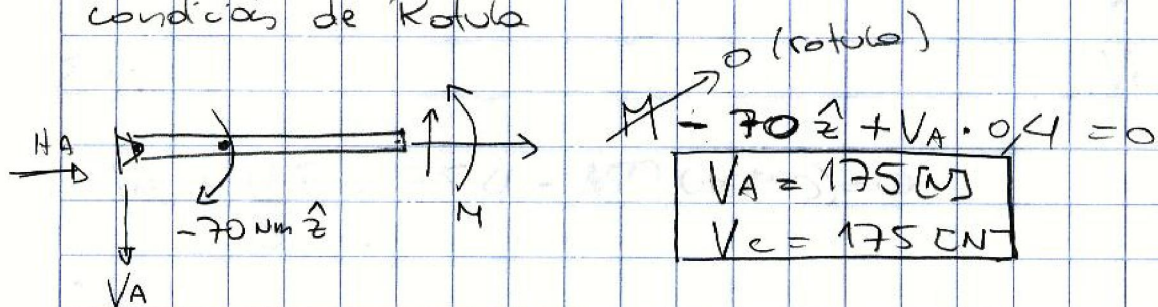


$$\sum F_y: V_A - V_C = 0$$

$$\sum F_x: H_A - H_C = 0$$

$$\sum M_A: -70 \hat{z} + V_C \cdot 0,55 \hat{z} - 0,2 H_C \hat{z} = 0$$

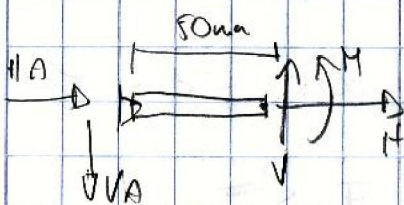
condições de Rotula



$$-70 + 175 \cdot 0,55 - 0,2 \cdot H_C = 0$$

$$\Rightarrow \boxed{H_C = 131,25 \text{ CN}} \\ \boxed{H_A = 131,25 \text{ CN}}$$

corte em D.



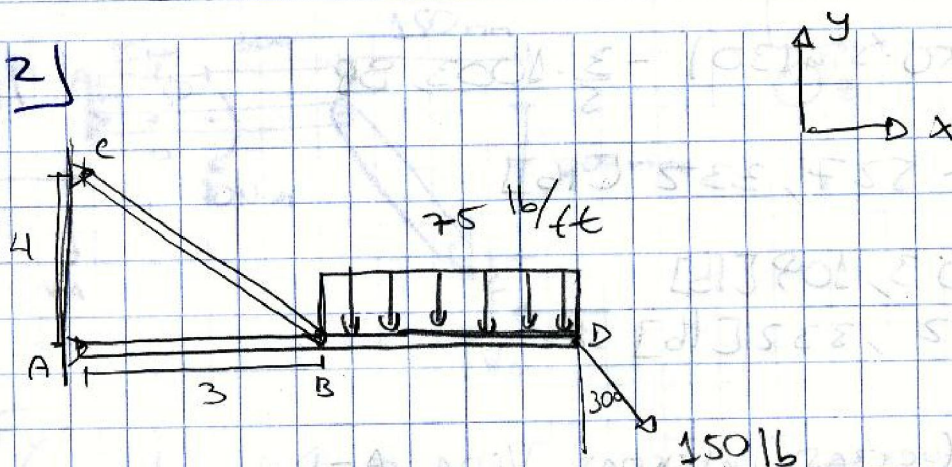
$$V = V_A = 175 \text{ CN}$$

$$H = -H_A = -131,25 \text{ CN}$$

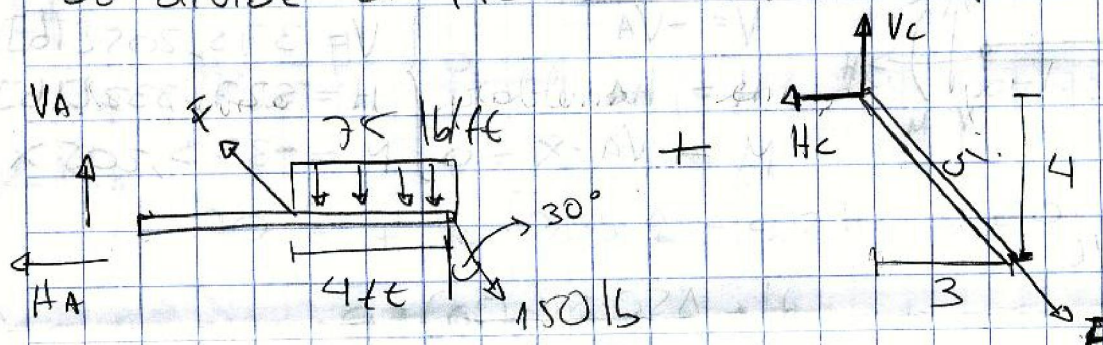
$$M + V_A \cdot 0,05 = 0$$

$$\boxed{M = -8,75 \text{ N.m}}$$

P2



se divide el problema en dos partes



$\sum y:$

$$V_A + \frac{4}{5}F - 75 \cdot 4 - 150 \cos(30) = 0$$

$$V_C = \frac{4}{5}F$$

$$H_C = \frac{3}{5}F$$

$\sum x:$

$$H_A + \frac{3}{5}F - 150 \sin(30) = 0$$

$\sum M_B:$

$$-V_A \cdot 3 - 75 \cdot 4 \cdot 2 - 150 \cdot \cos(30) \cdot 4 = 0$$

$$V_A = -373,205 \text{ [lb]}$$

$$\Rightarrow -373,205 + \frac{4}{5}F - 75 \cdot 4 - 150 \cdot \cos(30) = 0$$

$$\Rightarrow F = 1003,89 \text{ [lb]}$$

$$\Rightarrow H_A = 150 \cdot \sin(30) - \frac{3}{5} \cdot 1003,88$$

$$H_A = -527,332 \text{ [lb]}$$

$$\Rightarrow V_C = 803,109 \text{ [lb]}$$

$$H_C = 602,332 \text{ [lb]}$$

Diagrama de fuerzas internas Viga A-D.



$$V = -V_A$$

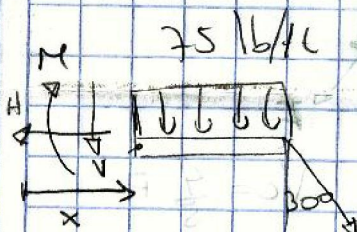
$$H = H_A$$

$$M = -V_A \cdot x = 0$$

$$V = 373,205 \text{ [lb]}$$

$$H = -527,332 \text{ [lb]}$$

$$M = -373,205 x$$



$$H - 150 \cdot \sin(30) = 0$$

$$H = 75 \text{ [lb]}$$

$$V + 75(7-x) + 150 \cdot \cos(30) = 0$$

$$V = 75(x-7) - 129,904$$

$$M + \frac{75}{2}(7-x)^2 + (7-x) \cdot 150 \cos(30) = 0$$

$$M = 129,904(x-7) - \frac{75}{2}(7-x)^2$$

