NOMBRE DEL ALUMNO: Gari Daniel Tinajero Altúzar

NOMBRE DEL TEMA: CENTROIDES Y MOMENTOS DE INERCIA.

PARCIAL: 3

NOMBRE DE LA MATERIA: RESISTENCIA DE MATERIALES DE CONSTRUCCION

NOMBRE DEL PROFESOR: PEDRO ALBERTO GARCIA LOPEZ

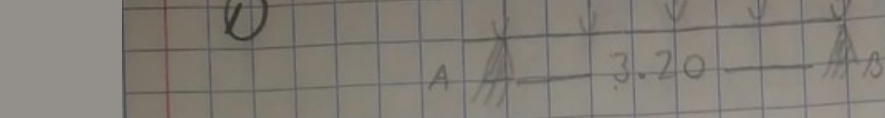
LICENCIATURA: Arquitectura

CUATRIMESTRE: 4

Gari Daniel Tinajero Alfaro 12-11-23

plataforma 3.75 t/m

①



① $\sum$ 3.75 t/m (3.20 m) = 12 ton

② RA RB = $\rightarrow \frac{9t}{2}$ $\frac{3.75(3.20)}{2}$

= 6 ton

Ecuación cortante

$\sum F_y = 0$

$6\,ton - 3.75\,t/m\,(x) - V = 0$

$V = 6\,ton - [3.75\,t/m\,(x)]$

$\sum M = 0$

$-6\,ton(x) + [3.75\,t/m(x)(x/2)] + m = 0$

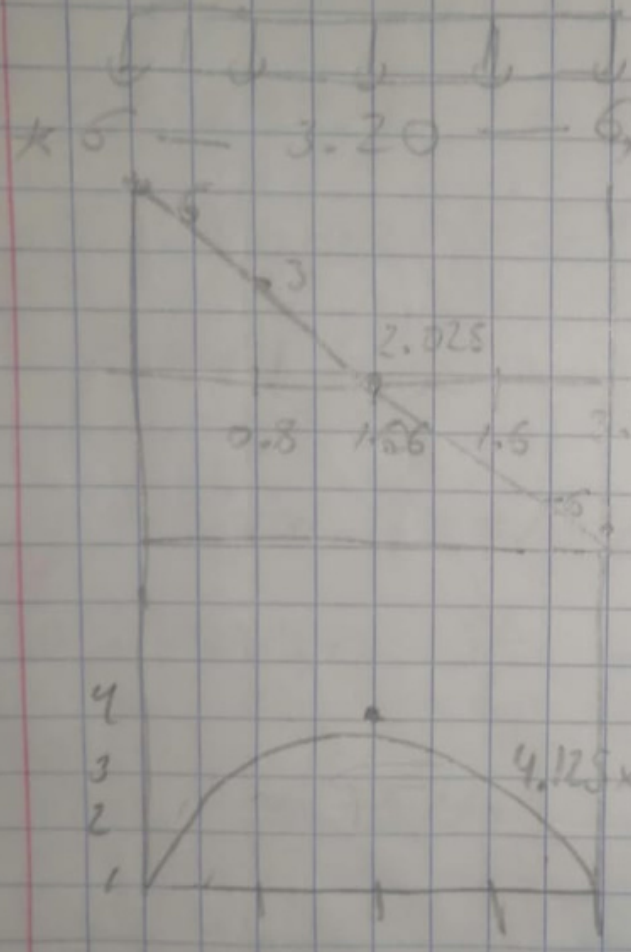
$-6\,ton(x) + \frac{3.75\,t/m\,x^2}{2} + m = 0$

$-6\,ton(x) + 1.875x^2 - M = 0$

$V = 6 t/m - [3.75 t/m(x)]$

$M_1 = 6 t/m(x) - 1.875 t/m(x^2)$

$= 4.125x$



$V = 6 t - [3.75 t/m(0)] = 6$

$V = 6 t - [3.75 t/m(0.8)] = 3$

$V = 6 t - [3.75 t/m(1.06)] = 2.025$

$V = 6 t - [3.75 t/m(3.2)] = 6$

x	0	0.8	1.6	2.4	3.2
V	6	3	0	-3	-6
M	0	3.6	4.8	3.6	0

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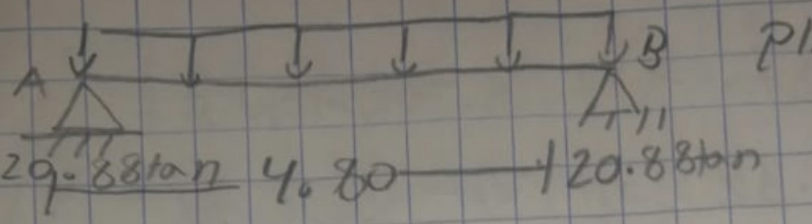
8.70 t/m

