



**Mi Universidad**

## **Trabajo Virtual**

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*Nombre del tema: Trabajo Virtual*

*Parcial: 3*

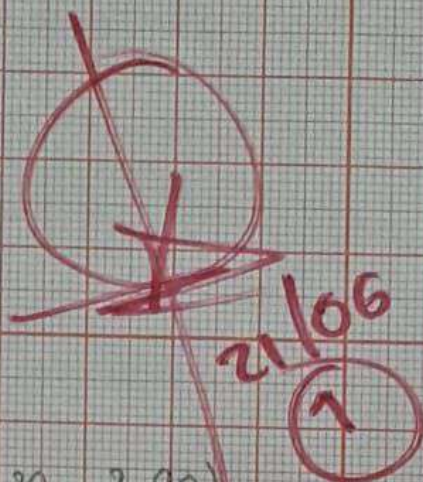
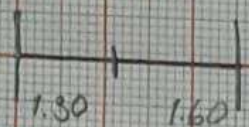
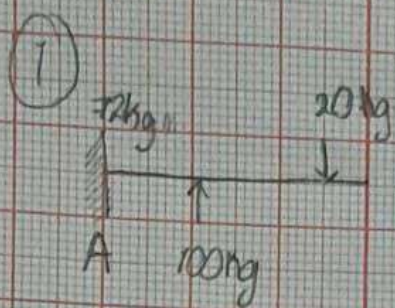
*Nombre de la Materia: Estática para la Arquitectura*

*Nombre del profesor: Pedro Alberto Garcia Lopez*

*Nombre de la Licenciatura: Arquitectura*

*Cuatrimestre: Tercer Cuatrimestre*

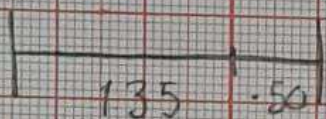
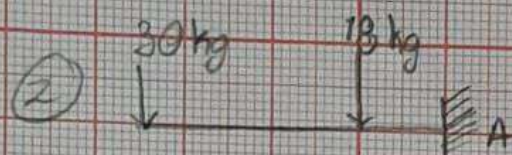
*Comitán de Domínguez a 07 de julio del 2023.*



$$M_A = (100 \cdot 1.30) + (-20 \cdot 2.90)$$

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

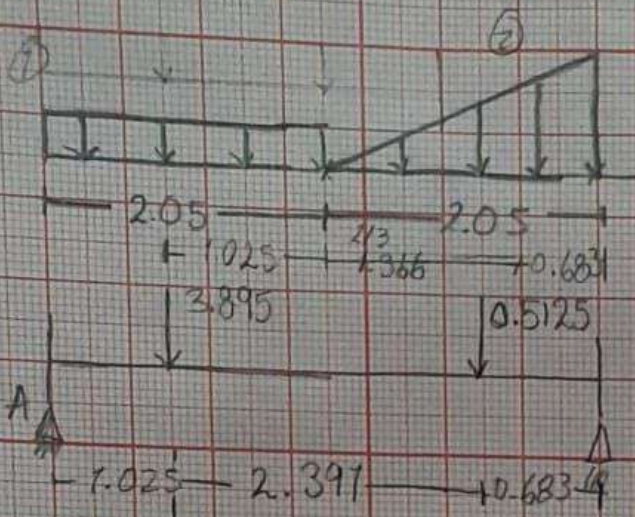
$$M_A = 72 \text{ kg} \cdot \text{m} \checkmark$$



