RESISTENCIA DE MATELIADES DE CONSTRUCCIÓN

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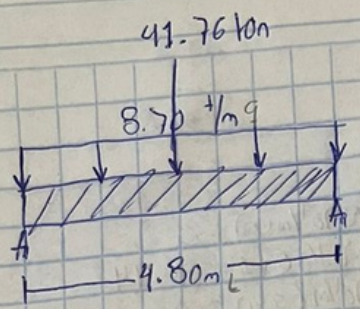
12 DE NOVIEMBRE DEL 2023

4TO CUATRIMESTRE

UDS
Mi Universidad

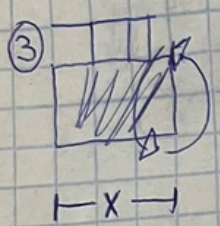


① $q(L)$

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

②

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



④ $\Sigma F_Y = 0$

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

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

⑤

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

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

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

$V = 20.88\ln - [8.3\ln(x)]$

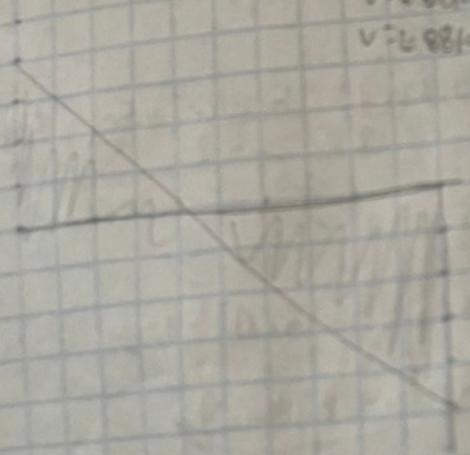
$A = 20.88\ln \cdot x - [4.35\ln(x^2)]$

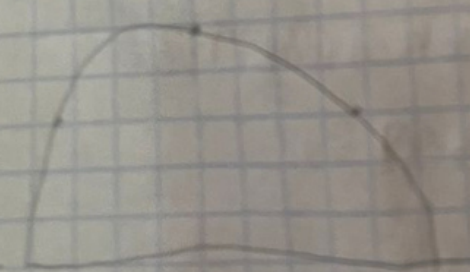
$V = 20.88\ln - [8.3\ln(0)] = 0$

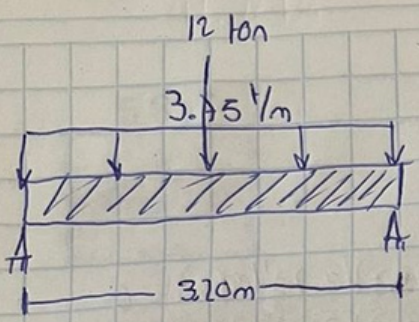
$V = 20.88\ln - [8.3\ln(12)] = 10.94$

$V = 20.88\ln - [8.3\ln(7.4)] = 0$

$V = 20.88\ln - [8.3\ln(3.6)] = 0.44$







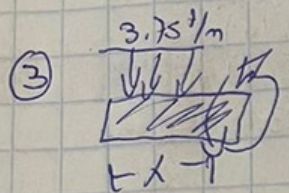
① $q(L)$

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

②

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

③



④ $\Sigma F_Y = 0$

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

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

⑤ $\Sigma M = 0$

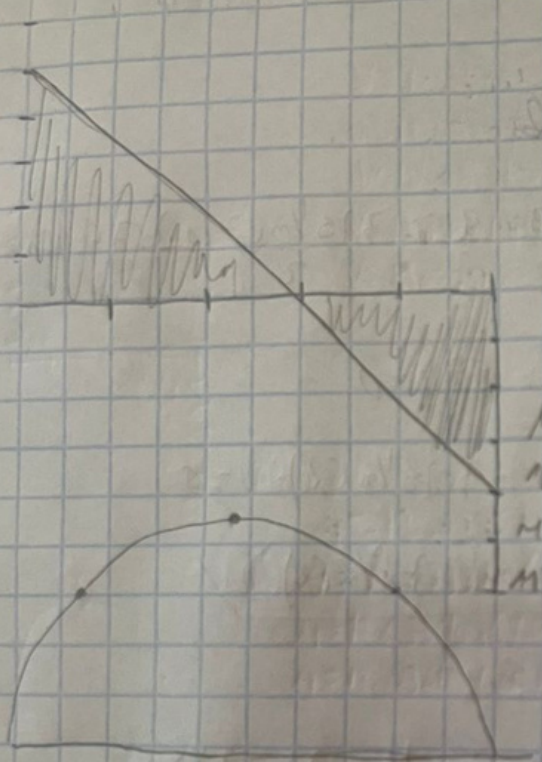
$-6\ ton\ (x) + [3.75\ t/m\ (x)\ (x/2)] + M = 0$

