



## Ejercicios

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*Nombre del tema :*

*Parcial : 3*

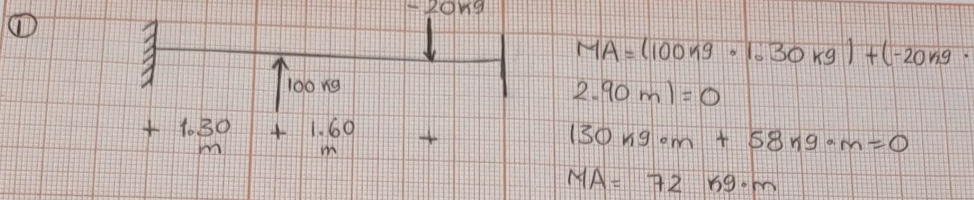
*Nombre de la Materia : Estática para la arquitectura*

*Nombre del profesor: Pedro Alberto García López*

*Nombre de la Licenciatura: Arquitectura*

*Cuatrimestre: 3*

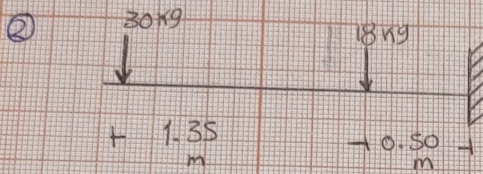
Resendiz Salazar Frida Lizbeth



$$MA = (100 \text{ kg} \cdot 1.30 \text{ m}) + (-20 \text{ kg} \cdot 2.90 \text{ m}) = 0$$

$$130 \text{ kg} \cdot \text{m} + 58 \text{ kg} \cdot \text{m} = 0$$

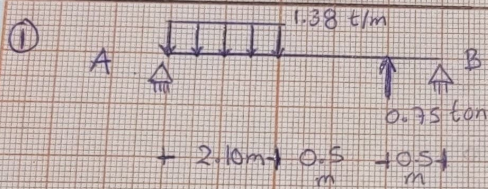
$$MA = 72 \text{ kg} \cdot \text{m}$$



$$MA = (-18 \text{ kg} \cdot 0.50 \text{ m}) + (-30 \text{ kg} \cdot 1.85 \text{ m}) = 0$$

$$(-9 \text{ kg} \cdot \text{m}) + (-55.5) = 0$$

$$MA = -64.5 \text{ kg} \cdot \text{m}$$



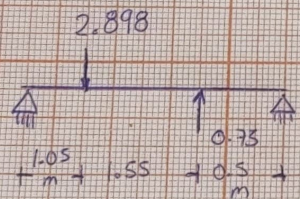
$$A: P = w \cdot L$$

$$UP = L/2$$

$$P = 1.38 \text{ t/m} \cdot 2.10 \text{ m}$$

$$P = 2.898 \text{ ton}$$

$$UP = 2.10/2 = 1.05 \text{ m}$$



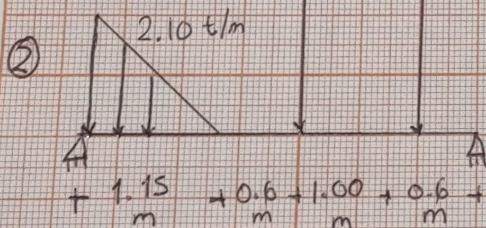
$$MB = (0.75 \cdot 2.6)$$

$$MB = 1.95 \text{ ton}$$

$$MA = (2.898 \cdot 1.05) - (0.75 \cdot 2.6 \text{ m})$$

$$MA = -3.042 - 1.95$$

$$MA = -1.098 \text{ ton}$$



$$P = w \cdot L / 2$$

$$UP = L/3$$

$$1/3 \cdot 1.90$$

$$UP = 1.15/3 = 0.383 \text{ m}$$

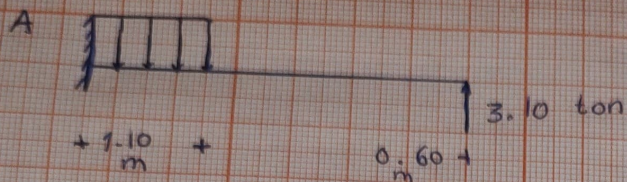
$$P = \frac{2.10 \text{ t/m} \cdot 1.15 \text{ m}}{2}$$

