Physics 115 – Section 0101
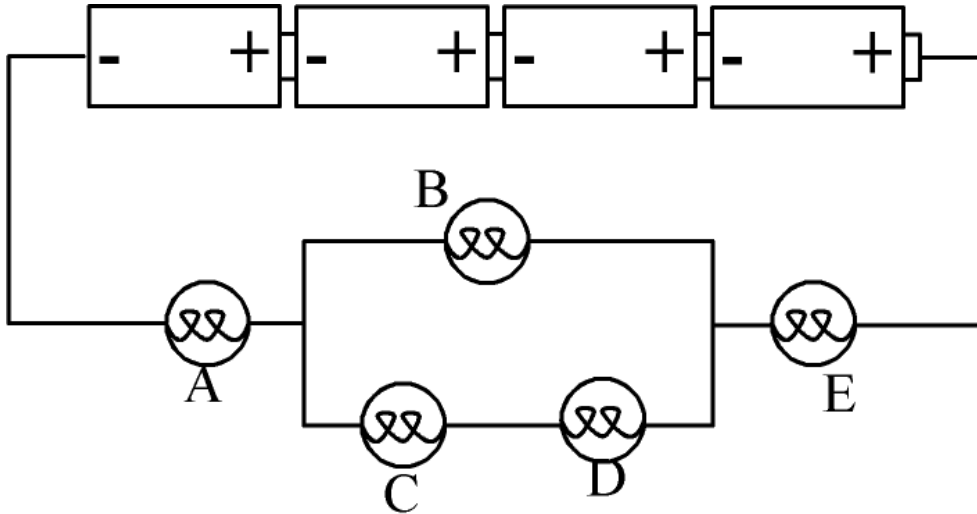Homework #3
Due February 20, 2008
All questions below should be explained with pictures if necessary.

Essay 1, 10 points
In the following circuit, rank the bulbs A-E in order of brightness from brightest to dimmest. If bulbs are equal in brightness, say so. Carefully describe in words your reasoning for how you ranked the bulbs according to brightness.

Problem 1, 10 points
A ream of typing paper (500 sheets) is measured to be 3.5 cm thick. Give an equation which describes the thickness t of a stack of n sheets of paper. Make a graph of your result. What do the number or numbers in your equation tell you about one sheet of paper?

Essay 2, 10 points.

a) Describe what you learnt from a series circuit that contains 1, 2, and 3 bulbs and a constant number of batteries.

b) Can you use a real life model to describe this behavior?

c) How did you determine the direction of the current flow in a circuit?

d) How did you find out how the strength of the current changed between different points in a circuit? Where is the current the maximum?