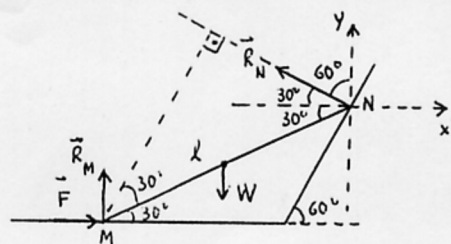


4)



$$\sum \vec{F} = 0 \quad \begin{cases} x: F - R_N \cos 30 = 0 & (1) \\ y: R_N + R_N \sin 30 - mg = 0 & (2) \end{cases}$$

$$\sum \vec{M}_{\text{resp. M}} = 0 \Rightarrow mg \cdot \frac{l}{2} \cos 30 = R_N l \cos 30 \Rightarrow$$

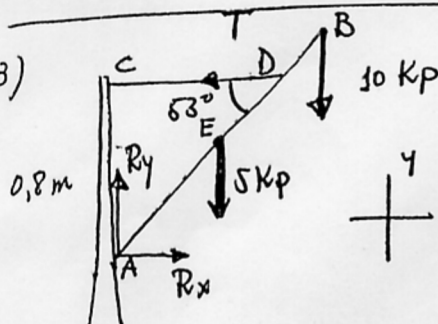
$$R_N = \frac{mg}{2} = \frac{20 \times 9,81}{2} = 98,1 \text{ N}$$

(o bien $R_N \cos 60 \cdot l \cos 30 + R_N \cos 30 \cdot l \sin 30$)

$$(2) \Rightarrow R_M = mg - R_N \sin 30 = 20 \times 9,81 - 98,1 \cdot \frac{1}{2} = 147,1 \text{ N}$$

$$(1) \Rightarrow F = R_N \cos 30 = 98,1 \cdot \frac{\sqrt{3}}{2} = 85,0 \text{ N}$$

3)



$$\textcircled{1} R_y = 15 \text{ kP}$$

$$\textcircled{2} R_x = T$$

$$\textcircled{3} 5 \cdot \frac{4,5}{2} \cos 53 + 10 \cdot 4,5 \cos 53 = T \cdot 0,8$$

$$T = \frac{1}{0,8} 4,5 \cdot 12,5 \cdot \cos 53 = 42,3 \text{ kP}$$

$$R_x = 42,3 \text{ kP}$$