

PHYS 1111 Lab
Experiment 2 – PreLab

Name: _____

Things to do...

- Review the lab handout. 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 section II of the lab instruction.
- Pay close attention to the sample calculation in section IV of the lab instructions.
- Your goal will be to construct the circuit shown in Part A of the lab (and then program your Arduino to make some magic!). You'll notice that half of this (connecting the limiting resistor and LED) is a repeat from week 1. So pay close attention to the new part - the pushbutton.
- You may wish to view a short video about standard deviation. This is available on D2L or my spots page at spots.augusta.edu/jhauger. Dr. Newton produced this one!
- Complete the following calculations. (You may want to add these to your lab notebook for reference.)

1. You make a distance measurement and find the distance to be 35 ± 2 seconds. What is the percent uncertainty of your measurement? Show your work to receive credit.

2. You are measuring the time it takes for an object to fall a certain distance. You make 5 measurements and get the following values:

- 3.5 seconds
- 3.0 seconds
- 3.2 seconds
- 3.7 seconds
- 3.6 seconds

What is the average (a.k.a. mean) and population standard deviation of this set of data? Show your work to receive credit.