PHYS 1111 Lab **Name: _____**

Experiment 3 – PreLab

Things to do…

- Review the lab handout. There are also videos showing how to connect the sonic ranger to the Arduino as well as how to code the Arduino to get real measurements! Make notes in your lab notebook so you don't need to rely on the printed pages.
- Pay close attention to the Examples given in Part B of the lab instruction.
- Your goal will be to construct the circuit shown in Part A of the lab.
- Coding your Arduino will require some of the commands that we have learned from previous weeks. Notice that the code in Part A asks you to use some of the commands from the "Potentially useful lines of code" box to complete the Arduino coding yourself.
- You may wish to view a short video about calculating uncertainty propagation. This is available on D2L.
- Complete the following calculations. (You may want to add these to your lab notebook for reference.)

1. You want to find the velocity (with its uncertainty) of a cart that your lecture instructor has pushed across the floor. You measure that the cart traveled a distance of (25 ± 2) cm and the entire trip time was measured to be (2.8 ± 0.3) seconds. What is the velocity, with uncertainty, of the cart?