

T2 - VYKRESLOVÁNÍ:

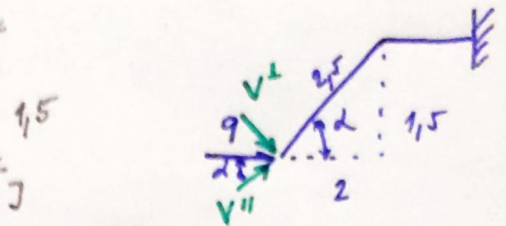
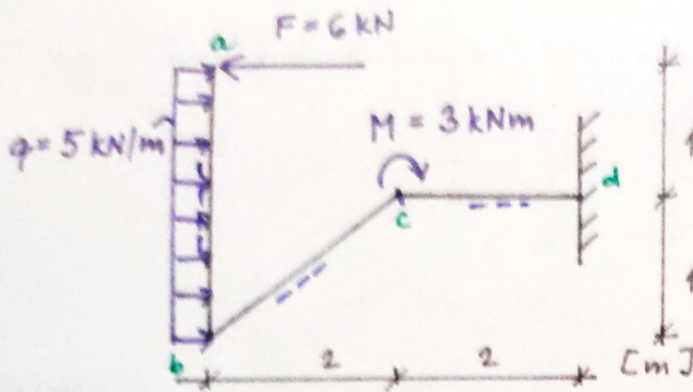
Jměno:

$$\sin \alpha = \frac{1,5}{2,5} = 0,6$$

Šlupina:

$$\cos \alpha = \frac{2}{2,5} = 0,8$$

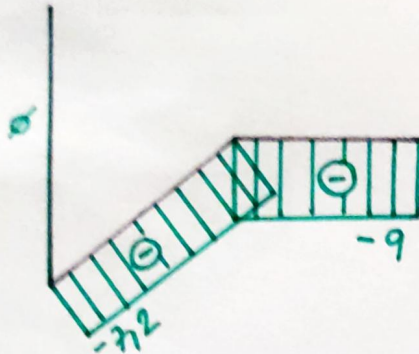
ŘEŠ B:



$$V^\perp = V \cdot \sin \alpha$$

$$V'' = V \cdot \cos \alpha$$

(N)



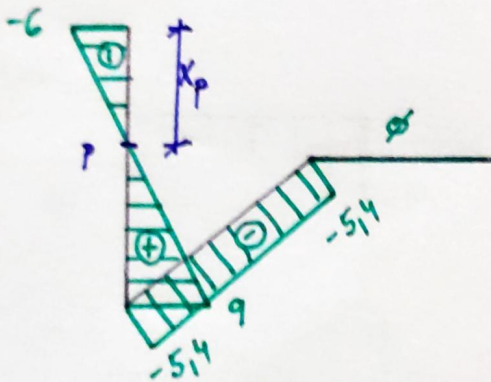
$$N_{ab} = N_{ba} = 0$$

$$N_{bc} = -V'' = -V \cdot \cos \alpha = -9 \cdot 0,8 = -7,2 \text{ kN}$$

$$N_{cb} = N_{bc} = -7,2 \text{ kN}$$

$$N_{cd} = F - q \cdot 3 = -9 \text{ kN} = N_{dc}$$

(V)



$$V_{ab} = -F = -6 \text{ kN}$$

$$V_{ba} = -F + q \cdot 3 = -6 + 5 \cdot 3 = 9 \text{ kN}$$

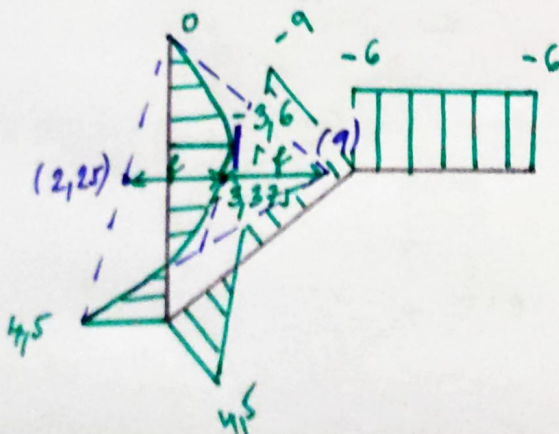
$$V_{bc} = V_{cb} = -V^\perp = -9 \cdot \sin \alpha = -5,4 \text{ kN}$$

$$V_{cd} = V_{dc} = 0$$

$$V_p = 0: -F + q \cdot x_p = 0$$

$$x_p = \frac{F}{q} = \frac{6}{5} = 1,2 \text{ m}$$

(M)



$$M_{ab} = 0$$

$$M_{ba} = -F \cdot 3 + q \cdot 3 \cdot 1,5 = 4,5 \text{ kNm}$$

$$M_{ba} = M_{bc}$$

$$M_{x_p} = -F \cdot x_p + q \cdot x_p \cdot \frac{x_p}{2} = -6 \cdot 1,2 + 5 \cdot \frac{1,2^2}{2} = -3,6 \text{ kNm}$$

$$f = \frac{1}{8} q l^2 = \frac{1}{8} \cdot 5 \cdot 3^2 = 5,625$$

$$M_{cb} = -F \cdot 1,5 + q \cdot 3 \cdot 0 = -9 \text{ kNm}$$

$$M_{cd} = -F \cdot 1,5 + q \cdot 3 \cdot 0 + M = -6 \text{ kNm}$$

$$M_{dc} = M_{cd}$$