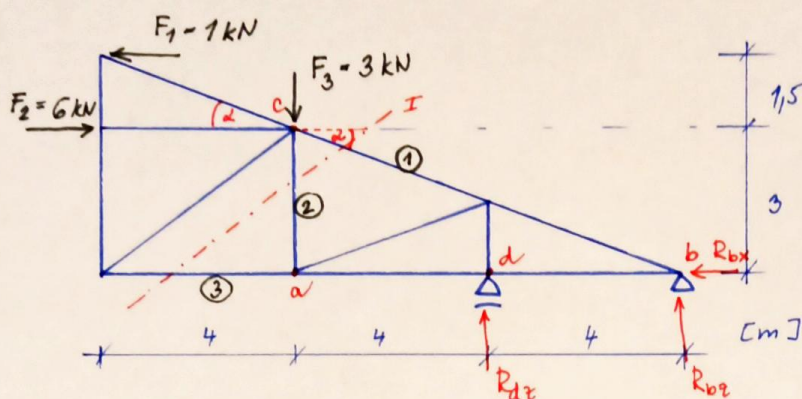


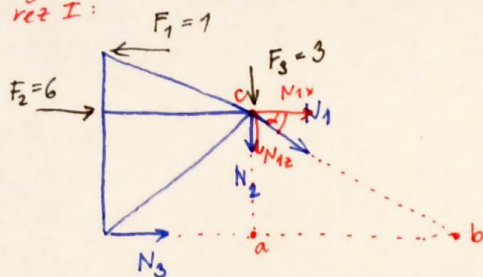


Vypočítejte:

→ nové síly
v průtoku 1, 2, 3

→ reakce

řez I:

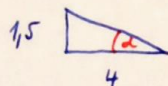


$$\oplus \sum M_{ia} = 0: F_1 \cdot 4,5 - F_2 \cdot 3 - N_1 \cdot 3 = 0$$

$$F_1 \cdot 4,5 - F_2 \cdot 3 - (N_1 \cdot \cos \alpha) \cdot 3 = 0$$

$$N_1 = \frac{1 \cdot 4,5 - 6 \cdot 3}{3 \cdot \frac{4}{\sqrt{18,25}}} = -1,125 \cdot \sqrt{18,25} =$$

$$= -4,806 \text{ kN (tlak)}$$



$$\sin \alpha = \frac{1,5}{\sqrt{1,5^2 + 4^2}} = \frac{1,5}{\sqrt{18,25}}$$

$$\cos \alpha = \frac{4}{\sqrt{18,25}}$$

$$\oplus \sum M_{ib} = 0: F_1 \cdot 4,5 - F_2 \cdot 3 + F_3 \cdot 8 + N_2 \cdot 8 = 0$$

$$N_2 = \frac{-1 \cdot 4,5 + 6 \cdot 3 - 3 \cdot 8}{8} =$$

$$= -1,3125 \text{ kN (tlak)}$$

$$\oplus \sum M_{ic} = 0: F_1 \cdot 1,5 + N_3 \cdot 3 = 0$$

$$N_3 = \frac{-1 \cdot 1,5}{3} = -0,5 \text{ kN (tlak)}$$

$$\oplus \sum F_{ix} = 0: F_2 - F_1 - R_{bx} = 0 \Rightarrow R_{bx} = F_2 - F_1 = 6 - 1 = 5 \text{ kN (←)}$$

$$\oplus \sum M_{ib} = 0: F_1 \cdot 4,5 - F_2 \cdot 3 + F_3 \cdot 8 - R_{dz} \cdot 4 = 0 \Rightarrow 4R_{dz} = F_1 \cdot 4,5 - F_2 \cdot 3 + F_3 \cdot 8$$

$$R_{dz} = \frac{1 \cdot 4,5 - 6 \cdot 3 + 3 \cdot 8}{4} = 2,625 \text{ kN (↑)}$$

$$\oplus \sum M_{id} = 0: F_1 \cdot 4,5 - F_2 \cdot 3 + F_3 \cdot 4 + R_{bz} \cdot 4 = 0 \Rightarrow R_{bz} = \frac{-F_1 \cdot 4,5 + F_2 \cdot 3 - F_3 \cdot 4}{4} =$$

$$= \frac{-1 \cdot 4,5 + 6 \cdot 3 - 3 \cdot 4}{4} = 0,375 \text{ kN (↑)}$$

$$K: \sum F_{iz} = 0 \uparrow \oplus: -F_3 + R_{dz} + R_{bz} = 0 \Rightarrow -3 + 2,625 + 0,375 = 0 \checkmark$$