Calcula momentos a traves de fuerzas y vectores

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f1=(100-120j+75k)lb

f2=(-200i+250j+100k)lb

rA=(0I+0J+0K) rB=(4j+5j+3k)

Mo=M1+M2=rAxF1+rBxF2

$rA\ X\ F1 = |I \quad J \quad K|$

$|0 \quad 0 \quad 0| = 0i + oj + ok$

$|4 \quad s \quad 3| = (875 - 390)\, i - (700 - (-300))\, j + (520 - (-500))\, k$

$|-100 \quad 130 \quad 175|$

$MOT = 485i - 1000j + 1020k$

$F\ AX = \ FA\ \cos\theta = \frac{4}{5}\ FA$

$F\ AY \ = \ FA \sin\theta = \frac{3}{5}\ FAFBX \ = \ FB\ \cos\theta\ 60$

$FAY = FB \sin\theta 60 - 301b\ \cos\theta 60 - \ \frac{1}{3}FA \ = \ 0$

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

Este valor solo seria valido si las fuerzas estuvieran actuando en el mismo brazo

Para B

rbx=6ft

ray=0

para A rbx=9

ft rby=0

Fax=30 lb $\cos 60°$

Fay=30lb $\sin 60°$

MA= rax X Fay-Ray X Fax = (9 ft)

$\left(\left(\frac{3}{5}FA\right) - (0)\left(\frac{4}{5}\right) = \frac{27}{5}\ FA\ lb\ ft\right.$

rbx X Fby-rby X Fb=$(6)\,(30\sin 60) - (0)\,(30\cos 60) = 155.88\ \frac{lb}{ft}$

$\Sigma M = 0$

$Mb - Ma = 0$

$155.88 lb\ ft\ -\ \frac{27}{5}\ FA\ lb\ ft\ FA = \left(\frac{27}{5}\right)(155.88\ lb\ ft)$

$\frac{27}{5} FA\ = 155.88$

$FA\ = 28.9\ lb\ ft$