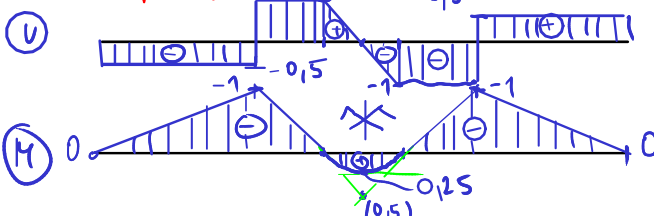
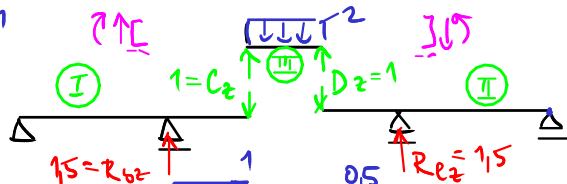
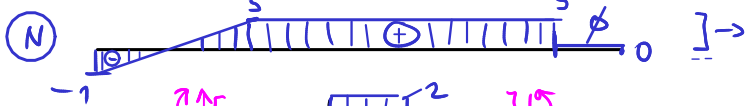
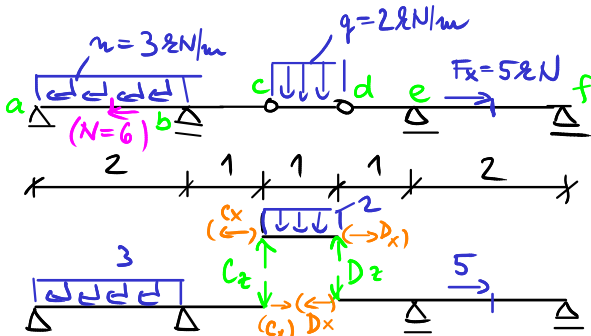
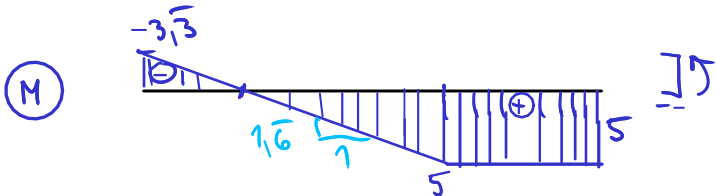
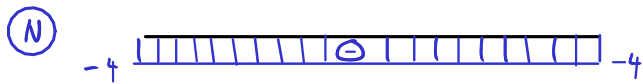
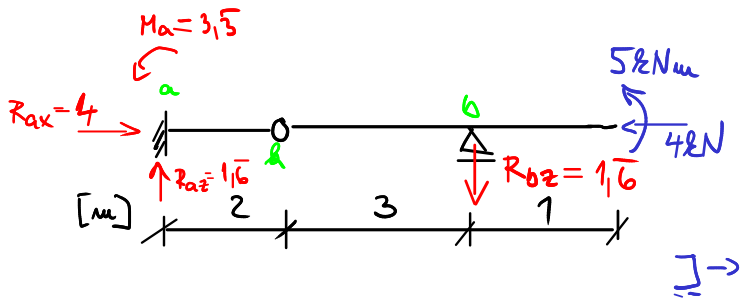
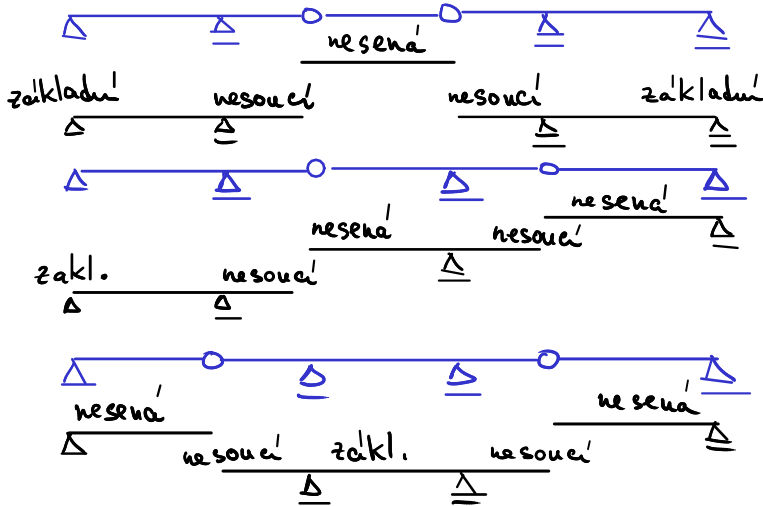


