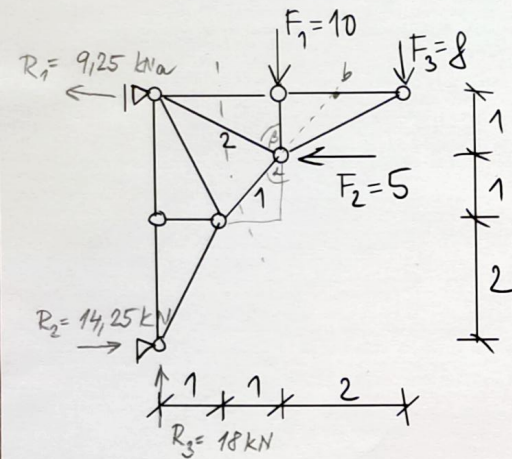
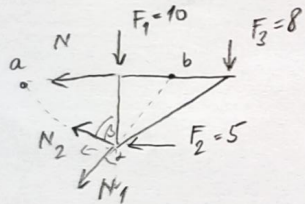




$$\sin \beta = \frac{2}{\sqrt{5}}; \cos \beta = \frac{1}{\sqrt{5}}$$

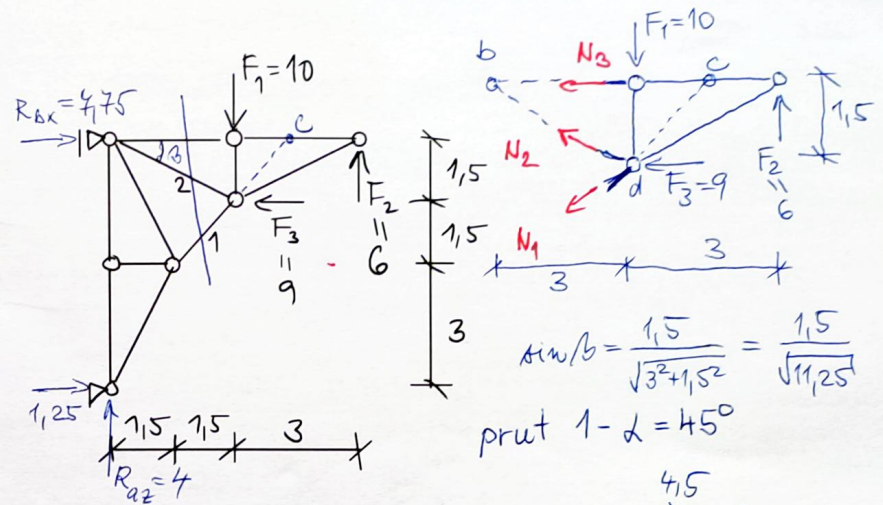


$$\begin{aligned} \sum M_{ia} = 0: & -F_1 \cdot 2 - F_3 \cdot 4 - F_2 \cdot 1 - N_{12} \cdot 2 - N_{1x} \cdot 1 = 0 \\ & -10 \cdot 2 - 8 \cdot 4 - 5 \cdot 1 - N_1 \cdot 2 \cdot \frac{\sqrt{2}}{2} - N_1 \cdot 1 \cdot \frac{\sqrt{2}}{2} = 0 \end{aligned}$$

$$N_1 = \frac{-57}{\left(\frac{\sqrt{2}}{2} + \frac{\sqrt{2}}{2}\right)} = -26,87 \text{ kN (TLAK)}$$

$$\begin{aligned} \sum M_{ib} = 0: & F_1 \cdot 1 - F_3 \cdot 1 - F_2 \cdot 1 - N_{2x} \cdot 1 - N_{22} \cdot 1 = 0 \\ & 10 \cdot 1 - 8 \cdot 1 - 5 \cdot 1 - N_2 \cdot \frac{2}{\sqrt{5}} - N_2 \cdot \frac{1}{\sqrt{5}} = 0 \end{aligned}$$

$$N_2 = \frac{-3}{\left(\frac{2}{\sqrt{5}} + \frac{1}{\sqrt{5}}\right)} = -2,24 \text{ kN (TLAK)}$$



$$\sin \beta = \frac{1,5}{\sqrt{3^2 + 1,5^2}} = \frac{1,5}{\sqrt{11,25}}$$

prut 1-2 = 45°

$$\begin{aligned} \sum M_{bi} = 0: & (+) \downarrow F_1 \cdot 3 - F_2 \cdot 6 + F_3 \cdot 1,5 + N_{12} \cdot 4,5 = 0 \\ N_1 &= \frac{-10 \cdot 3 + 6 \cdot 6 - 9 \cdot 1,5}{4,5 \cdot \sin 45^\circ} = -2,357 \text{ kN (tlak)} \end{aligned}$$

$$\begin{aligned} \sum M_{ci} = 0: & (+) \downarrow -F_1 \cdot 1,5 + F_3 \cdot 1,5 - F_2 \cdot 1,5 + N_{22} \cdot 4,5 = 0 \\ N_2 &= \frac{10 \cdot 1,5 - 9 \cdot 1,5 + 6 \cdot 1,5}{4,5 \cdot \sin \beta} = 5,214 \text{ kN (tah)} \end{aligned}$$

kontrola:

$$\sum M_{di} = 0: (+) \downarrow N_3 \cdot 1,5 + F_2 \cdot 3 = 0 \Rightarrow N_3 = \frac{-6 \cdot 3}{1,5} = -12 \text{ kN (tlak)}$$

$$\begin{aligned} \sum F_{2i} = 0: & (+) \downarrow F_1 - N_{22} + N_{12} - F_2 = 0 \\ & 10 - 5,214 \cdot \frac{1,5}{\sqrt{11,25}} + (-2,357) \cdot \sin 45^\circ - 6 = 0 \\ & 0 = 0 \checkmark \end{aligned}$$

$$\begin{aligned} \sum F_{xi} = 0: & (+) \leftarrow N_3 + N_{2x} + N_{1x} + F_3 = 0 \\ & -12 + 5,214 \cdot \frac{3}{\sqrt{11,25}} + (-2,357) \cdot \cos 45^\circ + 9 = 0 \quad 0 = 0 \checkmark \end{aligned}$$