JOSE MIGUEL ALFARO PEREZ

PEDRO ALBERTO GARCIA LOPEZ

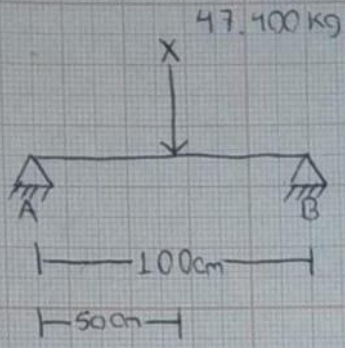
RESISTENCIA DE MATERIALES DE CONSTRUCCION

CUATRIMESTRE: 4°

LICENCIATURA EN ARQUITECTURA

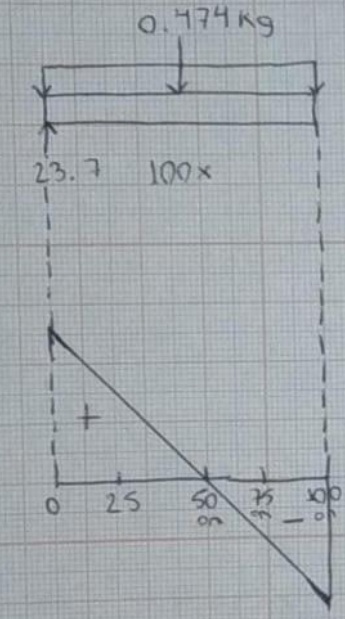
Esfuerzos y deformaciones

José Miguel Alfaro Pérez



② $R_A = R_B \rightarrow \frac{qL}{2} \quad \frac{47.400}{2} = 23.7$

$\frac{47.400\ kg/cm\ (50\ cm)}{2} = 1,185\ kg$



③ Ecuación cortante

$\Sigma F_y = 0$

$23.7 - 0.474\ kg/cm\ (x)$

$V = 1,185\ kg - [0.474\ kg/cm\ (x)]$

$V = 23.7\ kg - [0.474\ kg/cm\ (x)] = 23.7\ kg$

$V = 23.7\ kg - [0.474\ kg/cm\ (25)] = 11.85\ kg$

$V = 23.7\ kg - [0.47\ kg/cm\ (50)] = 0$

$V = 23.7\ kg - [0.47\ kg/cm\ (75)] = -11.85\ kg$

$V = 23.7\ kg - [0.47\ kg/cm\ (100) = -23.7$

$-23.7\ kg - [0.474\ kg/cm\ (x^2) - A = 0$

$-23.7\ kg - \frac{(0.697\ /cm\ (x^2)}{2} = 0$

$M = 23.7\ kg - [0.236\ kg/cm\ (x)^2 = 0$

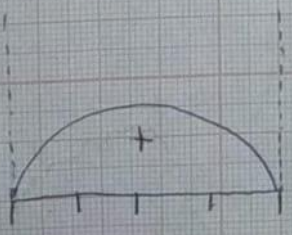
$M = 592.5\ kg - [0.236\ kg/cm\ (25)^2 = 445$

$M = 1,185\ kg - [0.236\ kg/cm\ (50)^2 = 595$

$M = 1777\ kg - [0.236\ kg/cm\ (75)^2 = 445.5$

$M = 2,370\ kg - [0.236\ kg/cm\ (100)^2 = 10$

x	0	25	50	75	100
V	23.7	11.85	0	11.85	23.7



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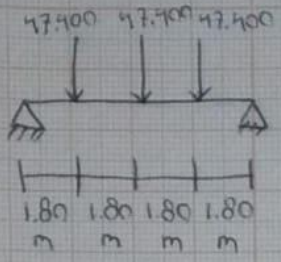

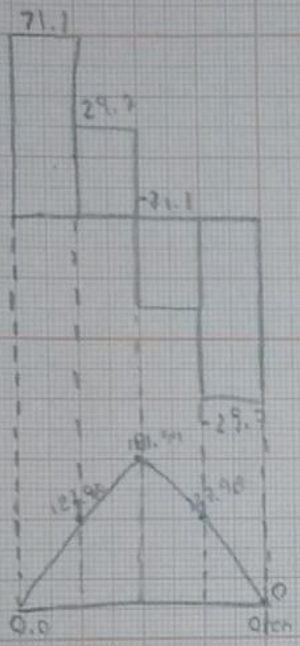

① Reacciones

$RA = RB = \frac{3\ P}{2}$

$RA = RB = \frac{3(47.400\ kilos)}{2}$

$RA = RB = 71.1$

$0 + (1.80 \times 71.1\ kilos) = 127.98$

$127.98 + (1.80 \times 29.7\ kilos) = 181.44$

$181.44\ kilos(1.80x - 29.7) = 127.98$

$127.98 + (1.80x - 71.1) = 0$

$n =$

$n = \frac{47,400(7.2)}{2} = 170.64$