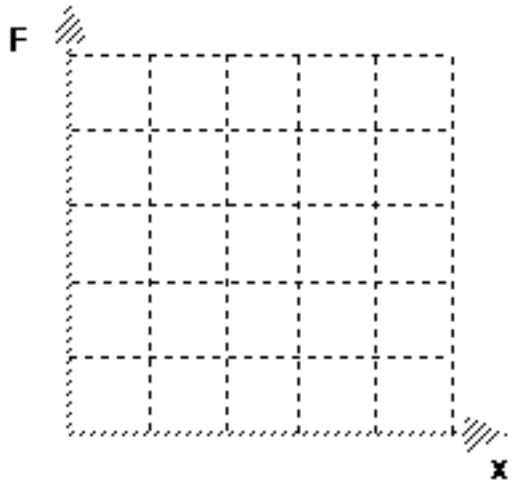
Name_____

Date _____ Pd____

Unit VI: Worksheet 1



Suppose in the lab one group found that $F=1000.\frac{N}{m}(\Delta x)$.

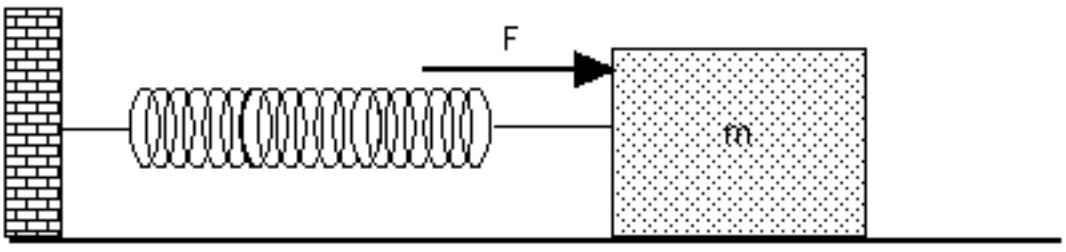
1. Determine the amount of force required to stretch the spring the following distances. Plot these values on the graph.

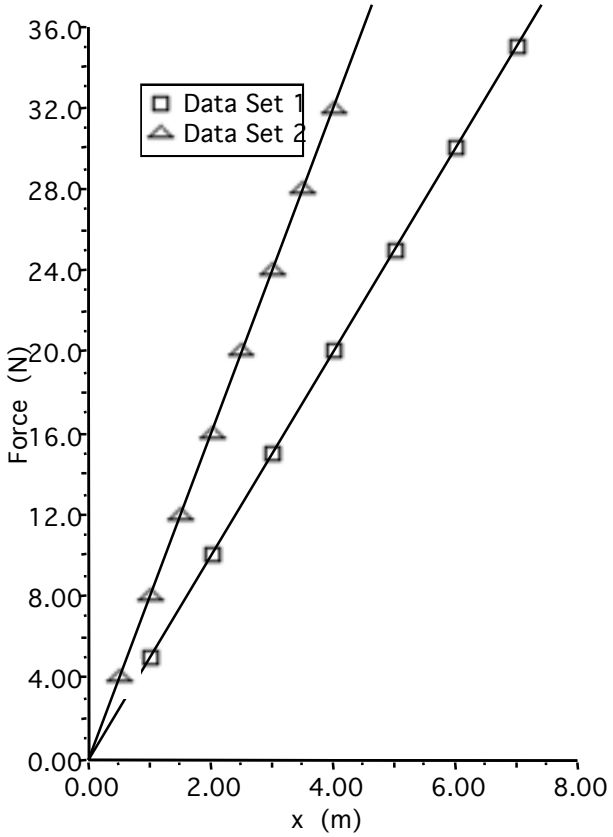
Δx (m)	F (N)
0	
.05	
.1	
.15	
.20	
.25	

2. Graphically determine the amount of energy stored while stretching the spring described above from x = 0 to x = 10. cm.

3. Graphically determine the amount of energy stored while stretching the spring described above from x = 15 to x = 25 cm.

4. The spring below has a spring constant of 10. N/m. If the block is pulled 0.30 m horizontally to the right, and held motionless, what force does the spring exert on the block? Sketch a force diagram for the mass as you hold it still. (Assume a frictionless surface.)





The graph at left was made from data collected during an investigation of the relationship between the force and the amount two different springs stretched.

5. For each spring determine the spring constant.

6. For each spring, compare
a. the amount of force required to stretch the spring 3.0 m.

b. the EPE stored in each spring when stretched 3.0 m.

7. Determine the amount that spring 2 needs to be stretched in order to store 24 joules of energy.