$$P = 1.207 \text{ ton}$$

$$MA = (1.207 \text{ ton} \cdot 0.383) - (1.05 \cdot 1.75)$$

$$= 0.462 - 1.837 - 2.287$$

$$MA = -5.86 \text{ ton} \cdot \text{m}$$



$$MB = 13.10 \cdot 1.91$$

$$MB = 5.27 \text{ ton}$$

$$MA = -1.3009 + 5.27$$

$$MA = 3.969 \text{ ton} \cdot \text{m}$$

$$P = w \cdot L$$

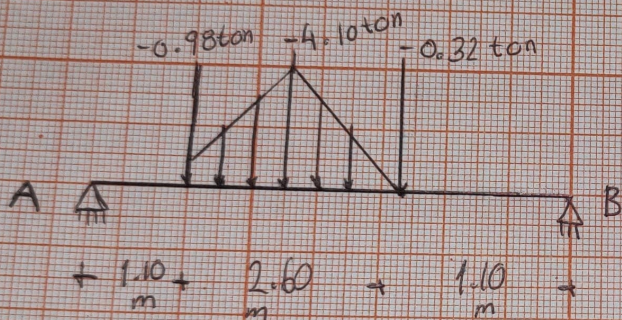
$$UP = L/2$$

$$P = -2.15 \text{ ton} - 1.10 \text{ m} =$$

$$P = -2.365 \text{ ton}$$

$$UP = 1.10 / 2 = 0.55 \text{ m}$$

②



$$RA = 0.98 - 5.33 - 0.32 + 3.13$$

$$= -3.49$$

$$RA = 3.49 \text{ ton}$$

$$P = \frac{w \cdot L}{2}$$

$$UP = L/2$$

$$P = \frac{-4.10 \text{ ton} \cdot 2.60}{2}$$

$$P = -5.33 \text{ t} \cdot \text{m}$$

$$UP = 2.60 \text{ m} / 2 = 1.30 \text{ m}$$

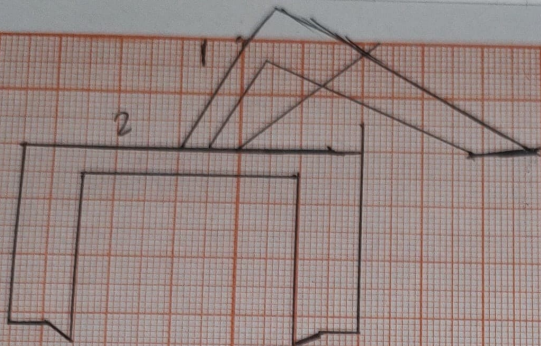
$$MA = (-0.98 \cdot 1.1) + (-5.33 \cdot 2.4) + (-0.32 \cdot 3.7) + RB \cdot 4.8$$

$$MA = -1.078 - 12.792 - 1.184 +$$

$$RB \cdot 4.8$$

$$MA = -15.054 + RB \cdot 4.8$$

$$RB = 3.13 \text{ ton}$$



$$p = w \cdot L$$

$$UP = L/2$$

①

$$MA = (8.42 \text{ ton} \cdot 2.025) + (1.05 \text{ ton} \cdot 3 \text{ m}) \quad (RB \cdot 4.05)$$

$$MA = 17.058 \text{ ton} + 3.15 \text{ ton} + RB \cdot 4.05 =$$

$$MA = \frac{20.208}{4.05} = 4.98 \text{ ton} = RB$$

$$\sum F_y = 0 \quad RA - 8.424 \text{ ton} - 1.05 \text{ ton} + 4.989 \text{ ton} = 4.485$$

$$4.483 - 8.424 - 1.05 + 4.989 = 0$$

$$RA = -9.985 = 0$$

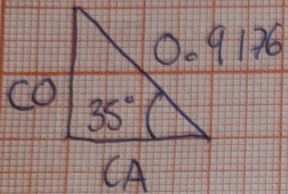
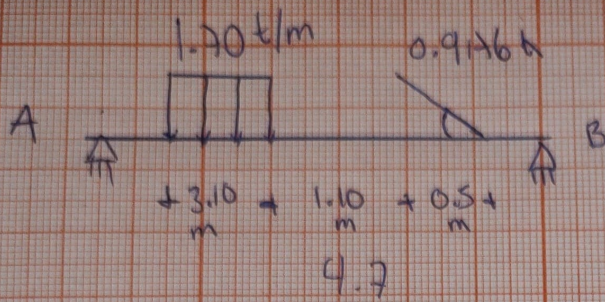
②

$$MA = (-8.93 \text{ ton} \cdot 2.10 \text{ m}) + RB \cdot 4.20 \text{ m}$$

$$MA = -18.7677 = RB = 9.685 \text{ ton}$$

$$\sum F_y = RA = -8.937 + 9.4685 = 4.4685 \text{ ton}$$

$$\sum F_y = 4.4685 \text{ ton} - 8.937 \text{ ton} + 4.446 \text{ ton} = 0$$



$$\text{Sen } \theta = CO/H$$

$$CO = 5.0 \text{ (H)}$$

$$y = \text{Sen } 35^\circ (0.9176)$$

$$= 0.5259 \text{ ton}$$

$$\text{Cos } \theta = CA/H$$

$$x = CA = (\text{Cos } 35^\circ \cdot 10.9176)$$

$$= 0.7511 \text{ ton}$$

$$M_A = [5.27 \text{ ton} \cdot 1.55]$$

$$+ [0.5259 \text{ ton} \cdot (4.2)] + R_B(4.7)$$

$$8.1685 \text{ t/m} + 2.20878 + R_B \cdot 4.7$$

$$w \cdot L = 1.70 \cdot 3.10 = 5.27$$

$$R_B = 10.37728 \text{ ton} \cdot \text{m} / 4.7 \text{ m}$$

$$OP = L/2 = 3.10/2 = 1.55$$

$$R_B = 2.2079 \text{ ton}$$

$$R_A = -5.27 - 0.7802 + 2.2079 = + 3.8423 \text{ ton}$$

$$R_A = -5.27 - 0.7802 + 2.2079 + 3.8423 = 0$$