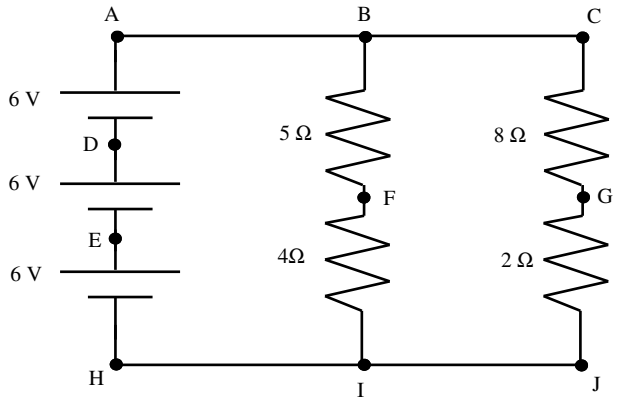
A-Day Due Wed., Apr 22
B-Day: Due Thurs., Apr 23

2009 PreAP Circuits 3

1. A. What is the voltage at point B?
   B. What is the total resistance from B to I?



   C. What is the current from B to I?

   D. What is the current from C to J?

   E. What is the total current?

   F. What is the current flowing thru the 5Ω resistor?

   G. What is the voltage used by the 5Ω resistor?

   H. What is the power used by the 8Ω resistor?

   J. How much ***energy*** is used by 4 Ω resistor in 20 seconds?

   K. How would the current change in the 5Ω resistor if the 4Ω resistor was increased?

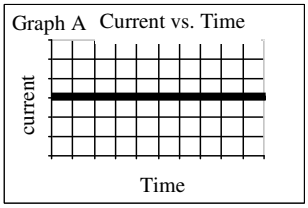
   L. How would the current in the 2Ω resistor change if the 4Ω resistor was removed?

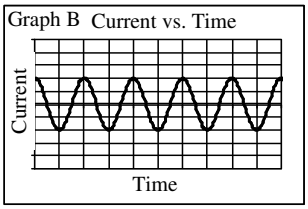
2. For each of the following pairs, circle the one with the greatest resistance.
   A) A 25 Ω resistor at 5°C or at 25°C?
   B) A 5 cm wire or a 5 meter wire?
   C) Thick wires or thin wires?
   D) Aluminum wires or Copper wires?

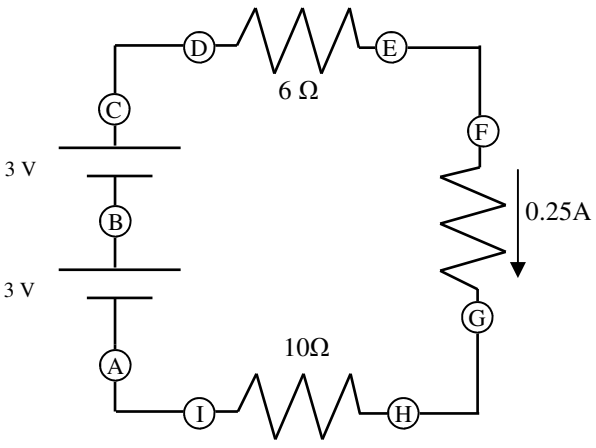
3. Is a superconductor a good or bad insulator?

4. AC or DC Current:

   A. ____ Current that changes polarity.
   B. ____ Current that is constant.
   C. ____ What comes from a battery.
   D. ____ What comes from the power outlet.
   E. ____ Graph A
   F. ____ Graph B.







5. A. How much voltage is used by the 6Ω resistor?

   B. How big is the second resistor?

   C. How much energy is used by the 10Ω resistor in 2 minutes?

   D. What would happen to current in the 10 Ω if the 6 Ω is increased?

   E. If the voltage is increased, how does the power dissipated in the middle resistor change?

   F. Draw a voltmeter reading the total voltage.

6. Why are metals good conductors?

7. Plastic or silver:
   A. Which is a better conductor?
   B. Which is better insulator?

8. How fast does a 6 volt battery push 12 coulombs thru a 960Ω resisitor?

9.