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

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

$V = 6\ln - [3.7 s^{1/n}(x)]$

$M = 6\ln(x) - 1.87 s^{1/n}(x^2)$



$V = 6\ln - [3.7 s^{1/n}(0)] = 0$

$V = 6\ln - [3.7 s^{1/n}(0.8)] = 3$

$V = 6\ln - [3.7 s^{1/n}(1.6)] = 0$

$V = 6\ln - [3.7 s^{1/n}(2.4)] = -3$

$V = 6\ln - [3.7 s^{1/n}(3.2)] = -6$

$M = 6\ln(0.8) - 1.87 s^{2/n}(0.8^2) = 3.6$

$M = 6\ln(1.6) - 1.87 s^{2/n}(1.6^2) = 4.8$

$M = 6\ln(2.4) - 1.87 s^{2/n}(2.4)^2 = 3.6$

$M = 6\ln(3.2) - 1.87 s^{2/n}(3.2) = 0$

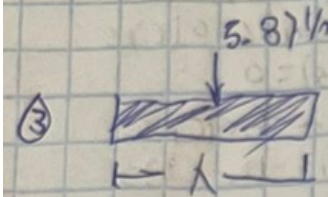
① qL

$5.87\ k/m\ (4.10m) = 24.067\ k$

② $\Sigma F_Y = 0$

$R_A = R_B = \frac{qL}{2}$

$\frac{5.87\ k/m\ (4.10m)}{2} = 12.0335\ k$



④ $\Sigma F_Y = 0$

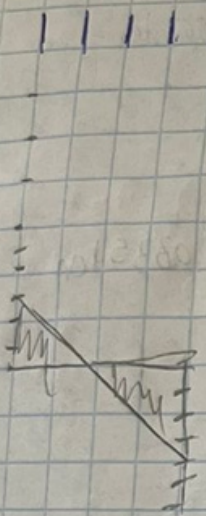
$12.0335k - [5.87\ k/m\ (x)] = V = 0$

$V = 12.0335k - [5.87\ k/m\ (x)]$

⑤

$-12.0335 - [5.87\ k/m\ (x)\ (x/2)]\ k\text{-}m = 0$

$-12.0335 \cdot (x) + \frac{5.87\ k/m\ (x^2)}{2} = 0$



$V = 12.0335\ kN - [5.8]\ kN(0) = 12.0335$
$V = 12.0335\ kN - [5.8]\ kN(1.025m) = 6.0175$
$V = 12.0335\ kN - [5.8]\ kN(2.05) = 0$
$V = 12.0335\ kN - [5.8]\ kN(3.075) = -6.0175$
$V = 12.0335\ kN - [5.8]\ kN(4.1m) = -12.0335$

$M = 12.0335\ kN(0) - 2.935\ kN(0)^2 = 0$
$M = 12.0335\ kN(1.025) - 2.935\ kN(1.025)^2 = 9.2501$
$M = 12.0335\ kN(2.05) - 2.935\ kN(2.05)^2 = 12.3343$
$M = 12.0335\ kN(3.075) - 2.935\ kN(3.075)^2 = 9.2501$