4AL Lab 3A Prelab

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Hooke's law

Identify the spring constant if you have the following information about a hanging mass and spring displacement. Check your units.

Mass (g)	Displacement (m)
50	0.13
100	0.277
150	0.417

k = 3.61 N/m

What would be the spring constant if two such springs were used in series?
k = 1 /((1/k_1) + (1/ k_2)) = 1.805N/m

What would be the spring constant if two such springs were used in parallel?

k = k_1 + k_2 = 7.22N/m

Simple harmonic motion

Review simple harmonic motion :

https://cnx.org/contents/1Q9uMg_a@13.13:-oRwvwlF@8/15-1-Simple-Harmonic-Motion

Fill in the blanks in the table based on the information in each row

k (N/m)	m (kg)	ω (rad/s)	T (s)	F (s^{-1})
4	1	2	3.14	.319
3	12	0.5	12.5	0.08
10.04	2.5	2.004	3.14	.319