

$$\frac{d^3 y}{dx^3} + 5x^2 \frac{d^2 y}{dx^2} + \sin(3x) \frac{dy}{dx} + 8y = 6e^{3x} \quad y(x)$$

$\xleftarrow{H} \quad \quad \quad \xrightarrow{NH}$

$\mathbb{E}DO(3), L. cv. NH.$

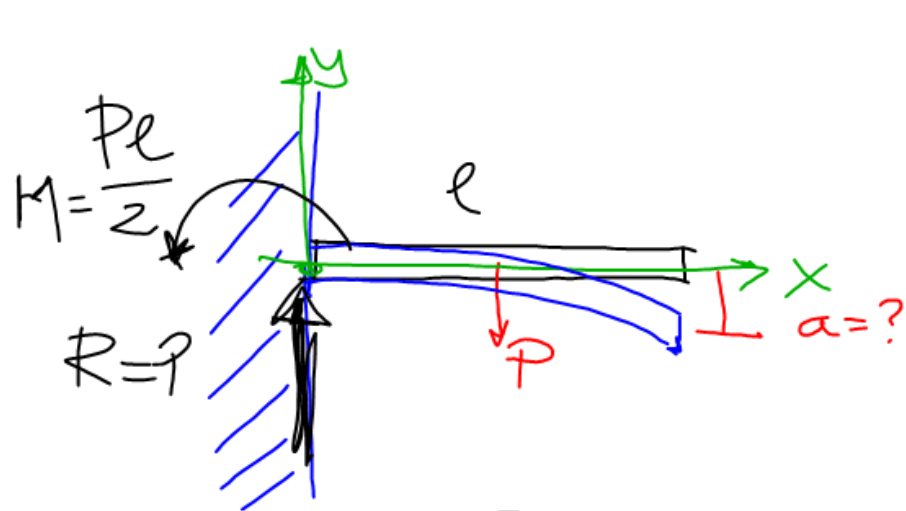
$$y(x) = \underbrace{c_1 y_1 + c_2 y_2 + c_3 y_3}_{SGH.} + y_4 \quad SPNH.$$

FLECHA	MATERIAL	PESO	LARGO	LARGO-AIRE	DISTANCIA	ALTURA
1	madera	0.016	0.62	0.39	333	85
2	madera	0.016	0.62	0.39	333	85
3	alumnio	0.021	0.67	0.44	323	82
4	alumnio	0.03	0.67	0.44	227	58
5	alumnio	0.029	0.71	0.48	280	71
6	madera	0.02	0.72	0.49	423	107
8	alumnio	0.031	0.82	0.59	393	100
9	plástico	0.032	0.77	0.54	320	82
10	alumnio	0.021	0.74	0.51	436	110
12	madera	0.03	0.78	0.55	355	90
7	alumnio	0.024	0.72	0.49	351	89

Soluciones

S { (1) Solución General EDO.
condiciones { iniciales
frontera
(∞) Solución particular

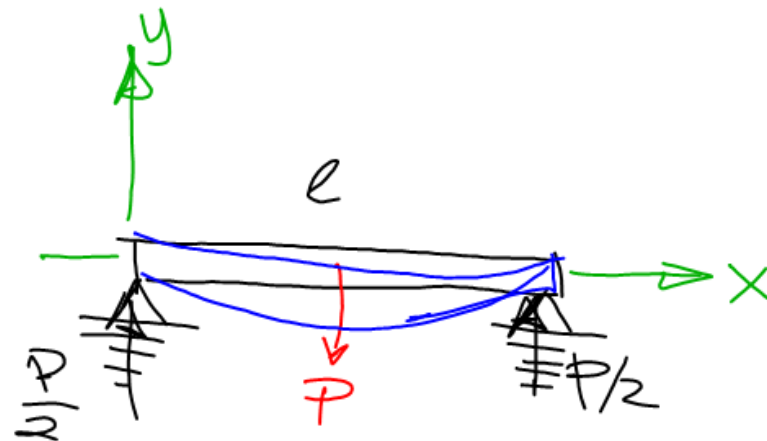
NL - soluciones singulares



$$\begin{aligned}
 y(0) &= 0 \\
 y'(0) &= 0 \\
 y''(0) &= P \\
 y'''(0) &= -\frac{Pl}{2}
 \end{aligned}$$

$$\boxed{\frac{d^4 y}{dx^4} = 0}$$

COND. INICIAL



$$\begin{aligned}
 y(0) &= 0 \\
 y''(0) &= \frac{P}{2}
 \end{aligned}$$

$$\begin{aligned}
 y(l) &= 0 \\
 y''(l) &= \frac{P}{2}
 \end{aligned}$$

COND FRONTERA

$$2 \cdot y \cdot (y' + 2) - x \cdot (y')^2 = 0 \quad y(x)$$

EDO (1) NL

(SG)

$$y = \frac{(c-x)^2}{c} \quad y' = \frac{-1}{c} 2(c-x)$$

$$2 \left(\frac{(c-x)^2}{c} \right) \left(\frac{-2}{c} (c-x) + 2 \right) - x \left(\frac{-2}{c} (c-x) \right)^2 = 0$$

$$\left(\frac{(c-x)^2}{c} \right) \left(-\frac{4}{c} (c-x) + 4 \right) - x \left(\frac{4}{c^2} (c-x)^2 \right) = 0$$

$$-\frac{4(c-x)^3}{c^2} + 4 \frac{(c-x)^2}{c} - x \frac{4}{c^2} (c^2 - 2cx + x^2) = 0$$

- 4