Name: _____

1. Define simple harmonic motion. What conditions must be met? (20 pts)

2. What physical phenomenon does the relationship $T = 2\pi\sqrt{\frac{m}{k}}$ describe? (20 pts)

3. What physical phenomenon does the relationship $T = 2\pi\sqrt{\frac{L}{g}}$ describe? (20 pts)

4. The following data were collected for Part 1 of the lab procedure. Complete the table. The force is due to the gravitational force. All distances are measured from the *bottom of the hanger to the top of the stool*. You should ignore the initial weight of the hanger. *Note* that Δx is the change from initial position, $x_f - x_0$, not the change from the previous position, $x_2 - x_1$. (40 pts)

Mass (g)	Height (cm)	Δx (m)	Force (N)
0	57.5	0	0
100	46.5		
200	36.5		
300	25.5		
400	15.5		
500	4.5		