Informe de solucion problemas sobre el momento de una fuerza

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June 17, 2020

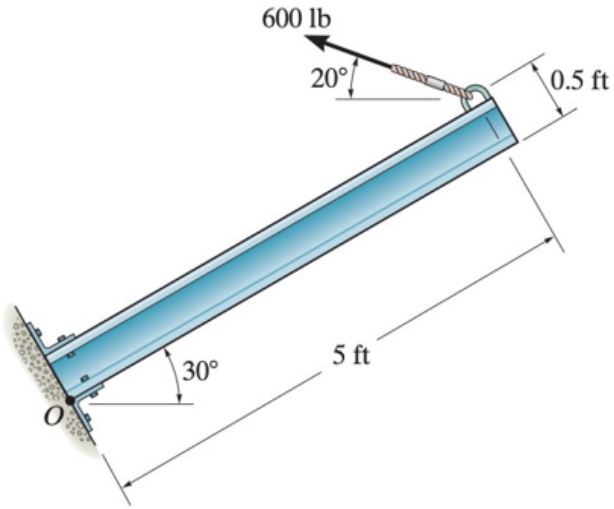

Figure 1: This is a caption

Entonces:

30+20 = 50

Asi que la formula para obtener el momento

$Mo\rightleftarrows 600\ \sin\ 50\ (5)\ +\ 600\ \cos\ 50\ (0.5) = 2491\ lb \cdot ft$

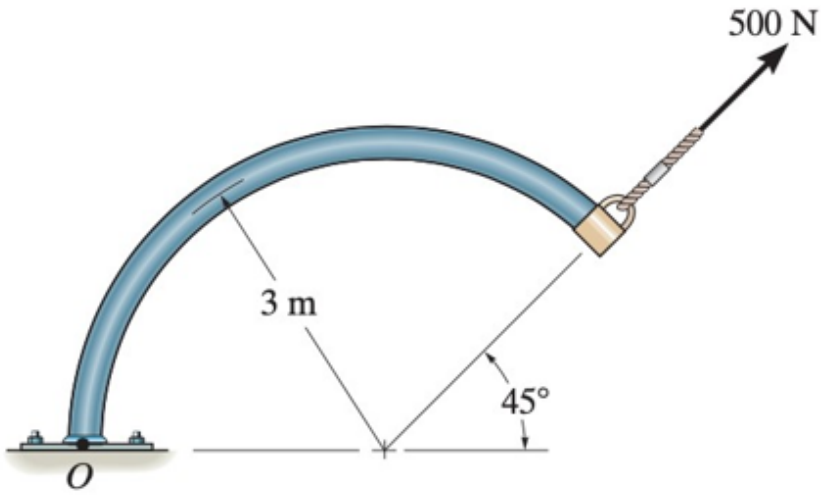

Figure 2: This is a caption

Distancias:

$x = 3 + 3\ \cos\ 45 = 5.12$

$y =\ 3\ \sin\ 45\ =\ 2.12$

Para determinar el momento utilizamos la misma formula de arriba:

$Mo\vec{=}\ 5000\ \sin\ 45\ (5.12) - 500 \cos\ 45\,(2.12) = 1060.7\ N$

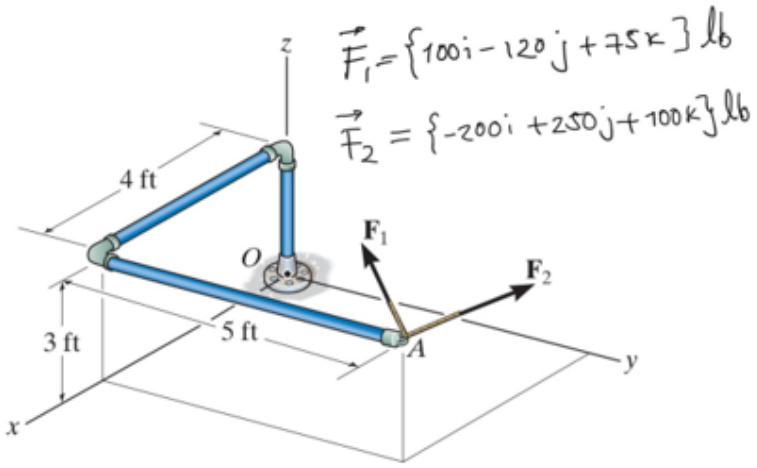

Figure 3: This is a caption

$fl = (100 - 12j + 75k)\,lb\ f2 = (-200i + 250j + 100k)\,lb$

$rA = (0i + 0j + 0k)\ \ rB\,(4i + 5j + 3k)$

$Mo = M1 + M2 = rAxF1 + rBxF2$

$rA\ X\ F1 =$

—$I\ J\ K$—

—0 0 0 —= 0i + 0j + 0k

—100 120 75 —

$rB\ X\ F2 =$

—$I\ J\ K$ —

—4300))j $+ (520 - (-500))\,k$ 5 3—=

(875-390)i - (700(-—- 100 130 175 —

MOT= 485i - 1000j + 1020k

$FAX = F\ A\ \cos\ \theta = \frac{4}{5}\ F\ A$

$FAY = \ F\ A\ \sin\ \theta\ = \frac{3}{5} F\ A\ F\ B\ X = \ FB\ \cos\ \theta 60$

$FAY\ =\ FB\ \sin 60$

$\sum$Fx=0

$\sum$ Fbx - Fby = 0

$-30lb\ \cos 60\ -\ \frac{4}{5}\ F\ A=\ 0-30lb\ \cos\ 60-\frac{4}{5}\ FA=0$

$FA\ =\frac{5}{4}\left(-30lb\ \cos\ 60\right)=18.75$

$RESULTADO=\ 18.75$