

Springs

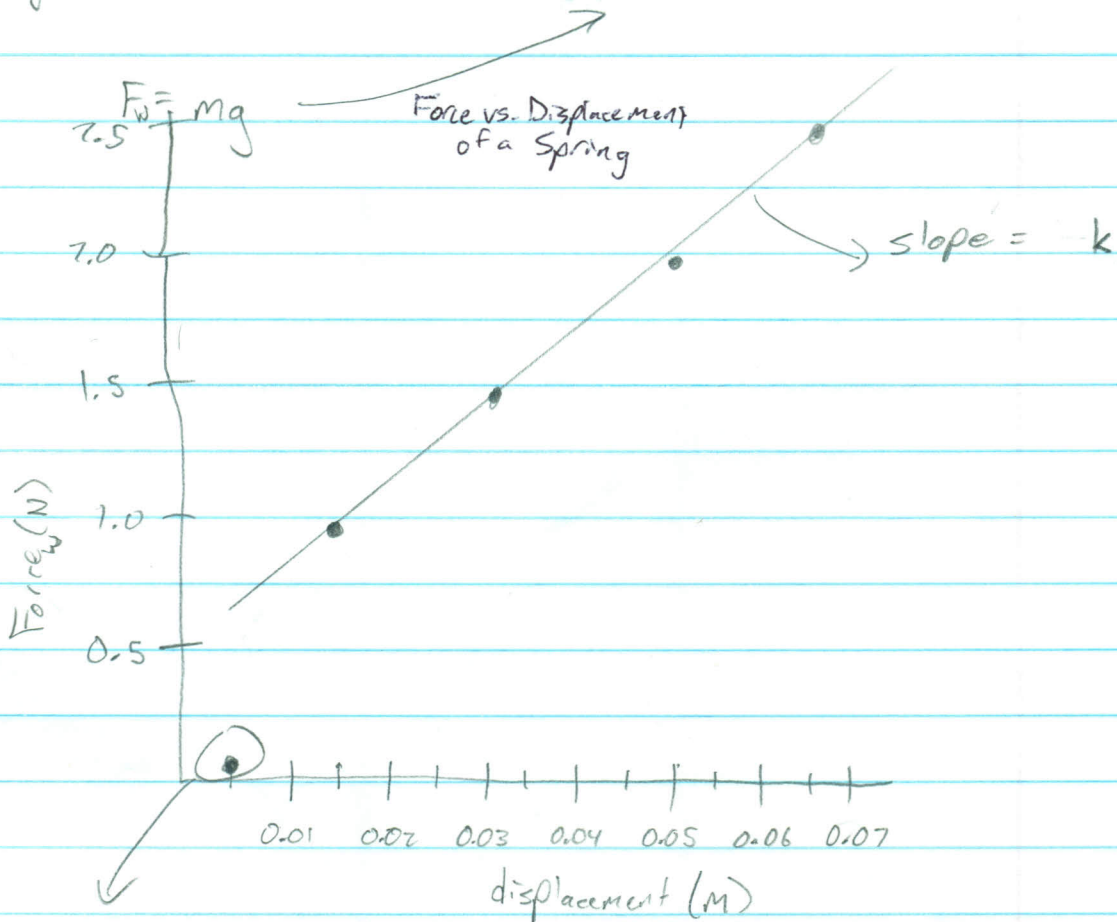
Hooke's Law: $F_s = -kx$

$F_s = -F_{weight}$

$F_w = -kx$
 $F_w = kx$

$O = 69 \text{ cm}$

<u>m</u>	<u>location</u>	<u>x</u>	<u>F_w</u>
50g	→ 69.5 cm	⇒ 0.5 cm	0.049 N
100g	→ 70.5 cm	⇒ 1.5 cm	0.981 N
150g	→ 72.0 cm	⇒ 3.0 cm	1.47 N
200g	→ 73.8 cm	⇒ 4.8 cm	1.96 N
250g	→ 75.5 cm	⇒ 6.5 cm	2.45 N



doubtful

$$\text{slope} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{2.45 \text{ N} - 0.981 \text{ N}}{0.065 \text{ m} - 0.015 \text{ m}} = 29.4 \frac{\text{N}}{\text{m}} = -k$$