

Informe de solución de problemas sobre el momento de una fuerza

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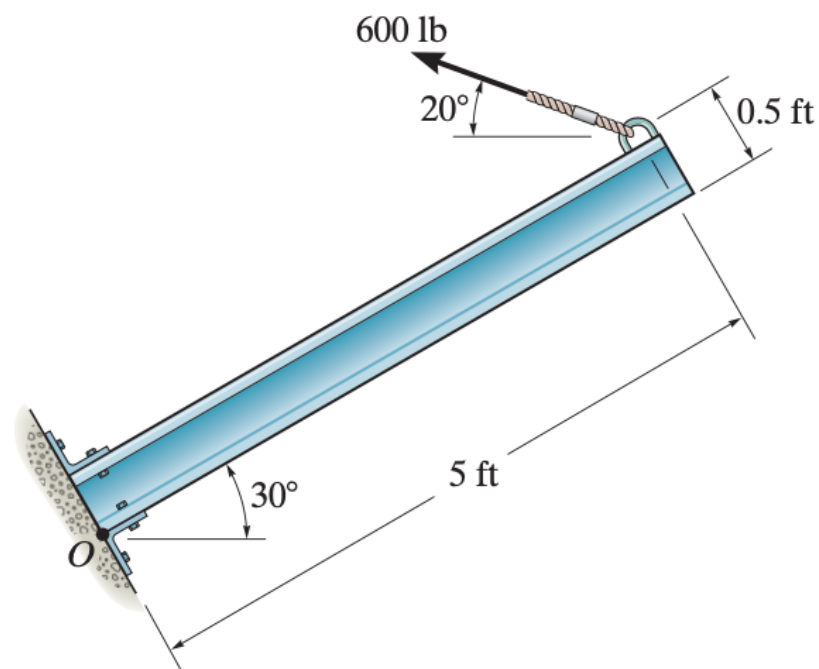


Figure 1: 1

$$F_x = -600 \cos 50^\circ$$

$$F_y = 600 \sin 50^\circ$$

Se sustituye

$$M_o = ((5) (600 \sin 50)) - ((0.5) (-600 \cos 50))$$

$$M_o = 2298.13 + 192.83 \quad M_o = 2490.96 \text{ lb} \cdot \text{ft}$$

ejercicio 2

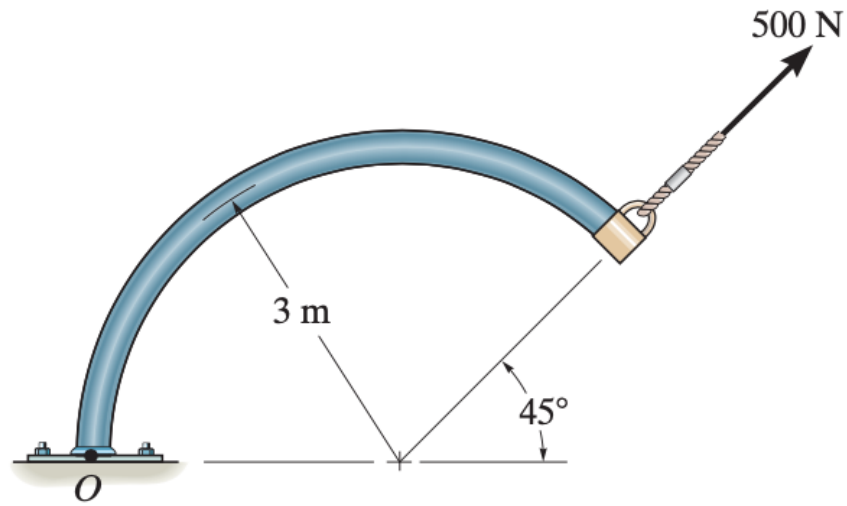


Figure 2: 2

$$= 3\text{m} + 3\text{m} \cos (45)$$

COS El 45 °

$$0 \text{ RX} = 5.12$$

$$0 \text{ Ry} = 3\text{m} \text{ sen } (45)$$

$$\text{Ry} = 2.12$$

$$\text{Fx} = 500\text{N} \cos (45)$$

$$\text{Fy} = 500\text{N} \text{ sen } (45)$$

$$\text{Mo} = (\text{rxFy} - \text{ryFx}) \text{ k}$$

$$\text{Mo} = 500 \text{ sen } 45 (5.12) - 500 \cos 45 (2.12)$$

$$\text{Mo} = 1810.19 - 749.53$$

$$\text{Mo} = 1060.7 \text{ Nm}$$

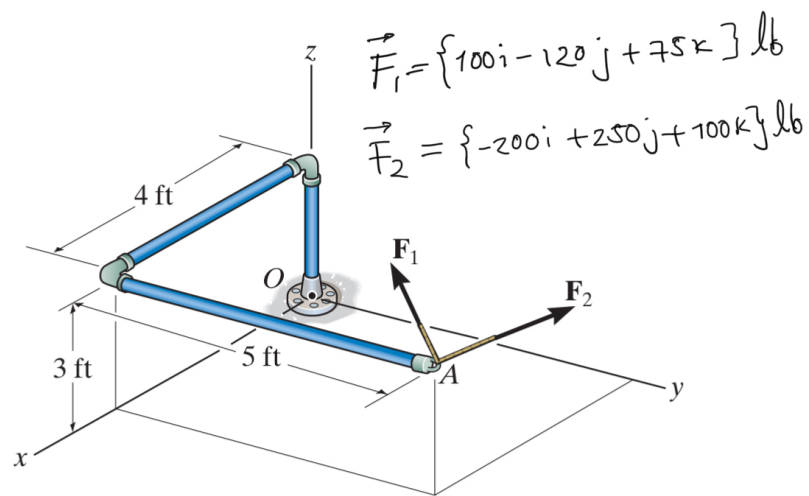


Figure 3: 3

$$\mathbf{F}_t = \mathbf{F}_1 + \mathbf{F}_2$$

$$\mathbf{F}_t = (100\mathbf{i} - 120\mathbf{j} + 75\mathbf{k}) + (-200\mathbf{i} + 250\mathbf{j} + 100\mathbf{k})$$

$$\mathbf{F}_t = -100\mathbf{i} + 130\mathbf{j} + 175\mathbf{k}$$

$$R_x$$

$$R_y$$

$$R_z$$

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

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

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

$$4\mathbf{i} \text{ amp; } 5\mathbf{j} \text{ amp; } 3\mathbf{k}$$

$$-100\mathbf{i}; 130\mathbf{j}$$

$$175\mathbf{k}$$

$$= i ((5) (175) - (130) (3)) - j ((4) (175) - (-100) (3)) + k ((4) (130) - (-100) (5))$$

$$\mathbf{M}_O = (480i - 1000j + 120k)$$