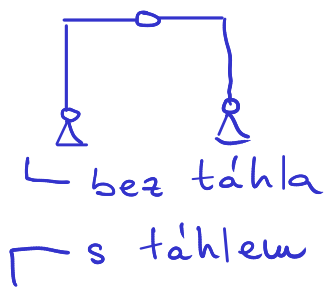
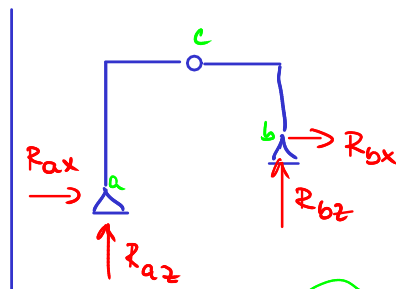
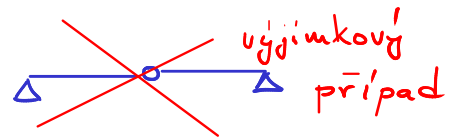
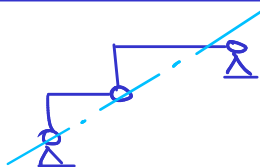
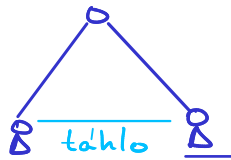
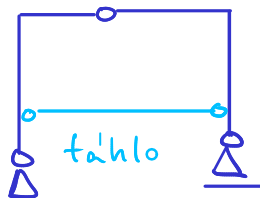


TROJKLOUBOVÝ NOSNÍK S TA'HLEM A BEZ TA'HLA



s táhlem



$$\sum M_{ai} = 0 \Rightarrow R_{bx} \text{ a } R_{bz}$$

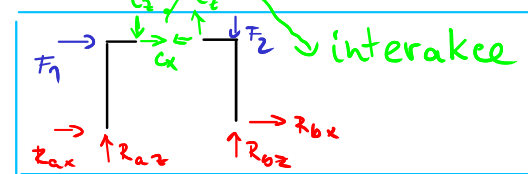
$$\sum M_{bi}^P = 0 \Rightarrow R_{bx} \text{ a } R_{bz}$$

soustava ric

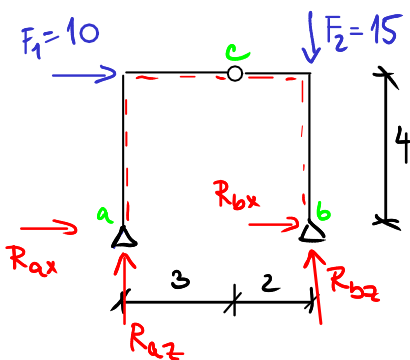
$$\sum M_{bi} = 0 \Rightarrow R_{ax} \text{ a } R_{az}$$

$$\sum M_{ci}^L = 0 \Rightarrow R_{ax} \text{ a } R_{az}$$

soustava ric



Trojkloubový nosník bez táhla



Reakce: $\sum M_{bi} = 0 \oplus \downarrow$

$$F_1 \cdot 4 + F_2 \cdot 5 - R_{bz} \cdot 5 = 0 \Rightarrow R_{bz} = \underline{\underline{23 \text{ kN}}}$$

$$\sum M_{bi} = 0 \oplus \downarrow$$

$$R_{az} \cdot 5 + F_1 \cdot 4 = 0 \Rightarrow R_{az} = \underline{\underline{-8 \text{ kN}}}$$

$$\sum M_c^L = 0 \oplus \downarrow$$

$$R_{az} \cdot 3 - R_{ax} \cdot 4 = 0 \Rightarrow R_{ax} = \underline{\underline{-6 \text{ kN}}}$$

