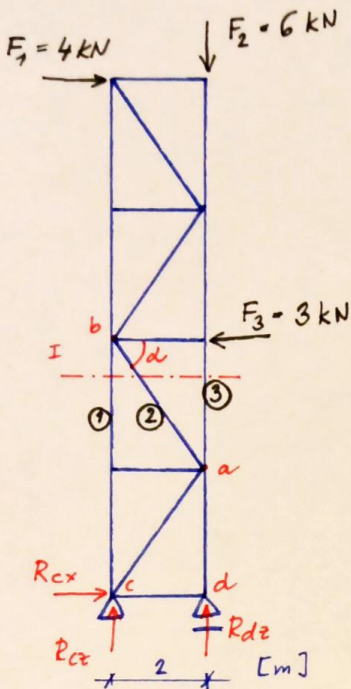


$$\sin \alpha = \frac{3}{\sqrt{2^2 + 3^2}} = \frac{3}{\sqrt{13}}$$

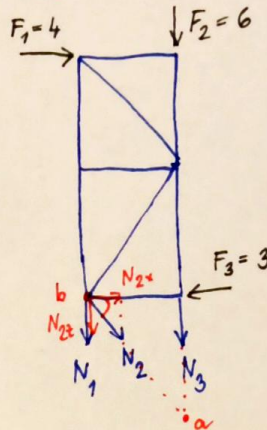
$$\cos \alpha = \frac{2}{\sqrt{13}}$$

vypočítajte:

→ osovú sílu v prutech 1, 2, 3

→ reakcie

řez I:



$$\oplus \sum M_{ia} = 0: -F_1 \cdot 9 + F_3 \cdot 3 + N_1 \cdot 2 = 0$$

$$N_1 = \frac{4 \cdot 9 - 3 \cdot 3}{2} = \underline{\underline{13,5 \text{ kN (tah)}}}$$

$$\oplus \sum M_{ib} = 0: -F_1 \cdot 6 - F_2 \cdot 2 - N_3 \cdot 2 = 0$$

$$N_3 = \frac{-4 \cdot 6 - 6 \cdot 2}{2} = \underline{\underline{-18 \text{ kN (tlak)}}}$$

$$\sum M_{i\infty} = 0 \Rightarrow \sum F_{ix} = 0: F_1 - F_3 + N_{2x} = 0$$

$$F_1 - F_3 + N_2 \cdot \cos \alpha = 0$$

$$N_2 = \frac{-4 + 3}{\frac{2}{\sqrt{13}}} = \frac{-\sqrt{13}}{2} \text{ kN} = \underline{\underline{-1,803 \text{ kN (tlak)}}}$$

$$\underline{\underline{-1,803 \text{ kN}}}$$

$$\sum F_{ix} = 0: F_1 - F_3 + R_{cx} = 0 \Rightarrow \underline{\underline{R_{cx}}} = -F_1 + F_3 = -4 + 3 = \underline{\underline{-1 \text{ kN (} \leftarrow \text{)}}}$$

$$\oplus \sum M_{ic} = 0: -F_1 \cdot 12 - F_2 \cdot 2 + F_3 \cdot 6 + R_{dz} \cdot 2 = 0 \Rightarrow \underline{\underline{R_{dz}}} = \frac{F_1 \cdot 12 + F_2 \cdot 2 - F_3 \cdot 6}{2} = \underline{\underline{21 \text{ kN (} \uparrow \text{)}}}$$

$$\oplus \sum M_{id} = 0: -F_1 \cdot 12 + F_3 \cdot 6 - R_{cz} \cdot 2 = 0 \Rightarrow \underline{\underline{R_{cz}}} = \frac{-F_1 \cdot 12 + F_3 \cdot 6}{2} = \underline{\underline{-15 \text{ kN (} \downarrow \text{)}}}$$

$$K: \sum F_{iz} = 0 \oplus: R_{cz} + R_{dz} - F_2 = 0 \Rightarrow -15 + 21 - 6 = 0 \checkmark$$