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

$$9 \text{ kg} \cdot \text{m} + 55.5 \text{ kg} \cdot \text{m}$$

$$M_A = 64.5 \text{ kg} \cdot \text{m} \checkmark$$



$$P = w \cdot L$$

$$UP = L/2$$

$$P = 1.901/m \cdot 2.05m = 3.895 \text{ ton}$$

$$UP = 2.05/2 = 1.025 \text{ m}$$

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

$$P = 0.51/m \cdot 2.05m$$

$$P = 0.5125 \text{ ton}$$

$$UP = L/3 = 1/3(90^\circ)$$

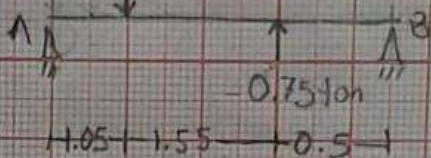
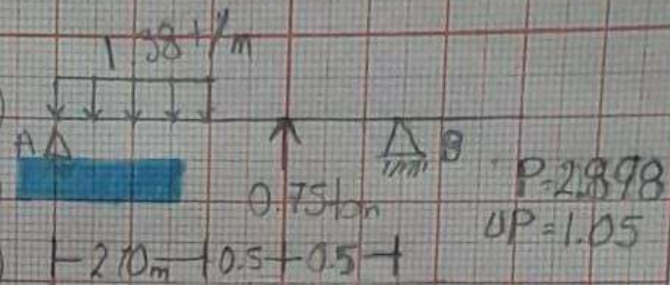
$$UP = 2.05/3 = 0.683 \text{ m}$$

$$MA = -(3.895 \cdot 1.025) + (-0.5125 \cdot 3.416)$$

$$MA = 3.992 \text{ ton} \cdot \text{m} - 1.750 \text{ ton} \cdot \text{m}$$

$$MA = -5.742 \text{ ton} \cdot \text{m}$$

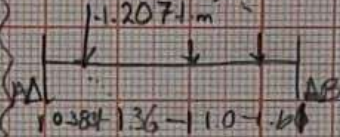
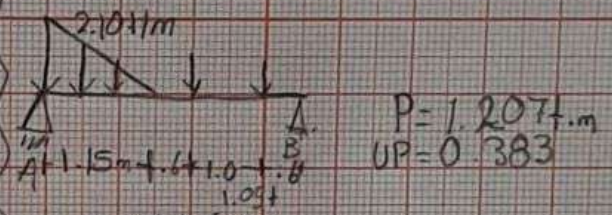
2



$$MA = (-2.898 \cdot 1.05) + (0.75 \cdot 2.6)$$

$$= -3.0427 + 1.95 \text{ t} \cdot \text{m}$$

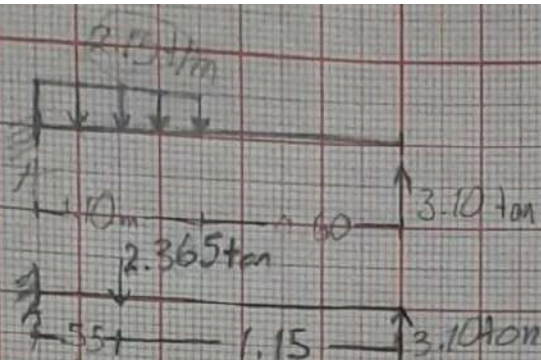
$$MA = -1.0927 \text{ t} \cdot \text{m}$$



$$MA = (-1.207 \cdot 0.383) + (1.05 \cdot 1.75) + (1.05 \cdot 2.75)$$

$$MA = -0.45 - 1.83 - 2.88$$

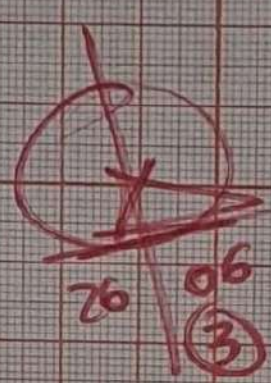
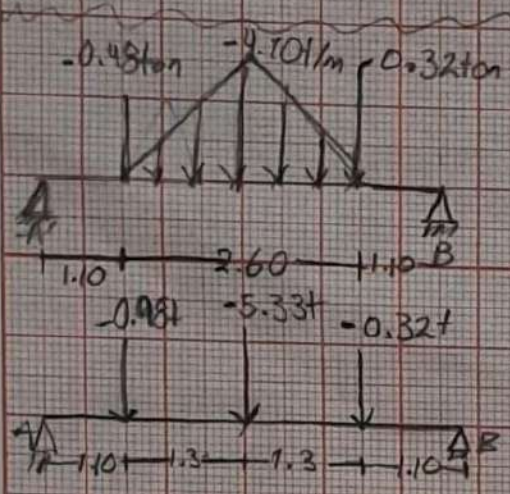
$$MA = -5.1675 \text{ t} \cdot \text{m}$$



