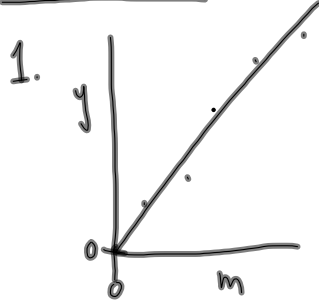


Hooke's Law Lab



- linear graph
- "direct relationship" or a "direct proportionality" or "the vertical depression varies directly with the mass attached"

$\times 2$ (200g - 2.6cm) \rightarrow $\times 2$ (about!)
 \rightarrow 400g - 5.7cm
 $\times 3$ (600g - 9.8cm) \rightarrow $\times 3$ (about!)

- errors:
- mass was not always in the same spot
 - maybe metre stick was not vertical
 - deformation of the metre stick.

2. 850g \rightarrow 14.0 cm (from graph).
 13.5 cm (experimentally)

$$\% \text{ error} = \frac{13.5 \text{ cm} - 14.0 \text{ cm}}{14.0 \text{ cm}} \times 100$$

- interpolation

3. $y = (m)x + (b)$
 $y = 0.017x - 0.45$

4. use equation with 850g. \Rightarrow interpolation

5. use equation with 5500g \Rightarrow extrapolation
 not reliable | outside data | trend may change

