No.

Date . .

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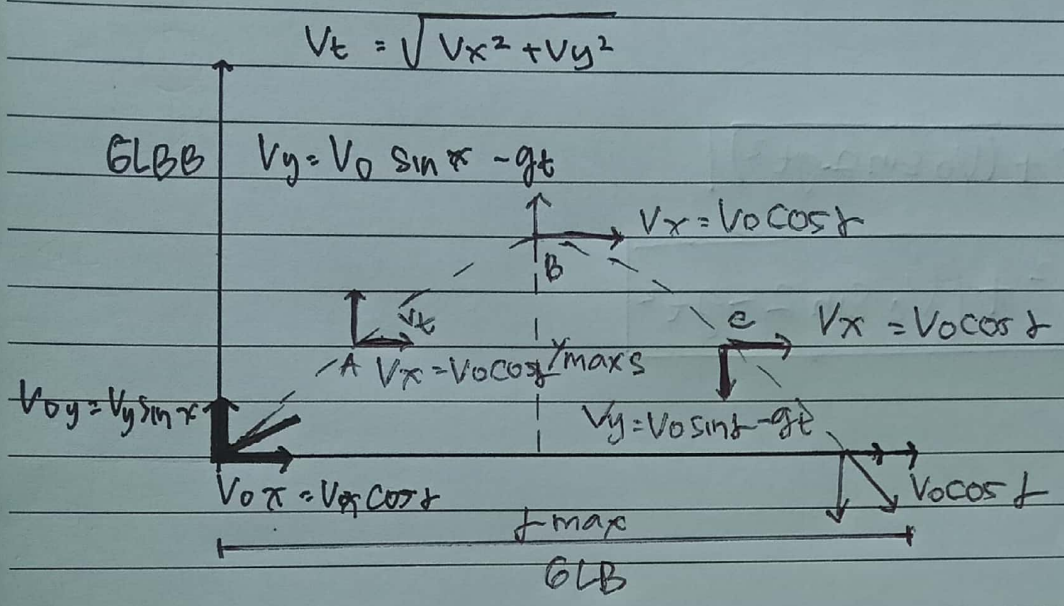
Kelas B

Penurunan Persamaan Gerak Parabola



→ $V_{0x} = V_0 \cos\alpha$

→ $V_{0y} = V_0 \sin\alpha$

⇒ Sumbu Y GLBB

$V_t = V_{0y} + at$

$0 = V_0 \sin\alpha - gt$

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

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

⇒ GLB

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

$x = V_x \cdot t$

$= V_0 \cos\alpha \cdot t$

⇒ Sumbu X GLB

$Af = V_x \cdot t_0$

$x_c = V_{x0} \cdot t_0$

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

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

$$\Rightarrow \boxed{x_{max} = \frac{V_0^2 \sin 2\alpha}{g}}$$

⇒ GLBB

$y = V_{0y} t - \frac{1}{2} g t^2$

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

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

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

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Titik $A = (x, y)$

$= (V_0 t \cos\alpha,\ V_0 t \sin\alpha - \frac{1}{2} g t^2)$

Dimana : $x = V_0 t \cos\alpha$

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

Maka

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

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

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