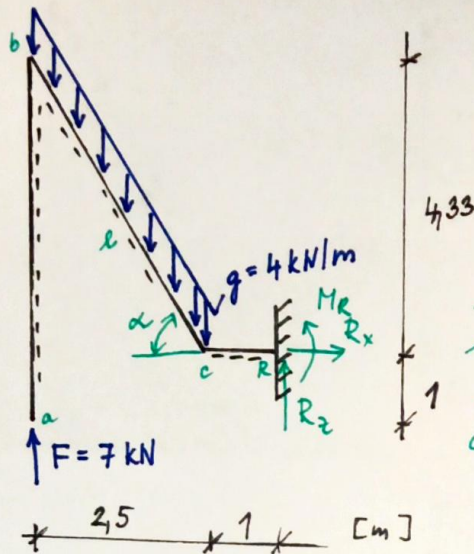




$$\sum F_{ix} = 0: R_x = 0$$

$$\sum F_{iz} = 0: R_z + F - g \cdot l = 0$$

$$R_z = -7 + 4 \cdot 5 = 13 \text{ kN}$$

$$\sum M_k = 0: M_R - F \cdot 3.5 + g \cdot l \cdot (1 + \frac{2.5}{2}) = 0$$

$$M_R = 7 \cdot 3.5 - 4 \cdot 5 \cdot 2.25$$

$$M_R = -20.5 \text{ kNm}$$

$$l = \sqrt{4.33^2 + 2.5^2}$$

$$l = 5 \text{ m}$$

$$\sin \alpha = \frac{4.33}{5} = 0.866$$

$$\cos \alpha = \frac{2.5}{5} = 0.5$$

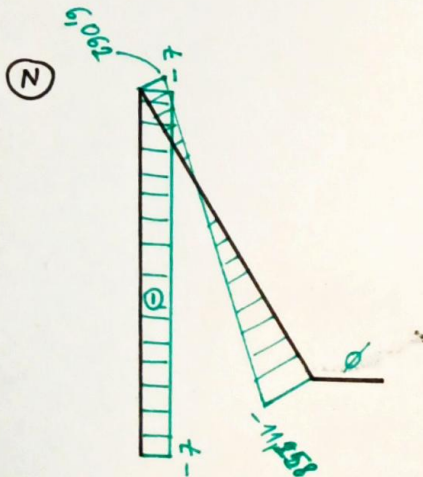


$$n = g \cdot \sin \alpha =$$

$$= 4 \cdot 0.866 = 3.464 \text{ kN/m}$$

$$q = g \cdot \cos \alpha =$$

$$= 4 \cdot 0.5 = 2 \text{ kN/m}$$



$$F'' = F \cdot \sin \alpha = 7 \cdot 0.866 = 6.062 \text{ kN}$$

$$F^\perp = F \cdot \cos \alpha = 7 \cdot 0.5 = 3.5 \text{ kN}$$

$$N_{bc} = F'' = 6.062 \text{ kN}$$

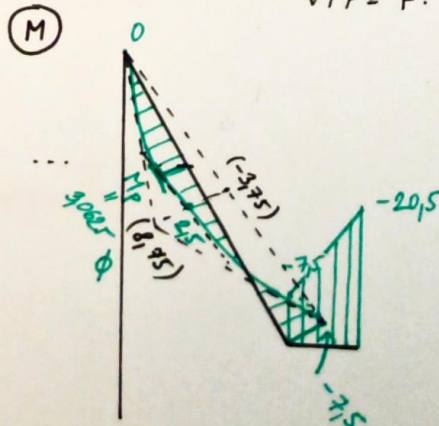
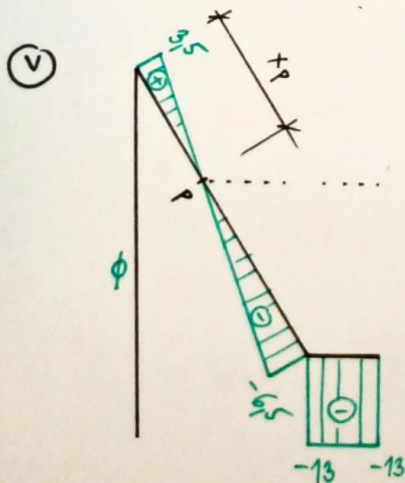
$$N_{cb} = F'' - n \cdot l = 6.062 - 3.464 \cdot 5 = -11.258 \text{ kN}$$

$$V_{bc} = F^\perp = 3.5 \text{ kN}$$

$$V_{cb} = F^\perp - q \cdot l = 3.5 - 2 \cdot 5 = -6.5 \text{ kN}$$

$$V_{ce} = F - g \cdot l = 7 - 5 \cdot 4 = -13 \text{ kN}$$

$$VTP = F \cdot \frac{2.5}{2} = 7 \cdot 1.25 = 8.75$$



$$V_p = 0: F^\perp - q \cdot x_p = 0$$

$$x_p = \frac{F^\perp}{q} = \frac{3.5}{2} = 1.75 \text{ m}$$

$$M_p = F^\perp \cdot x_p - q \cdot x_p \cdot \frac{x_p}{2} =$$

$$= 3.5 \cdot 1.75 - 2 \cdot 1.75 \cdot \frac{1.75}{2} =$$

$$= 3.0625 \text{ kNm}$$