berberův nosník

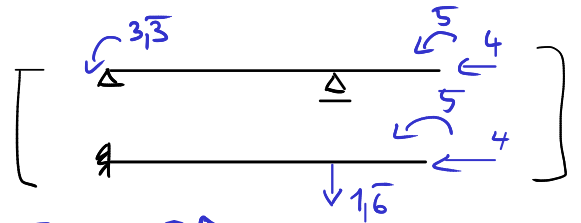


1) nesmí vzniknout nestabilní část

2) krajní pole zakončené $\Delta \Delta$
- max 1 kloub

3) krajní pole zakončené ∇ nebo ve vnitřním poli
- max 2 klouby

4) v krajním poli s ∇
- min 1 kloub



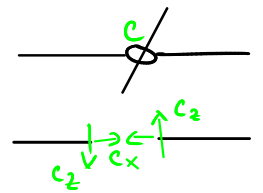
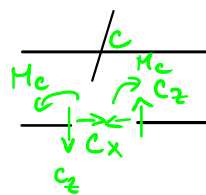
$$\sum M_{ki}^P = 0 \quad (+)$$

$$5 - R_{b2} \cdot 3 = 0$$

$$R_{b2} = \frac{5}{3} = 1.6 \text{ kN}$$

$$M_a = 5 - R_{b2} \cdot 5 = -3.5 \text{ kNm}$$

$$\text{kontrola: } \frac{5}{3} = \frac{3.5}{2} \quad \checkmark$$



symetrie
 $D_z = C_z = \frac{Q}{2} = \frac{2 \cdot 1}{2} = 1$

$$\sum M_{ci}^{\text{III}} = 0 \quad (+) \quad (\text{kontrola } \sum F_{zi} = 0)$$

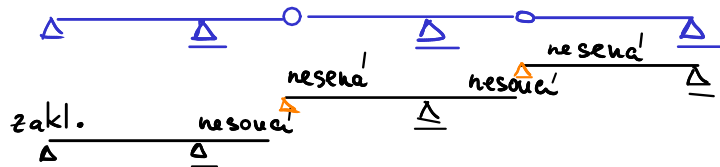
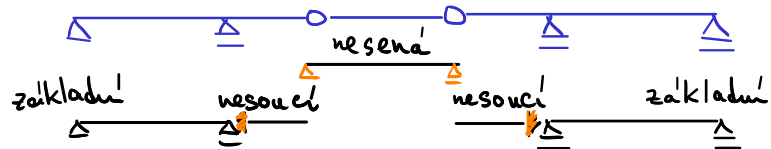
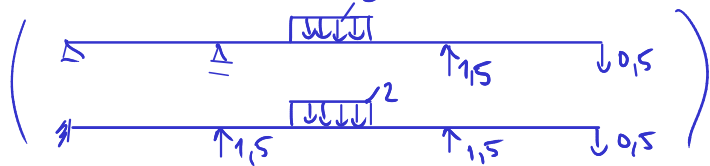
$$2 \cdot 0.5 - D_z \cdot 1 = 0 \Rightarrow D_z = 1 \text{ kN}$$

