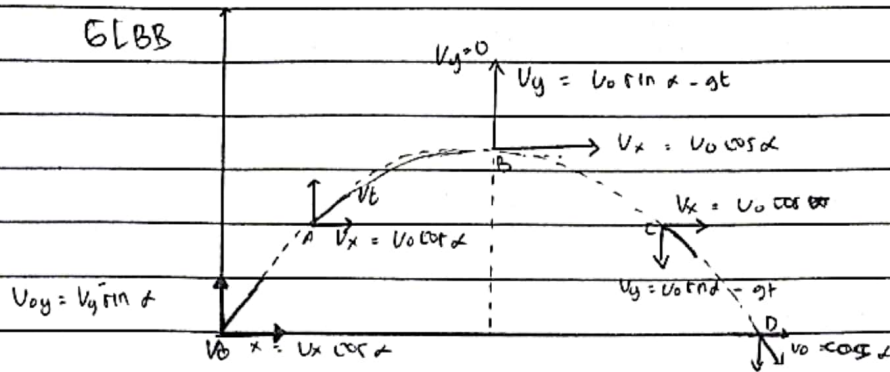


Nama = Ririn Oriska

Npm = 2013022010

Penurunan Persamaan Gerak Parabola

$$U_t = \sqrt{U_x^2 + U_y^2}$$



$$V_{0x} = V_0 \cos \alpha$$

$$V_{0y} = V_0 \sin \alpha$$

↳ pada sumbu y (GLBB)

$$U_t = V_{0y} + at$$

$$0 = V_0 \sin \alpha - gt$$

↳ pada sumbu x (GLBB)

$$A_f = V_x + 0$$

$$x_c = V_{x_D} \cdot t_D$$

$$x_{\max} = \frac{V_0 \cos \alpha \cdot 2 V_0 \sin \alpha}{g}$$

$$= \frac{2 V_0^2 \sin \alpha \cos \alpha}{g}$$

$$t_{AB} = \frac{V_0 \sin \alpha}{g}$$

$$t_D = 2 t_B$$

$$= \frac{2 V_0 \sin \alpha}{g}$$

$$V_{\max} = \frac{V_0^2 \sin 2\alpha}{g}$$

GLB

$$V_x = V_{0x} = V_0 \cos \alpha$$

$$x = V_x \cdot t$$

$$= V_0 \cos \alpha \cdot t$$

Dititik A (x,y)

$$\begin{matrix} (V_0 \cos \alpha) & , & V_0 \sin \alpha - \frac{1}{2} g t^2 \\ x & & y \end{matrix}$$

$$V_A = \sqrt{V_x^2 + V_y^2}$$

$$V_A = \sqrt{(V_0 \cos \alpha)^2 + (V_0 \sin \alpha - gt)^2}$$

GLBB

$$V_y = V_0 y t - \frac{1}{2} g t^2$$

$$y_{\max} = V_0 \sin \alpha \cdot t_B - \frac{1}{2} g t_B^2$$

$$= V_0 \sin \alpha \cdot \left(\frac{V_0 \sin \alpha}{g} \right) - \frac{1}{2} g \left(\frac{V_0 \sin \alpha}{g} \right)^2$$

$$y_{\max} = \frac{V_0^2 \sin^2 \alpha}{g} - \frac{1}{2} \frac{V_0^2 \sin^2 \alpha}{g} = \frac{V_0^2 \sin^2 \alpha}{2g}$$

$$= \frac{V_0^2 \sin^2 \alpha}{2g}$$

$$= \frac{V_0^2 \sin^2 \alpha}{2g}$$