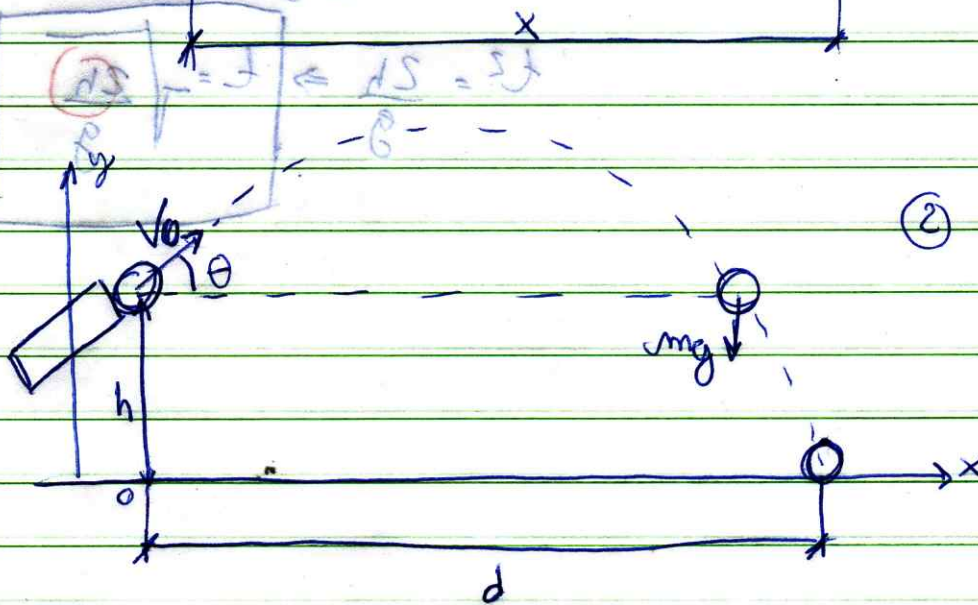
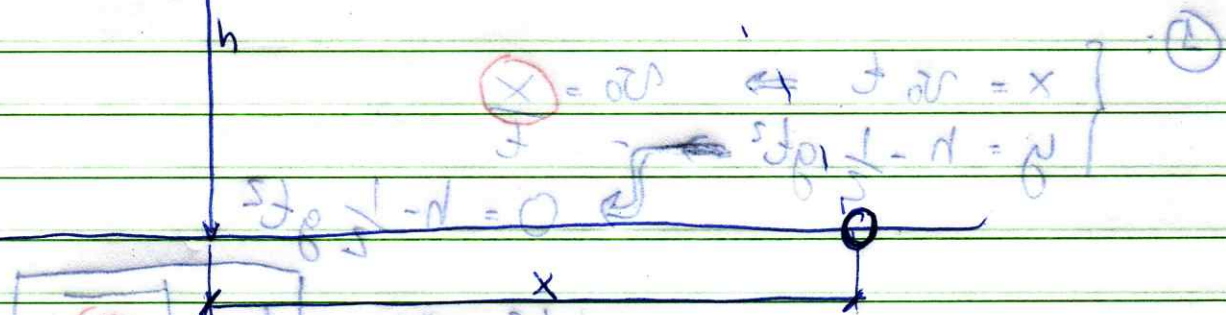


18/8/22

Exp. 3



$$\begin{cases} x(t) = v_0 \cos \theta \cdot t \\ y(t) = h + v_0 \sin \theta \cdot t - \frac{1}{2} g t^2 \end{cases}$$

$$\begin{cases} d = v_0 \cos \theta \cdot t \\ 0 = h + v_0 \sin \theta \cdot t - \frac{1}{2} g t^2 \end{cases}$$

$$\frac{1}{2} g t^2 - v_0 \sin \theta \cdot t - h = 0$$

$$t^2 - \frac{2v_0 \sin \theta}{g} t - \frac{2h}{g} = 0$$

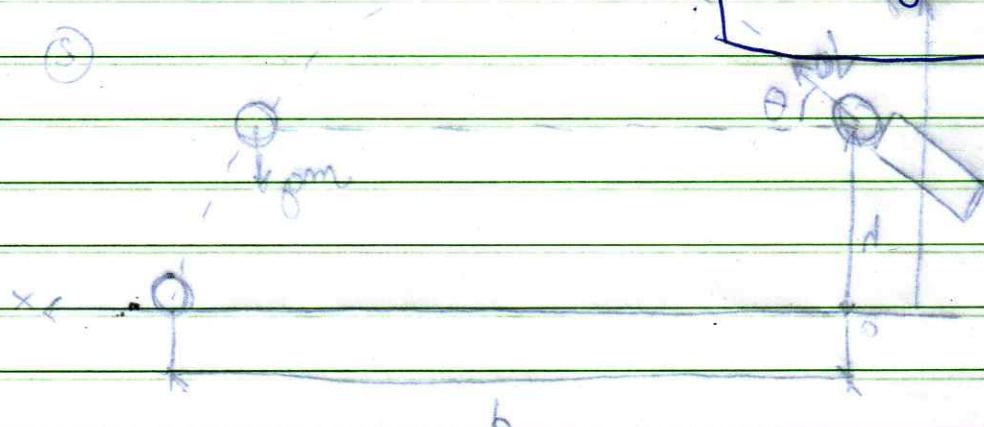
$$t = \frac{2v_0 \sin \theta}{g} \pm \sqrt{\frac{4v_0^2 \sin^2 \theta}{g^2} + \frac{8h}{g}}$$

④: $\begin{cases} x = v_0 t \Rightarrow v_0 = \frac{x}{t} \\ y = h - \frac{1}{2}gt^2 \end{cases}$

$$0 = h - \frac{1}{2}gt^2$$

$$t^2 = \frac{2h}{g} \Rightarrow t = \sqrt{\frac{2h}{g}}$$

$$t = \sqrt{\frac{2h}{g}}$$



$$\begin{cases} x = v_0 \cos \theta \cdot t \\ y = h - \frac{1}{2}gt^2 \end{cases}$$

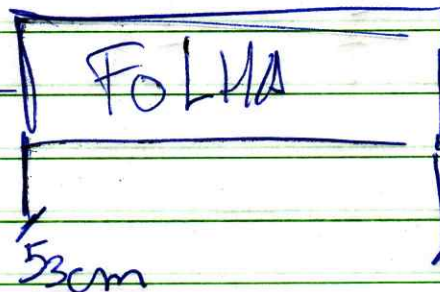
$$\begin{cases} x = v_0 \cos \theta \cdot t \\ y = h - \frac{1}{2}gt^2 \end{cases}$$

$$0 = h - \frac{1}{2}gt^2$$

$$0 = \frac{v_0^2 \sin^2 \theta}{g} - \frac{2h}{g}$$



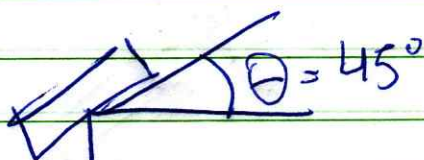
$h = 26\text{cm}$



53cm

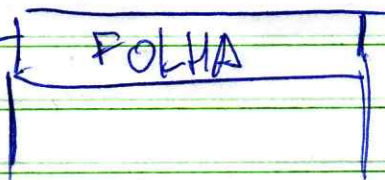


83cm



$\theta = 45^\circ$

$h = 26\text{cm}$



90cm

120cm