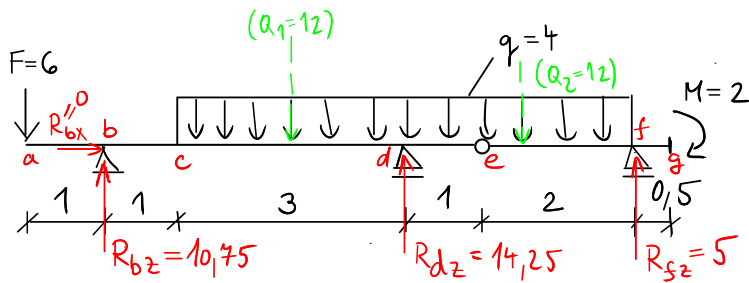
$$C_z = 1 \text{ kN}$$

$$\frac{1}{8} q l^2 = \frac{1}{8} \cdot 2 \cdot 1^2 = 0.25 \text{ kNm} = M_{\max}$$

$$\sum M_{fi}^{\text{II}} = 0 \quad (+)$$

$$R_{e2} \cdot 2 - D_z \cdot 3 = 0 \Rightarrow R_{e2} = 1.5 \text{ kN} = R_{b2}$$





$$\sum F_{xi} = 0 : R_{bx} = 0$$

$$\sum M_{ei}^P = 0 : R_{fz} \cdot 2 - M - q \cdot \frac{2^2}{2} = 0$$

$$R_{fz} = \frac{2 + 4 \cdot 2}{2} = \underline{\underline{5 \text{ kN}}}$$

$$\sum M_{bi} = 0 : F \cdot 1 + R_{dz} \cdot 4 + R_{fz} \cdot 7 - M - q \cdot 6 \cdot 4 = 0$$

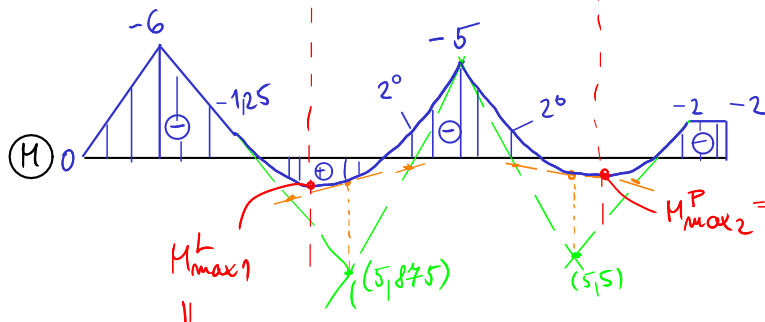
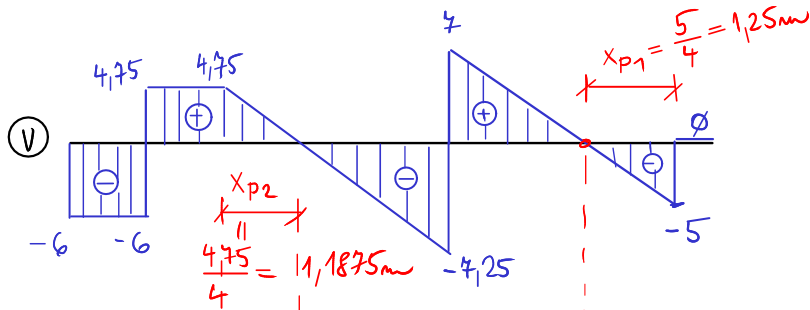
$$R_{dz} = \frac{-6 \cdot 1 - 5 \cdot 7 + 2 + 4 \cdot 6 \cdot 4}{4} = \underline{\underline{14.25 \text{ kN}}}$$

$$\sum M_{di} = 0 : -F \cdot 5 + R_{bz} \cdot 4 - R_{fz} \cdot 3 + M = 0$$

$$R_{bz} = \frac{6 \cdot 5 + 5 \cdot 3 - 2}{4} = \underline{\underline{10.75 \text{ kN}}}$$

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

$$-F + R_{bz} + R_{dz} + R_{fz} - q \cdot 6 = 0 \checkmark$$



$$M_{\max 2}^P = M_{\text{pred}} - \int V dx = -2 - \frac{1}{2}(-5) \cdot 1.25 = \underline{\underline{1.125 \text{ kNm}}}$$

$$M_{\text{pred}} + \int V dx = -1.25 + \frac{1}{2} 4.75 \cdot 1.1875 = \underline{\underline{1.5703125 \text{ kNm}}}$$