Lab Report Plus:
Due Friday October 26

This is a written piece that requires lab work. however, it will not be a traditional lab report (in which you discuss methods and data etc.) but will require you to solve a physics problem in theory and experiment.
I will grade the questions for correctness, as well as for completion.
You can work on this as much as you like at home. There will be time to complete this lab report in class on Thursday October 18 and Monday October 22.
You can work only with *one other partner* on the lab report. No groups of three or multiple groups sitting at a table

Someone writes this statement:
"Two identical resistors in parallel draw four times as much current as the same two resistors in series."

You need to evaluate if this statement is true or false.
You must evaluate it in **three** different ways: mathematically, in writing, and experimentally.
In evaluating the statement mathematically, you may ignore the effects we did not learn about yet in class: such as resistance in the wires, internal resistance in the battery.

Mathematical Evaluation:
Draw two circuits that fit the description above. Solve the circuits mathematically to prove or disprove the statement above.
There are two ways to turn this circuit into a situation: making up numbers and solving the circuit OR describing the circuit in algebraic variables and solving it.
(For honors:) You should create a circuit that is *algebraic* and solve it as such.

Laboratory Evaluation:
Create a two real life circuits that fit the description above.
Draw any circuits you build.
Measure any necessary quantities to prove or disprove the situation above. Explain how you measured these quantities. Draw circuit diagrams of any circuits you built and state quantities measured to an appropriate number of significant figures.
There will be some time in class to complete this lab report in class on Thursday October 18 and Monday October 22.

Written Evaluation:
Based upon your mathematical and laboratory evaluations, write a written argument explaining why the statement is true or false.
Your statement must use *all three* of these words *correctly*:
voltage, current, resistance.
You may use equations and quantities in your argument, but you must refer to any quantities in writing effectively to receive full credit.