SOLUCIÓN DE PROBLEMAS SOBRE EL MOMENTO DE UNA FUERZA

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PROBLEMA 1

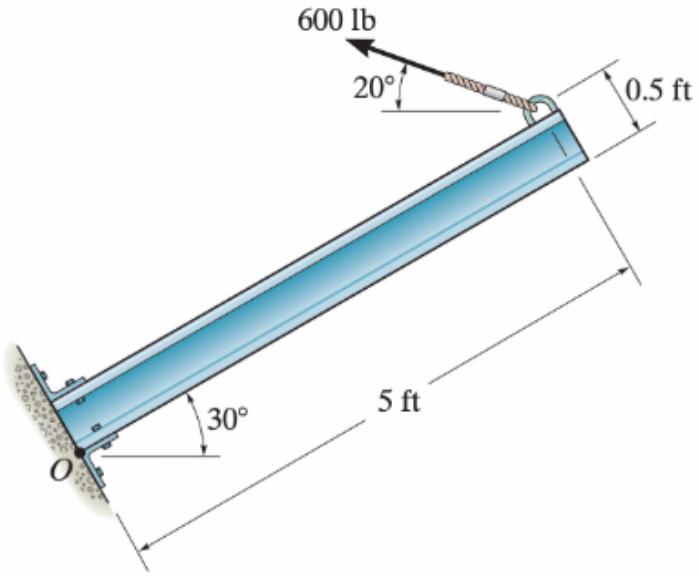

Figure 1: Problema 1

Determine el momento de la(s) fuerza (s) en el punto 0.$Mo = 2490.96\ ft$

$rx = 5ft$

$ry = 0.5ft$

$Fx = -600\cos(50)$

$Fy = 600\sin(50)$

$Mo = (rxFy - ryFx)$

$Mo = [(5ft)\,((600\sin\ 50) - (0.5ft)\,(600\cos\ 50\ ))]\,lb$

$Mo = 2490.96\ ft$

PROBLEMA 2

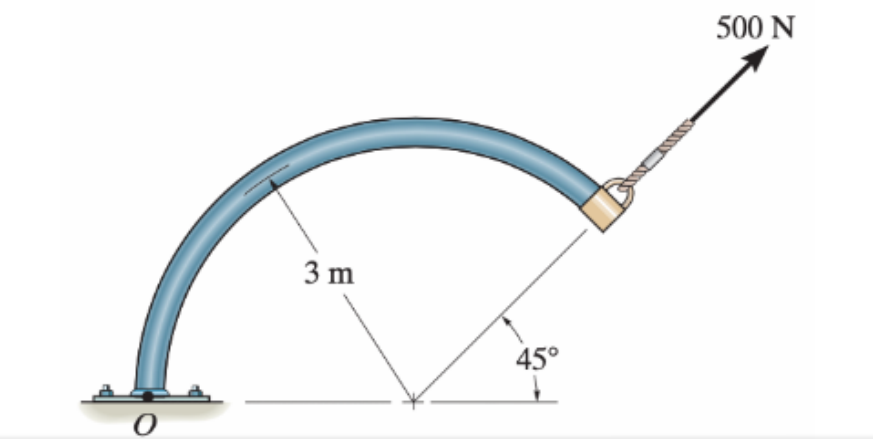

Figure 2: Problema 2

Determine el momento de la(s) fuerza(s) en el punto 0.

$rx = 3m + 3m\cos(45)$

$ry = 3msen(45)$

$Fx = 500N\cos(45)$

$Fy = 500N\sin(45)$

$Mo = [(3m + \ 3m\ \cos(45))\,(500N\sin\ (45)) - (3m\ \sin(45))\,(500N\ \cos\ (45))]$

$Mo = 1060.66Nm$

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PROBLEMA 3

Determine el momento de la(s) fuerza(s) en el punto 0.

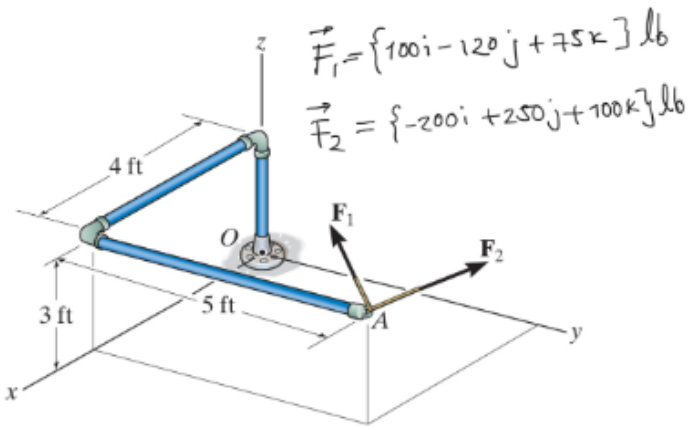

Figure 3: Problema 3

$F1 = F1 + F2 = 100 - 200 \ , \ -120 + 250 \ , \ 75 + 100$

$F1 = -100i, \ 130j, \ 175k$

$OA = 4i \ + \ 5j \ + 3k$

$Mo = \begin{vmatrix} 4i & 5j & 3k \\ {}_{100i} & {}_{130j} & {}_{175k} \end{vmatrix}$

$< (5)(175) - (3)(130) \, , \ (3)(-100) - (4)(175) \, , \ (4)(130) - (5)(-100) >$

$< 485i, \ -1000 \ j, \ 1020 \ k >$lb ft