$$\sum M_c^P = 0 \oplus \downarrow$$

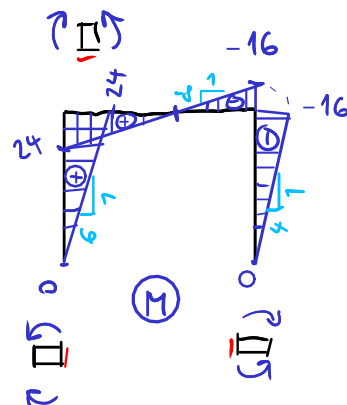
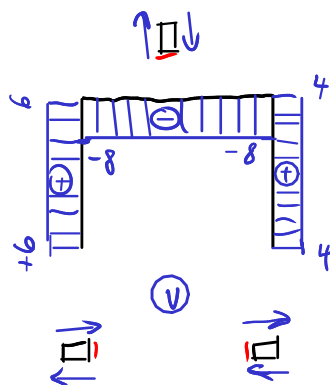
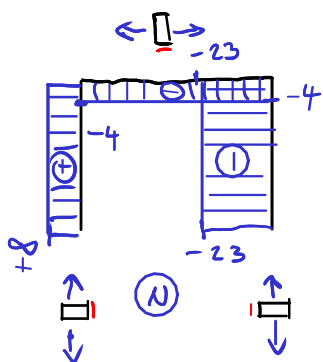
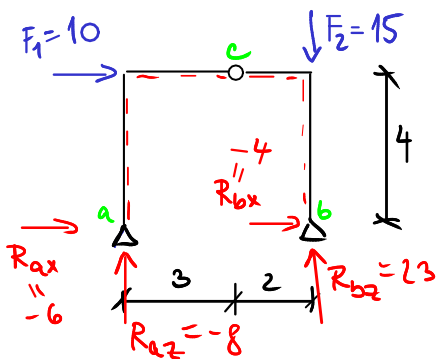
$$F_2 \cdot 2 - R_{bx} \cdot 4 - R_{bz} \cdot 2 = 0 \Rightarrow R_{bx} = \underline{\underline{-4 \text{ kN}}}$$

kontrola: $\sum F_{xi} = 0 \oplus \rightarrow$

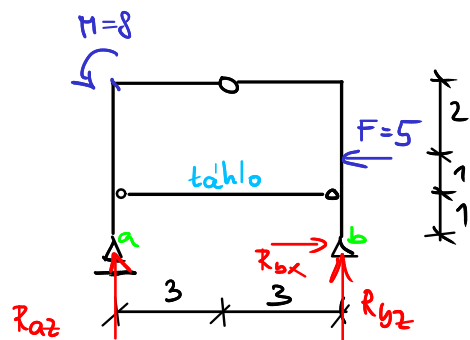
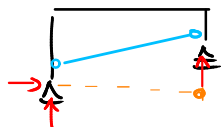
$$F_1 + R_{ax} + R_{bx} = 0 \quad 0 = 0 \checkmark$$

$$\sum F_{zi} = 0 \oplus \uparrow$$

$$R_{az} + R_{bz} - F_2 = 0 \quad 0 = 0 \checkmark$$



Trojkloubový nosník s táhlem



Reakce: $\sum M_{ai} = 0 \oplus \uparrow$

$$M + F \cdot 2 + R_{bz} \cdot 6 = 0 \Rightarrow \underline{R_{bz} = -3 \text{ kN}}$$

$\sum M_{bi} = 0 \oplus \downarrow$

$$R_{az} \cdot 6 - M - F \cdot 2 = 0 \Rightarrow \underline{R_{az} = 3 \text{ kN}}$$

$\sum F_{xi} = 0 \oplus \rightarrow$

$$R_{bx} - F = 0 \Rightarrow \underline{R_{bx} = 5 \text{ kN}}$$

kontrola: $\sum F_{zi} = 0 \oplus \uparrow$

$$R_{az} + R_{bz} = 0 \quad \underline{0 = 0 \checkmark}$$

výpočet N_t :

$\sum M_{ci}^L = 0 \oplus \uparrow$

$$M - R_{az} \cdot 3 + N_t \cdot 3 = 0 \Rightarrow \underline{N_t = \frac{1}{3} \text{ kN}}$$

kontrola: $\sum M_{ci}^P = 0 \oplus \uparrow$

$$R_{bz} \cdot 3 + R_{bx} \cdot 4 - N_t \cdot 3 - F \cdot 2 = 0 \quad \underline{0 = 0 \checkmark}$$

