Simple Harmonic Motion

As you work through the steps in the lab procedure, record your experimental values and the results on this worksheet. Use the exact values you record for your data to make later calculations.

Data

Part A: One Spring

Record the slope of the force vs. displacement graph of spring 1.

Record the theoretical value of the spring constant k for spring 1.

Record the slope of the force vs. displacement graph of spring 2.

Record the theoretical value of the spring constant k for spring 2.

Part B: Two Springs

Record the slope of the force vs. displacement graph for the springs in parallel.

Record the slope of the force vs. displacement graph for the springs in series.

Part C: Oscillating Cart

Record the period of oscillations of a cart measured by the photogate.

Table 1	
Amplitude (cm)	$\mathop{\mathrm{Period}}\limits_{(\mathrm{s})}$
4	
8	
12	

What physical quantity does each parameter represent?

Record the mass of the cart.

Record the slope of the T vs \sqrt{m} graph.

Upload the file with your graphs. Do a print screen and save the graphs as a file with a maximum size of 1 MB. (*You will upload this file in the WebAssign question.*) Print the graph for your TA to sign, and for your reference.