

ECUACIONES DIFERENCIALES

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~~TAREA~~ #1. ¿PORQUÉ ESTUDIO INGENIERÍA?

Lista. - el correo desde donde mandan la tarea

correo # 2.

Viernes 1° FEBRERO máximo hasta 23.59 Hs.

TAREAS (máx-10) — 30%

SERIES. — 30%.

EXÁMENES PARCIALES — 40%.

PROMEDIO SEM. 100%

Si PROM ES APROB +.

PASAR TODOS LOS E. PAR. \Rightarrow EXENTO

P.S. 50%

E.F. 50%

CAL.
FINAL 100%

$$F(x, y(x), y', y'') = 0$$

V. i.

Incógnita

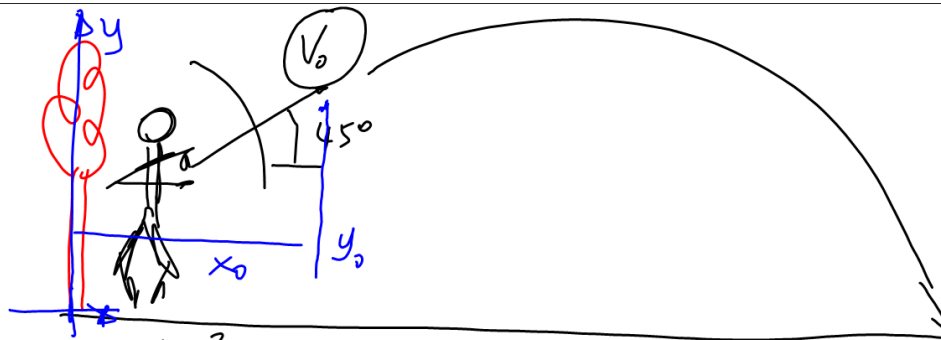
derivadas
de la incógnita.

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

$x \Rightarrow$ v. i.
 $y(x) \Rightarrow$ inc.

$y(x) = c_1$ solución

$$0 \equiv 0$$



$$\frac{d^2 y}{dt^2} = -g \Rightarrow d\left(\frac{dy}{dt}\right) = -g dt \quad \int d\left(\frac{dy}{dt}\right) = -g \int dt$$

$$\frac{dx}{dt} = V_0 \cos 45^\circ$$

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

$$dx = V_0 \cos(45^\circ) dt$$

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

$$\int dx = V_0 \cos(45^\circ) \int dt$$

$$\int dy = -g \int dt + C_1 \int dt$$

$$x = V_0 \cos(45^\circ) t + C_3$$

$$y = -\frac{gt^2}{2} + C_1 t + C_2$$

$$C_3 = x_0$$

$$C_1 = V_0 \sin(45^\circ)$$

$$C_2 = y_0$$

$$K_H = \frac{10 \text{ kg}}{0.25 \text{ m}}$$

$$k = \frac{13,400 \text{ kg}}{0.35}$$

$$\Sigma F = -kx$$

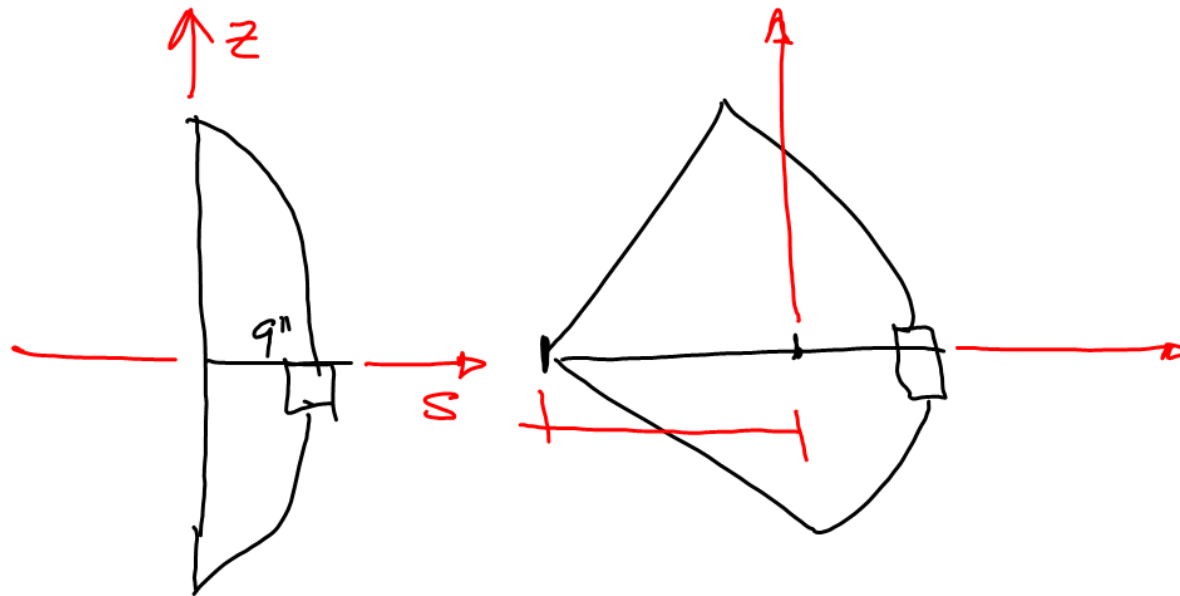
$$m_w = 0.018 \text{ kg}$$

$$F = m \frac{d^2 x}{dt^2}$$

$$m = 0.016 \text{ kg}$$

$$a_{\text{ire}} = g$$

$$l = 0.625 \text{ m}$$



$$-Kx = m \frac{d^2x}{dt^2} \quad x_0 = 0.228 - 0.62 = -0.392$$

$$-\left(\frac{13.480 \text{ kg}}{0.35 \text{ m}} \right) (x_{\text{m}}) = \left(\frac{0.016 \text{ kg}}{9.81 \frac{\text{m}}{\text{s}^2}} \right) \left(\frac{d^2x}{dt^2} \frac{\text{m}}{\text{s}^2} \right)$$

$$k_g = k_g$$