$$M_A \Rightarrow (-2.365 t \cdot 0.55 m) + (3.10 t \cdot 1.7) = 0$$

$$M_A \Rightarrow -1.300 + 5.27$$

$$M_A \Rightarrow 3.97 \text{ t}\cdot\text{m}$$



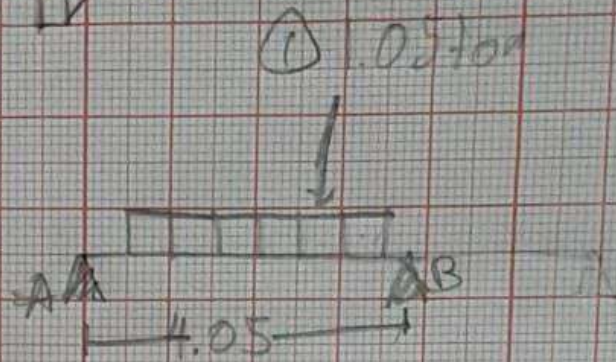
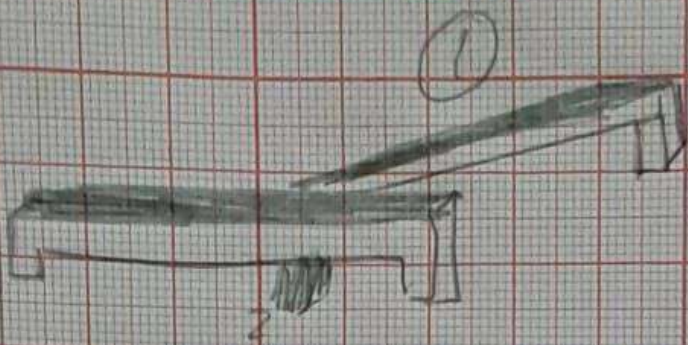
$$M_A = (-0.98 t \cdot 1.10 m) + (-5.33 t \cdot 2.4 m) + (-0.32 t \cdot 3.7 m) + (R_B \cdot 4.8 m) = 0$$

$$M_A \Rightarrow -0.528 \text{ t}\cdot\text{m} - 12.792 \text{ t}\cdot\text{m} - 1.184 \text{ t}\cdot\text{m} + (R_B \cdot 4.8)$$

