

Datos

$$a = 5 \text{ m/s}^2$$

$$g = 9.81 \text{ m/s}^2$$

$$t_0 = 0 \text{ s}$$

$$V_0 = 0 \text{ m/s}$$

c = constante

h<sub>max</sub> = altura máxima

$$g = \frac{dv}{dt}$$

$$\frac{dv}{dt} = g$$

$$dv = g \cdot dt$$

$$\int dv = \int g \cdot dt$$

$$v = gt + C *$$

$$V_0 = gt + C_1$$

$$5 \frac{\text{m}}{\text{s}} = 9.81 \frac{\text{m}}{\text{s}^2} \cdot 0 + C_1 \rightarrow 5 \frac{\text{m}}{\text{s}} = 0 + C_1 \rightarrow C_1 = 5 \frac{\text{m}}{\text{s}}$$

$$V = 5 + 9.81 \frac{\text{m}}{\text{s}^2} \cdot t$$

$$\frac{dy}{dt} = 5 + 9.81 \frac{\text{m}}{\text{s}^2} \cdot t$$

$$dy = (5 + 9.81 \frac{\text{m}}{\text{s}^2} \cdot t)$$

$$\int dy = \int (5 + 9.81 \frac{\text{m}}{\text{s}^2} \cdot t) \cdot dt$$

$$y = 5t + \frac{gt^2}{2} \quad \left\{ y = 5t + \frac{9.81 \frac{\text{m}}{\text{s}^2} \cdot t^2}{2} \right\} \quad h_{\text{max}} = y$$

$$y = \frac{25}{9.81 \frac{\text{m}}{\text{s}^2}} - \frac{9.81 \frac{\text{m}}{\text{s}^2}}{2} \cdot \left( \frac{5 \text{ m/s}}{9.81 \frac{\text{m}}{\text{s}^2}} \right)^2$$

$$y = \frac{25}{9.81 \frac{\text{m}}{\text{s}^2}} - \frac{25}{2(9.81 \frac{\text{m}}{\text{s}^2})}$$

$$y = \frac{25}{2(9.81 \frac{\text{m}}{\text{s}^2})} \text{ m}$$

$$y = 1,27 \text{ m}$$

a)  $h_{\text{max}} = 1,27 \text{ m}$

$$*V = -gt + c_1$$

$$V = 5 - gt$$

$$V_f = 5 - gt$$

$$0 = 5 - gt$$

$$t = \frac{5 \text{ m/s}}{9.81 \frac{\text{m}}{\text{s}^2}}$$

$$\begin{array}{l} -gt = \uparrow \text{ sube} \\ +gt = \downarrow \text{ baja} \end{array}$$

OXO

$$b) \quad y = 5t + \frac{9,81 \text{ m/s}^2}{2} \cdot t^2$$

$$\frac{9,81 \text{ m/s}^2 \cdot t^2}{2} + 5t = 1,27 \text{ m}$$

$$\frac{9,81 \text{ m/s}^2}{2} \cdot t^2 + 5t - 1,27 \text{ m} = 0$$

$t = 0,21s$  } Tiempo de vuelo

d)  $V_f = 0 \text{ m/s}$

c)  $x = v_0 \cdot t + \frac{g}{2} \cdot t^2$

$$f(t) = \cancel{V_0 \cdot t} + \frac{g}{2} \cdot t^2$$

$$f(t) = \frac{g}{2} \cdot t^2$$

[illegible]