

Mi Universidad

**Equilibrio de un cuerpo
rígido**

Nombre del Alumno dulce María Guadalupe Jiménez Pérez

Nombre del tema Equilibrio de un cuerpo rígido

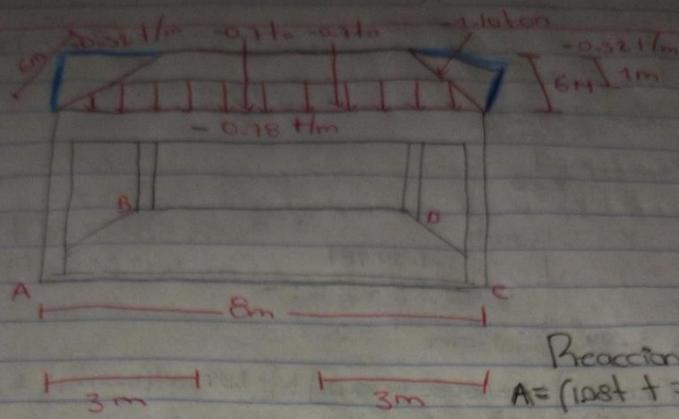
Parcial 3

Nombre de la Materia estática para la arquitectura

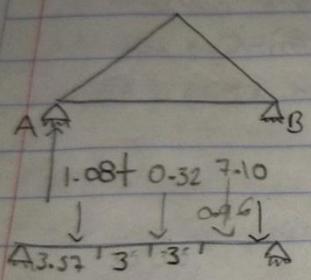
Nombre del profesor Pedro Alberto García López

Nombre de la Licenciatura arquitectura

Cuatrimestre 3



Reacciones
 $A = (1.08 + 7.10 \text{ ton})$



$$P = \frac{-0.32 \text{ t/m} (6\text{m})}{2}$$

$$P = 0.96 \text{ ton/m}$$

$$\sum M_a = M_a$$

$$-0.96 \text{ ton} (3) + B(6) = 0$$

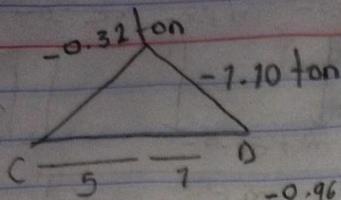
$$-2.88 \text{ ton}\cdot\text{m} + B6 = 0$$

$$B = 0.48 \text{ ton}$$

$$\sum M = A + (-0.96 \text{ ton} + 0.48 \text{ ton}) = 0$$

$$A = 0.48$$

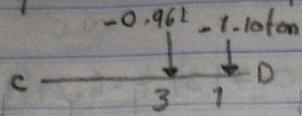
$$A = 0.48 \text{ ton}$$



$$P = -0.32 \text{ ton (6m)}$$

$$P = -0.96 \text{ ton}\cdot\text{m}$$

$$up = \frac{6}{2} = 3$$



$$\sum M = 0 \quad [-0.96 \text{ ton} (3)] + [-1.10 \text{ ton} (5)] + [D(6)] = 0$$

$$-2.88 + -5.5 + D(6) = 0$$

$$-8.38 + D(6) = 0$$

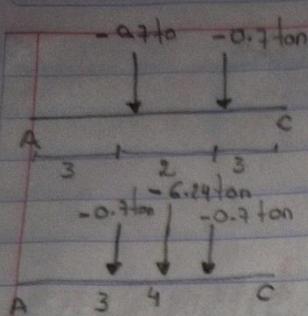
$$D = \frac{-8.38}{6}$$

$$D = 1.3966 \text{ ton}$$

$$\sum F_y = 0 \quad C - 0.96 \text{ ton} - 1.10 \text{ ton} + 1.3966 = 0$$

$$C - 0.6634 \text{ ton} = 0$$

$$C = 0.6634 \text{ ton}$$



$$P = 0.7 \text{ ton} (8\text{m})$$

$$P = -6.24 \text{ ton}\cdot\text{m}$$

$$u_p = \frac{8}{2} = 4$$

$$\sum M_y = -0.7(3) - 6.24(4) + 0.7(5) + (8) = 0$$

$$-2.1 - 24.96 + 3.5 + (8) = 0$$

$$-30.56 + (8) = 0$$

$$C = \frac{+30.56}{8} \quad C = 3.82 \text{ ton}$$

$$\sum M_a = A - 0.7 - 6.24 - 0.7 + 3.82 \text{ ton} = 0$$

$$A = 3.82 \text{ ton}$$

$$A = 0.48 + 3.82 \text{ ton} = 4.3 \text{ ton}$$

$$B = 0.48 \text{ ton}$$

$$C = 0.6634 + 3.82 \text{ ton} = 4.4834 \text{ ton}$$

$$D = 1.3966 \text{ ton}$$