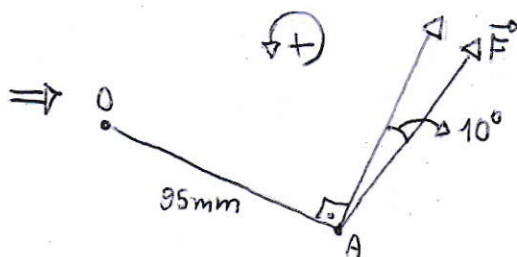
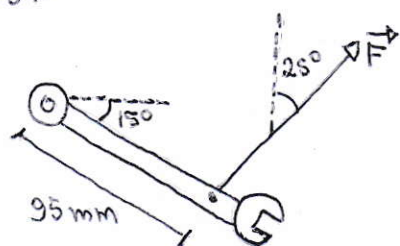


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$$F = 140 \text{ N}$$

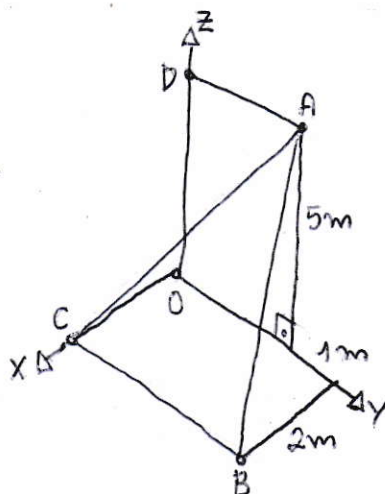
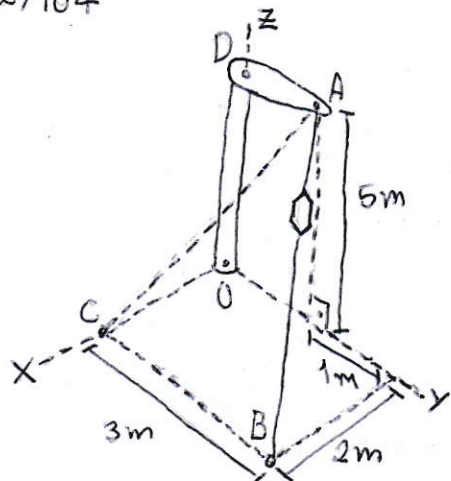
$$L = 95 \text{ mm} = 0,095 \text{ m}$$

$$M_0 = F \cdot \cos 10^\circ \cdot L$$

$$M_0 = 140 \cdot \cos 10^\circ \cdot 0,095$$

$$M_0 = 13,098 \text{ N}$$

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$$AB = 2,4 \text{ kN}$$

$$A = (0, 2, 5) \quad B = (2, 3, 0)$$

$$\vec{AB} = (2-0, 3-2, 0-5) = (2, 1, -5)$$

$$\vec{AB} = 2\hat{i} + 1\hat{j} - 5\hat{k}$$

$$\vec{AC} = (2-0, 0-2, 0-5) = (2, -2, -5)$$

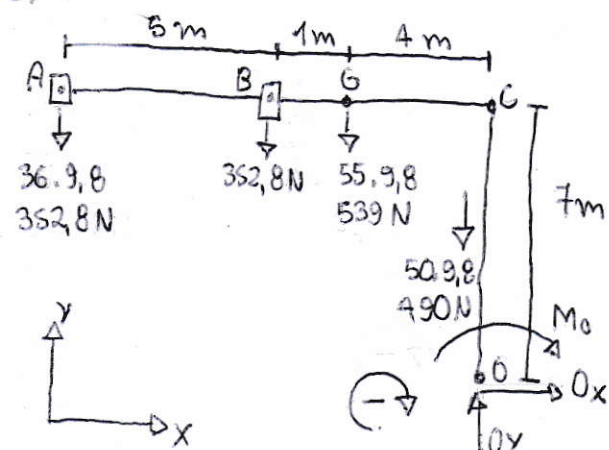
$$T = T \cdot \frac{\vec{AB}}{|\vec{AB}|} = T \cdot \frac{(2\hat{i} + \hat{j} - 5\hat{k})}{\sqrt{2^2 + 1^2 + (-5)^2}} = 24 \cdot \frac{(2\hat{i} + \hat{j} - 5\hat{k})}{5,477} = 0,876\hat{i} + 0,438\hat{j} - 2,191\hat{k}$$

PARA ACHAR A PROJEÇÃO DE T NA LINHA AC:

$$\text{Proj}_{AC} T = \frac{\langle T, \vec{AC} \rangle}{\langle \vec{AC}, \vec{AC} \rangle} \cdot \vec{AC} = \frac{(0,876; 0,438; -2,191) \cdot (2, -2, -5)}{(2, -2, -5) \cdot (2, -2, -5)} \cdot (2, -2, -5) = 0,3585 \cdot (2, -2, -5) = 0,717\hat{i} - 0,717\hat{j} - 1,7925\hat{k}$$

$$|\text{Proj}_{AC} T| = \sqrt{0,717^2 + (-0,717)^2 + (-1,7925)^2} = 2,0594 \text{ kN}$$

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$$\sum F_x = 0$$

$$\sum F_y = 0 \rightarrow -352,8 - 352,8 - 539 - 490 = 0$$

$$0y - 1734,6 = 0 \rightarrow 0y = 1734,6 \text{ N}$$

$$\sum M_0 = 352,8(10) + 352,8(5) + 539(4) - M_0 = 0$$

$$3528 + 1764 + 2156 - M_0 = 0$$

$$7448 - M_0 = 0$$

$$M_0 = 7448 \text{ N.m NO SENTIDO HORÁRIO}$$