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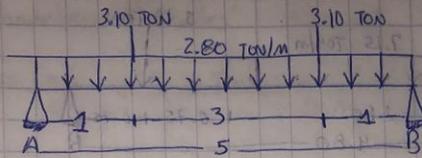
Nombre del trabajo: Momentos 2

Materia: Resistencia De Materiales II

Grado: 2do

Grupo: "A"

Comitán de Domínguez Chiapas a 14 de OCTUBRE de 2021.



$$+ M = f \cdot a \rightarrow 3.10 \text{ TON} (1\text{m}) = 3.10 \text{ TON}\cdot\text{m} \#$$

$$+ M = \frac{1}{8} q L^2 \rightarrow \frac{1}{8} (2.80 \text{ TON/m}) (5\text{m})^2 = 8.75 \text{ TON}\cdot\text{m} \#$$

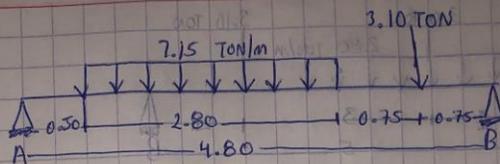
$$+ \Sigma = M_1 + M_2 \rightarrow 3.10 \text{ TON}\cdot\text{m} + 8.75 \text{ TON}\cdot\text{m} = 11.85 \text{ TON}\cdot\text{m} \#$$

Reacciones En Apoyo

$$+ R_A = R_B = f \rightarrow R_A = R_B = 3.10 \text{ TON} \#$$

$$+ R_A = R_B = \frac{qL}{2} \rightarrow \frac{2.80 \text{ TON/m} (5\text{m})}{2} = \frac{14 \text{ TON}}{2} \rightarrow 7 \text{ TON} \#$$

$$+ \Sigma A + \Sigma B \rightarrow 7 \text{ TON} + 3.10 \text{ TON} = 10.1 \text{ TON} \#$$



"Momentos Distribuidos"

$$M = \frac{1}{8} \cdot (7.15 \text{ TON/m}) \cdot (4.80 \text{ m})^2 = 20.592 \text{ TON}$$

"Momentos Distribuidos" $a = 1.9$ $b = 2.9$ $c = 1.4$

$$q = 7.15 \quad l = 4.80$$

$$M = 2qac \left(\frac{b-c}{l} + \frac{ac}{l^2} \right)$$

$$M = 2(7.15 \text{ TON/m})(1.9 \text{ m})(1.4 \text{ m}) \left(\frac{2.9 \text{ m} - 1.4 \text{ m}}{4.80 \text{ m}} + \frac{(1.9 \text{ m})(1.4 \text{ m})}{4.80^2 \text{ m}^2} \right) =$$

$$38.038 \text{ TON} \cdot \left(\frac{1.5 \text{ m}}{4.80 \text{ m}} + \frac{0.2066 \text{ m}}{4.80 \text{ m}} \right) = 38.038(0.3125 + 0.11545/3.88) =$$

$$+ 38.038(0.42795/3.88) = 16.2384/4.8 \text{ TON} //$$

"Reacciones Distribuidas"

$$+ R_A = \frac{2qc(1-a)}{2} = 2(7.15 \text{ TON/m})(1.4)(4.8 \text{ m} - 1.9 \text{ m})/4.8 = 12.0954 //$$

$$+ R_B = \frac{2qc(1-b)}{2} = 2(7.15 \text{ TON/m})(1.4)(4.8 - 2.9)/4.8 = 7.9245 //$$

"Momentos Puntuales" $F = 3.10$
 $a = 4.05$ $b = 0.75$ $L = 4.8$

$$M = \frac{F \cdot a \cdot b}{L} \rightarrow \frac{3.10 \text{ TON} (4.05 \text{ m}) (0.75 \text{ m})}{4.8 \text{ m}} = 1.96171875 \text{ TON} \cdot \text{m} \#$$

"Reacciones Puntuales"

$$R_A = \frac{F \cdot b}{L} = \frac{(3.10 \text{ TON}) (0.75 \text{ m})}{4.8 \text{ m}} = 0.484375 \text{ TON}$$

$$R_B = \frac{F \cdot a}{L} = \frac{(3.10 \text{ TON}) (4.05 \text{ m})}{4.8 \text{ m}} = 2.615625 \text{ TON}$$