UDS

Mi Universidad

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Nombre del tema : Ejercicios

Parcial : 3

Nombre de la Materia: Resistencia de materiales

Nombre del profesor: Pedro Alberto García López

Nombre de la Licenciatura: Arquitectura

Cuatrimestre: 4

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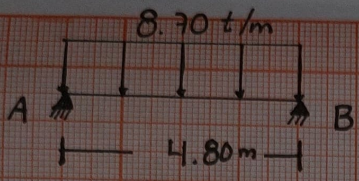


$qL = 8.70\ t/m\ (4.80m) = 41.76\ t$

$RA = RB \rightarrow \frac{qL}{2}$

$\frac{8.70\ t/m\ (4.80m)}{2} = 20.88\ ton$

Ecuacion Cortante

$\sum FY = 0 \quad 20.88\ t - 8.70\ t/m\ (x) - V = 0$

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

Ecuación Momentos

$\sum M = 0 \quad -20.88\ ton\ (x) + [8.70\ t/m\ (x)\ (x/2)] + M = 0$

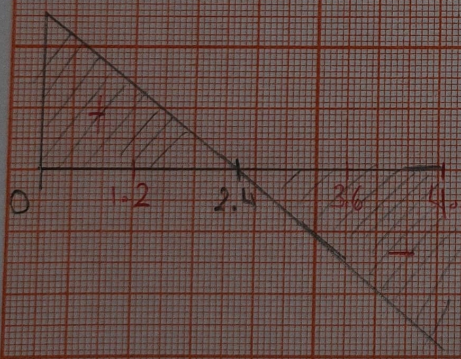
$-20.88\ ton\ (x) + \frac{8.70\ t/m\ x^2}{2} + M = 0$

$-20.88\ ton(x) + 4.35\ x^2 + M = 0$

$M = 20.88\ ton\ (x) - 4.35\ (x^2)$

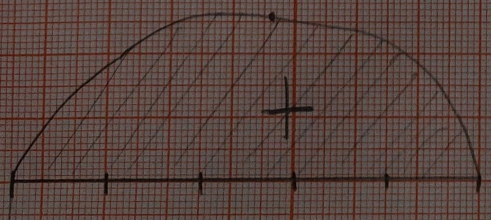
Grafica Cortante

X	0	1.2	2.4	3.6	4.8
V	20.88	10.44	0	-10.44	-20.88



Grafica de Momento

X	0	1.2	2.4	3.6	0
M	0	18.792	23.05	18.792	0



Rayter

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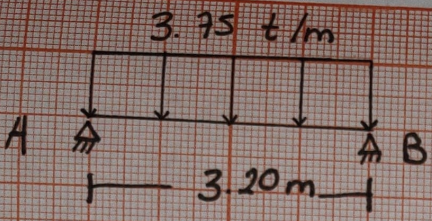


$qL = 3.75\,t/m\,(3.20m) = 12\ ton$

$RA = RB \rightarrow \frac{qL}{2}$

$\frac{3.75\,t/m\,(3.20m)}{2} = 6\ ton$

$\sum F_Y = 0$

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

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

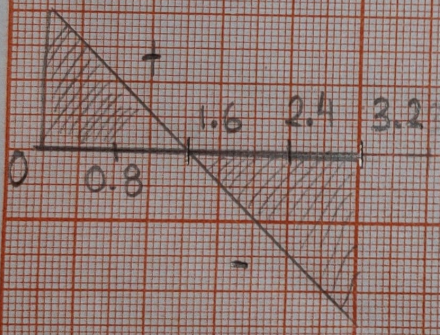
$\sum M$

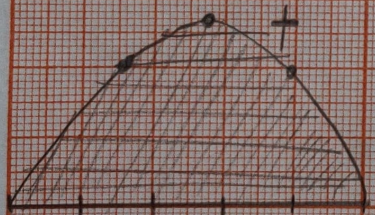
$-6\ ton\,(x) + [3.75\,t/m\,(x)\,(x/2)] + M = 0$

$M = 6\ ton\,(x) - 1.875\,t/m\,(x^2)$

Grafica Cortante

X	0	0.8	1.6	2.4	3.2
V	6	3	0	-3	-6





Grafica de momento

X	0	0.8	1.6	2.4	3.2
M	0	3.6	4.8	3.6	0

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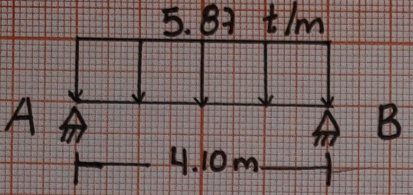


$9L = 5.87\ t/m\ (4.10m) = 24.067\ t$

$RA = RB - \frac{9t}{2} = \frac{5.87\ t/m\ (4.10m)}{2} = 12.03\ ton$

$\sum F_Y = 0$

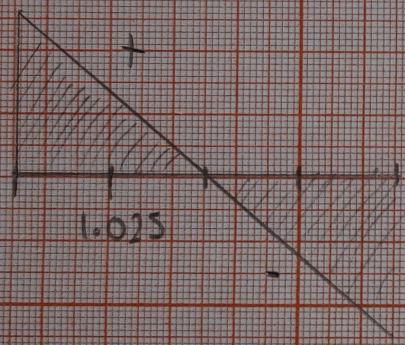
$12.03\ ton - 5.87\ t/m\ (x) - V = 0$

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

$\sum M = 0$

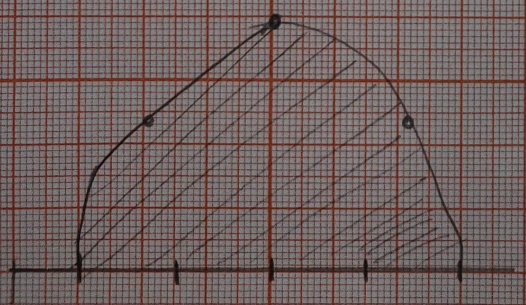
$-M = 12.03\ ton\ (x) - 2.935\ (x^2)$

Grafica de Cortante



X	0	1.025	2.05	3.075	4.1
V	12.03	6.016	0	-6.016	-12.03

Grafica de Momento



X	0	1.025	2.05	3.075	4.1
M	0	9.23	11.74	9.2307	0

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