① plataforma



$\Sigma F_y = 0$

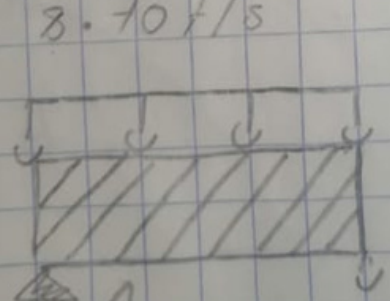
$20.88\,ton - [8.70\,t/m(x)] - V = 0$

$V = 20.88\,ton - [8.70\,t/m(x)]$

$\Sigma m = 0$

$q(L) = 8.70\,t/m(4.80m) = 41.76\,ton$

$R_A = R_B \rightarrow \frac{qL}{2} \Rightarrow \frac{41.76}{2} = 20.88\,ton$

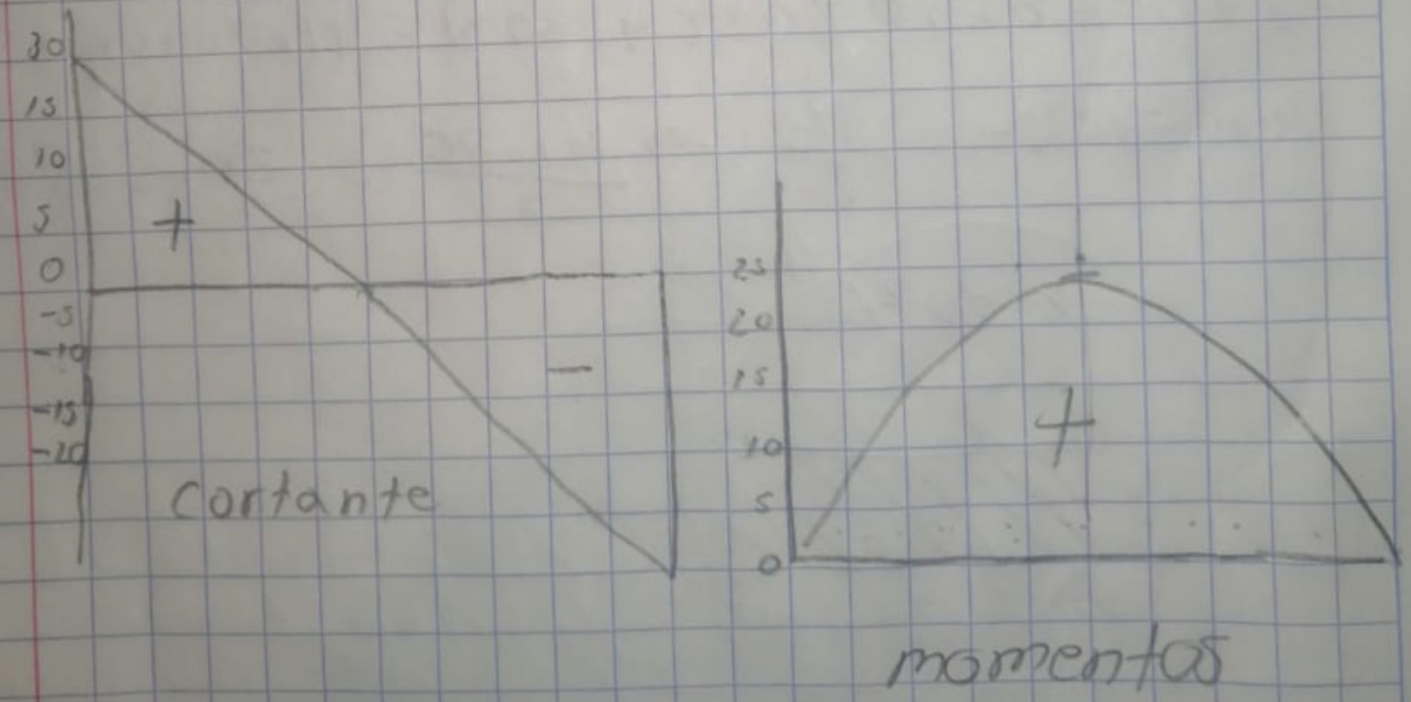


$-20.88\,ton(x) + [8.70\,t/m(x)\,\frac{x}{2}] + m = 0$

$m = 20.88\,ton(x) - \frac{8.70\,t/m\,(x)^2}{2}$

$M = 20.88\,ton(x) - 4.35\,t/m(x)^2$

X	0	1.20	2.40	3.60	4.80
V	20.88	10.44	0	-10.44	-20.88
M	0	18.79	25.05	18.79	0



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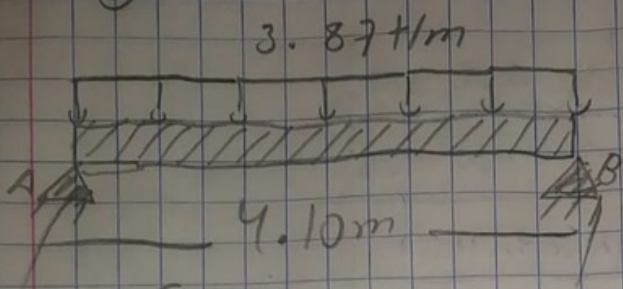
plataforma

③



$\Sigma F_x = 0$

$12.03\ ton - [5.87\ t/m\ (x)] - v = 0$

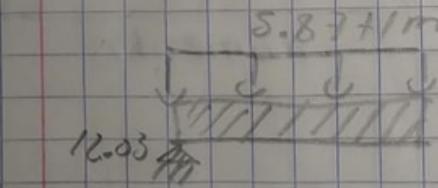
$v = 12.03\ ton - [5.87\ t/m\ (x)]$

$\Sigma m = 0$

$q\ (L) = 5.87\ t/m\ (4.10\ m) = 24.067\ ton$

$12A = RB$

$\frac{q\ (L)}{2} = \frac{24.067}{2} = 12.03\ ton$



$\circlearrowright + 12.03\ ton\ (x) + [5.87\ t/m\ (x)\ (\frac{x}{2})] + m = 0$

$m = 12.03\ ton\ (x) - [\frac{5.87\ t/m\ (x)^2}{2}]$

$m = 12.03\ ton\ (x) - [2.935\ t/m\ (x)^2]$

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X	0	1.025	2.05	3.075	4.200
V	12.08	6.013	0	-6.013	-12.03
M	0	9.247	12.36	9.247	0