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Tarea # 1.- Objetivo: crear la lista
de direcciones electrónicas

¿Por qué decidieron estudiar Ingeniería?

¿Qué diablos es una ecuación
diferencial?

conjunto de términos (*matemáticos*)
que conducen a una solución (*??*)
de un problema con una incógnita

$$x^3 + 4x^2 + 2x + 8 = 0 \quad x?$$

$$\frac{dy^2}{dx} - 6y = 0 \quad y(x)?$$

$$F\left(x, y(x), \frac{dy}{dx}, \dots\right) = 0$$

↑ ecuación

$F(x) = 0$ algebraica.

$$\boxed{\frac{dy}{dx} = 0}$$

$$\boxed{y(x) = C_1}$$

$$C_1 \in \mathbb{R}$$

Resuelve problemas

buscamos innovación

optimizar recursos

moldeamos nuestro ambiente

diseñamos

Soluciones

$$64 \text{ m}^2$$

$$56 \text{ m}^2$$

$$80 \text{ m}^2 \checkmark$$

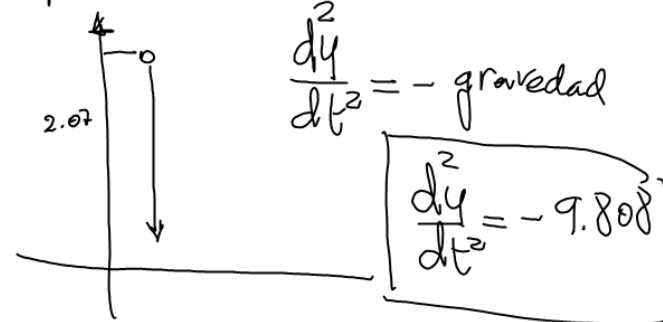
$$70 \text{ m}^2$$

$$9.162 \times 8.732 =$$

$$80.0$$

$$y(0) = 2.076$$

$$y'(0) = 0$$



A vertical coordinate system is shown with a downward arrow. The initial height is labeled as 2.07. To the right, the differential equation is given as $\frac{d^2 y}{dt^2} = -\text{gravedad}$. Below this, the equation is boxed: $\frac{d^2 y}{dt^2} = -9.808$.

$$t_r = 0.650637 \quad y(t) = 2.076 - 4.904 t^2$$

$$y'(t) = -2 \times 4.904 t$$

$$y'(0.650637) = -9.808(0.650637)$$

$$V_f = -6.3814 \frac{\text{m}}{\text{s}}$$

$$V_f = -\frac{6.3814 \times 3600 \frac{\text{s}}{\text{h}}}{1000 \frac{\text{m}}{\text{km}}} = -22.97 \frac{\text{km}}{\text{h}}$$

$$\frac{d^2 y}{dt^2} = -g$$

$$\frac{d}{dt} \left(\frac{dy}{dt} \right) = -g$$

$$d \left(\frac{dy}{dt} \right) = -g dt$$

$$\int d \left(\frac{dy}{dt} \right) = -g \int dt$$

$$\frac{dy}{dt} + k_1 = -g(t + k_2)$$

$$\frac{dy}{dt} = -gt + (-gk_2 - k_1)$$

$$\frac{dy}{dt} = -gt + C_1$$

$$dy = (-gt + C_1) dt$$

$$\int dy = \int (-gt + C_1) dt$$

$$y + k_3 = -g \left(\frac{t^2}{2} + k_4 \right) + C_1 (t + k_5)$$

$$y = -\frac{g}{2} t^2 + C_1 t + \left(-\frac{g}{2} k_4 + C_1 k_5 + k_3 \right)$$

$$\boxed{y = -\frac{g}{2} t^2 + C_1 t + C_2} \quad \begin{array}{l} y(0) = 2.076 \\ y'(0) = 0 \end{array}$$

$$y' = -gt + C_1 \quad -g(0) + C_1 = 0$$

$$y = -\frac{g}{2} t^2 + C_2 \quad \begin{array}{l} C_1 = 0 \\ -\frac{g}{2}(0)^2 + C_2 = 2.076 \end{array}$$

$$y = -\frac{g}{2} t^2 + 2.076$$