2008 PreAP Circuits 6

1. Better conductor or better insulator?

A.	Aluminum	D.	Copper
В.	Rubber	E.	Water
C.	Glass	F.	Salt Water

2. For each of the following situations decide if the resistance of a material will increase or decrease.

- A. ____ Temperature is lowered
- B. ____ A wire gets longer
- C. ____ Using a thicker wire.
- D. ____ A wire gets hot as current moves thru it.
- E. ____ An wire is switched from copper to aluminum
- 3. The light bulbs you buy are for 120V AC.
 - A. What is AC current?
 - B. How big of a resistor is a 40 W bulb?
 - C. How much resistance does a 100 W light bulb have?
 - D. In your house would these bulbs be connected in parallel or in series?
 - E. How do you know?
- 4. A resistor uses 60 J of energy in 3 seconds with a 9V battery. How big is the resistor?
- 5. Two resistors (20 Ω and 40 Ω) are in series.
 - A. Do they have the same current or voltage?
 - B. Which one uses the most voltage?
 - C. Which one uses the most power?
 - D. If they are light bulbs, which one is brighter?
- 6. Two resistors (20 Ω and 40 Ω) are in parallel.
 - A. Do they have the same current or voltage?
 - B. Which one uses the most voltage?
 - C. Which one uses the most power?
 - D. If they are light bulbs, which one is brighter?

- 7. Ohmmeter, Voltmeter, or Ammeter?
 - A. Must be in series.
 - B. The circuit cannot connected.
 - C. ____Must be in parallel with the device being measured.
 - D. ____Used to tell the amount of current in the circuit.
 - E. The circuit must be on.
 - F. ____Delicate. Can be damaged if hooked up wrong.
 - G. ____Can measure if a battery is worn out.
 - H. ____Can measure a resistor only in a circuit.
 - I. ____Can measure a resistor out of the circuit.
 - J. Identify the meters in the diagram at the right.
 - Meter 1 = Meter 2 =
 - Meter 3 = Meter 4 =
 - Meter 5 =

