit is 3 A, calculate the total resistance.

   E. If the two light bulbs have the same resistance, what is the resistance of each light bulb?

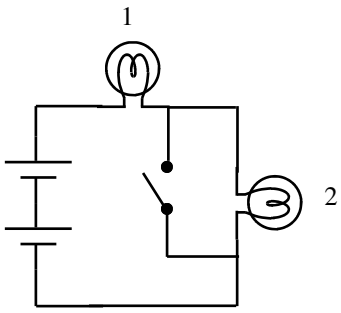


7. Use the circuit at the left to answer the following questions.
   A. As drawn right now, is it an open or closed circuit?
   B. With the switch is closed, what is the current in the circuit?

8. Both sides of a light bulb are connected to the positive side of a battery.
   A. Will the light bulb light?
   B. Why or why not?



9. A. Does the bird get shocked?
   B. Why or why not?



10. Use the circuit at the left to answer the following.
    A. What happens when the switch is closed?
    B. When the switch is closed, will bulb 1 get brighter or dimmer?

    C. What happens if you put a wire across the terminals of a battery (between the positive and negative ends of a battery)?

    D. How can this be dangerous?