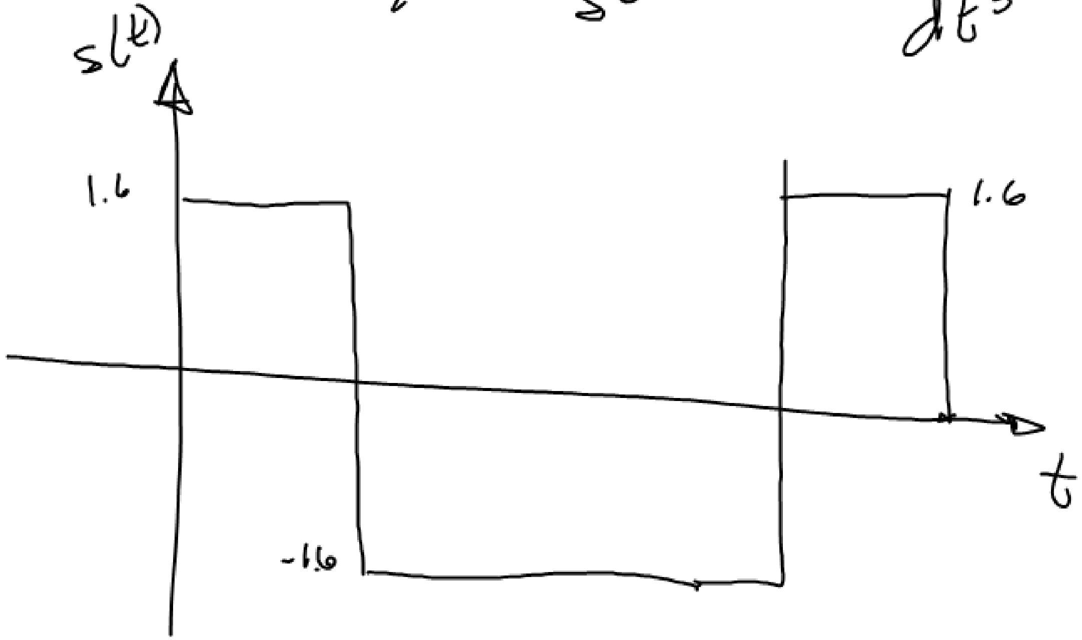
sacudida

$$s(t) = \frac{d}{dt}\left(\frac{d^2y}{dt^2}\right)$$

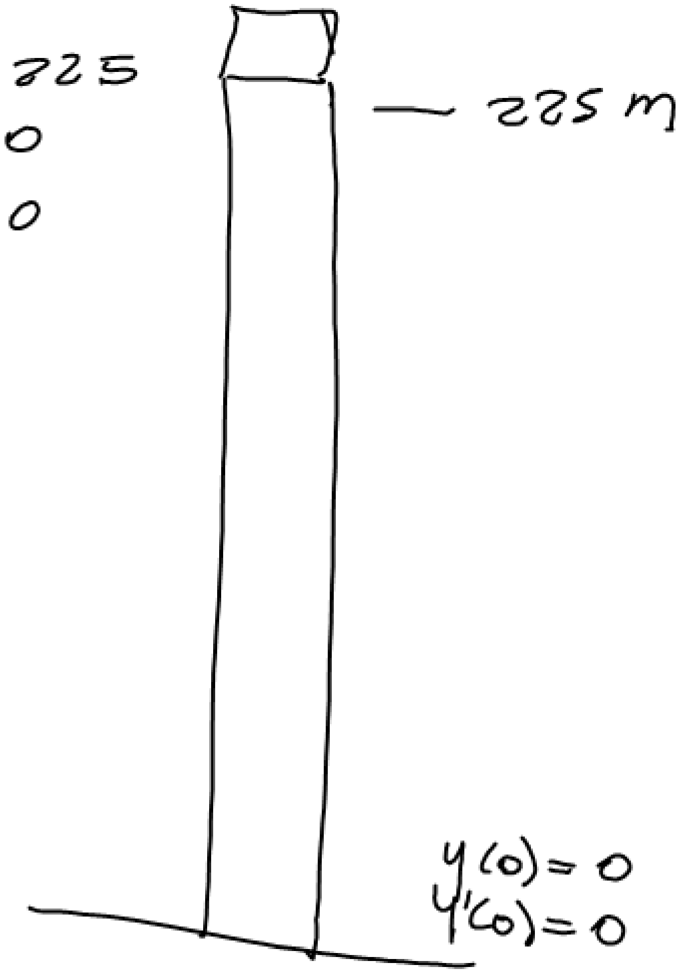
$$s(t) = 1.6\,\frac{ft}{s^3} \qquad \frac{d^3y}{dt^3} = s(t)$$



$y(t_f)=225$

$y'(0)=0$

$y''(0)=0$



$$1.6 \times \frac{0.305}{1} = 0.488$$

$$s = 0.5 \ \frac{m}{s^3}$$

$y(0)=0$

$y'(0)=0$

$y''(0)=0$

$$\frac{e^{-3s}(4s+7)}{(s^2+3s+3)^2}$$

$$\mathcal{L}^{-1}\left\{\frac{e^{-3s}}{s^2+3s+3}\cdot\frac{4s+7}{s^2+3s+3}\right\}$$

$$\mathcal{L}^{-1}\left\{\frac{e^{-3s}}{(s^2+3s+\frac{9}{4})+3-\frac{9}{4}}\right\}$$

$$\mathcal{L}^{-1}\left\{\frac{e^{-3s}}{(s+\frac{3}{2})^2+(\frac{\sqrt{3}}{2})^2}\right\}=$$

$$\frac{2}{\sqrt{3}}\mathcal{L}^{-1}\left\{\frac{e^{-3s}(\frac{\sqrt{3}}{2})}{(s+\frac{3}{2})^2+(\frac{\sqrt{3}}{2})^2}\right\}=\frac{2}{\sqrt{3}}e^{-\frac{3}{2}(t-3)}\operatorname{sen}\left(\frac{\sqrt{3}}{2}(t-3)\right)u(t-3)$$

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

exp. mat. igualada a cero.

al menos una derivada de una f. descono llamada incógnita.

$y(x)$

Sol $\begin{cases} \text{gral} - (1) \\ \text{part.} - (\infty) \\ \text{singular} - (\#) \end{cases}$

$$\frac{dy}{dx} = y^2$$

EDO(1) NL G=2

EDO(1) L CCH
CVNH.

$\longrightarrow$ $M + N\frac{dy}{dx} = 0$ EDO(1)NL.

$\longrightarrow$ $a_0(x)\frac{d^n y}{dx^n} + a_1(x)\frac{d^{n-1}y}{dx^{n-1}} + \dots\dots + a_n(x)\,y = Q(x)$

$\longrightarrow$ $\frac{dx_1}{dt} = a_{11}x_1 + a_{12}x_2 + f_1(x)$

$\frac{dx_2}{dt} = a_{21}x_1 + a_{22}x_2 + f_2(x).$

$e^{At}.$

trans. Laplace EDO(n)L.

$\longrightarrow$ EDonDP — MSV — STF.