$$M_A \Rightarrow -14.504 + (R_B \cdot 4.8)$$

$$R_B = \frac{14.504 \text{ t}\cdot\text{m}}{4.8 m} = 3.0217 \text{ t}$$

$$R_A = 0.98 + 5.33 + 0.32 + 3.0217 = 9.6517 \text{ t}$$



$$M_A = (-8.424 \cdot 2.025) + (-1.05 \times 3) + (R_B \cdot 4.05)$$

$$R_A = 7.05 - 3.15 + (R_B \cdot 4.05)$$

$$-17.05 - 3.15 + (R_B \cdot 4.05)$$

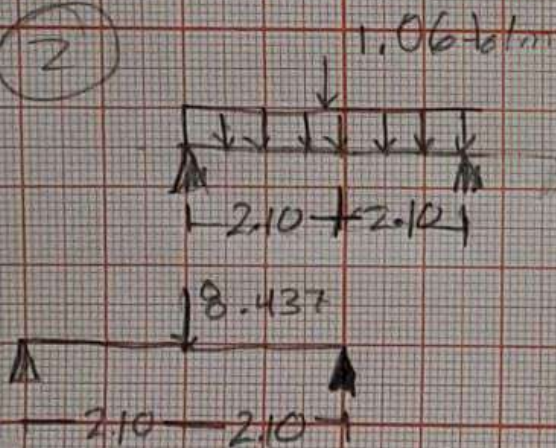
$$-20.2 + (R_B \cdot 4.05)$$

$$\frac{-20.2}{4.05} = 4.987 \text{ ton}$$

$$R_A = -8.424 - 1.05 + 4.987 = -4.487 \text{ ton}$$

$$4.187 \cdot 8.424 - 1.03 + 4.987 = 0$$

②

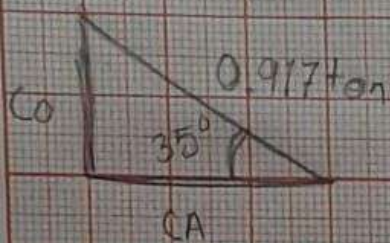
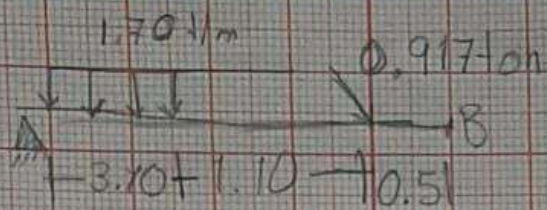


$$R_A = (-8.937 \cdot 2.10) + (R_B \cdot 4.20)$$

$$R_A = -18.767 + (R_B \cdot 4.20)$$

$$R_A = \frac{-18.767}{4.20} = -4.4683 \text{ ton}$$

$$R_A = -8.937 + 4.4683 = -4.468 \text{ ton}$$

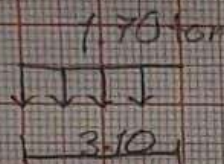


$$\text{Sen } \theta = \frac{op}{H} = \frac{Co}{5} \Rightarrow \theta = 35^\circ$$

$$y = \text{Sen } 35^\circ (0.917 \text{ ton}) = 0.5257 \text{ ton}$$

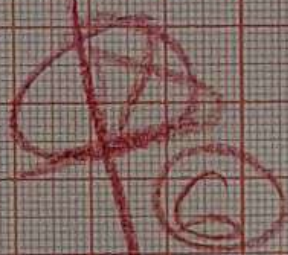
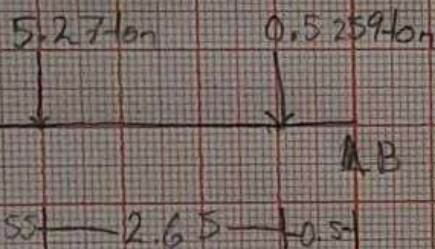
$$\text{Cos } \theta = \frac{ca}{H}$$

$$x = ca = (\text{Cos } 35^\circ) (0.917 \text{ ton}) = 0.7511 \text{ ton}$$



$$W \cdot L = 1.70 \cdot 3.10 = 5.27 \text{ ton}$$

$$CP = L/2 = 3.10/2 = 1.55 \text{ m}$$



$$M_A = (5.27 \text{ ton} \cdot 1.55) + (0.5259 \text{ ton} \cdot 4.2) = (R_B \cdot 4.2)$$

$$8.1685 \text{ ton} \cdot \text{m} + 2.20878 \text{ ton} \cdot \text{m} = R_B \cdot 4.2$$

$$R_B = 10.37728 \text{ ton} \cdot \text{m} / 4.2 \text{ m}$$

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

$$R_A = -5.27 - 0.7802 + 2.2079 = -3.8423 \text{ ton} = 0$$

$$R_A =$$