

Title

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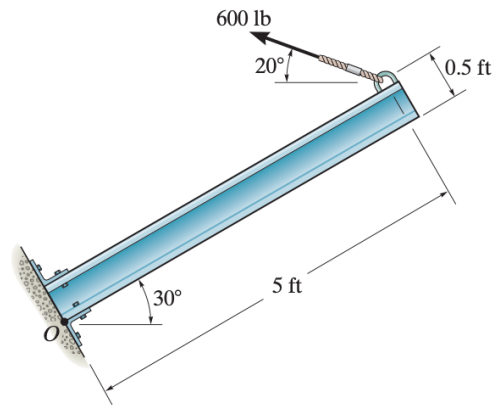


Figure 1: This is a caption

$$20^\circ + 30^\circ = 50^\circ$$

$$r_x = 5 \text{ ft}$$

$$r_y = 0.5$$

$$F_x = -600 \cos(50^\circ) \text{ lb}$$

$$F_y = 600 \sin(50^\circ) \text{ lb}$$

formula para calcular la estatica

$$\overline{M} = (r_x F_y - r_y F_x) \kappa'$$

SUSTITUYENDO

$$M_O = (600 \sin 50^\circ \text{ lb})(5 \text{ ft}) - (600 \cos 50^\circ \text{ lb})(-0.5 \text{ ft})$$

$$M_O = 2298.13 + 192.83$$

$$M_O = 2490.96 \text{ Lb} \cdot \text{ft}$$

Problema N_o 2

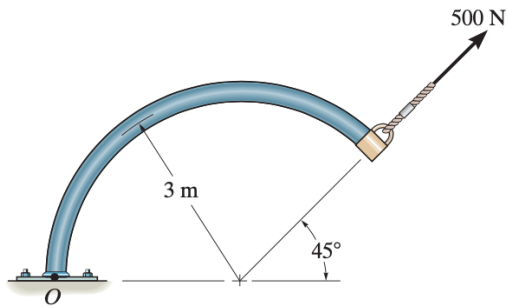


Figure 2: This is a caption

$$r_x = 3 + 3 \cos 45^\circ \text{ m}$$

$$r_y = 3 \sin 45^\circ \text{ m}$$

$$F_x = 500 \cos 45^\circ \text{ N}$$

$$F_y = 500 \sin 45^\circ \text{ N}$$

calculo del momento

$$\bar{M} = (r_x F_y - r_y F_x) \kappa'$$

SUSTITUYENDO

$$M_O = (3 + 3 \cos 45^\circ \text{ m})(500 \sin 45^\circ \text{ N}) - (3 \sin 45^\circ \text{ m})(500 \cos 45^\circ \text{ N})$$

$$M_O = 1810.66 \text{ N/m} - 750 \text{ N/m}$$

$$M_O = 1060.66 \text{ N/m}$$

Problema 3.

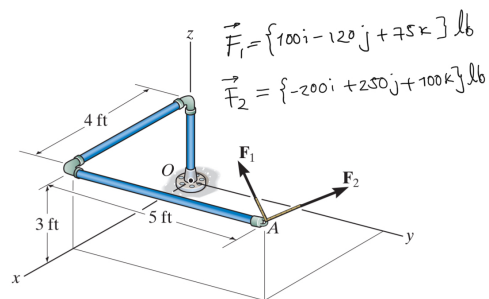


Figure 3: This is a caption

$$R_x = 4 \text{ ft}$$

se soluciona aplicando el producto cruz

$$R_y = 5\text{ft}$$

$$R_z = 3\text{ft}$$

$$f_1 = \{100i - 120j + 75k\} \text{ lb}$$

$$f_2 = \{-200i + 250j + 100k\} \text{ lb}$$

$$F_R = f_1 + f_2$$

$$= \{-100i + 130j + 175k\} \text{ lb}$$

Sustituyendo en la matriz.

$$+ \vec{M}_0 = \vec{r} \times \vec{f}_T = \begin{vmatrix} i & j & k \\ 4 & 5 & 3 \\ -100 & 130 & 175 \end{vmatrix} \quad \begin{matrix} + & - & + \\ = I(875 - 390) - J(700 + 300) + K(520 + 500) \end{matrix}$$

$$\vec{A} + \vec{B} = 485I - 100J + 1020K \text{ lb/ft}$$