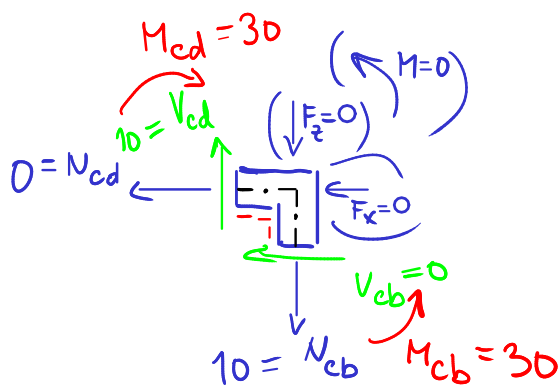
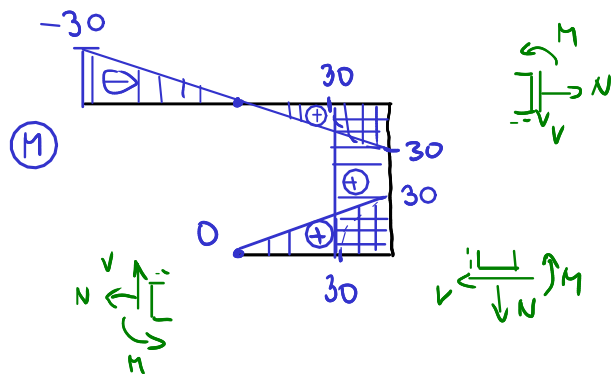
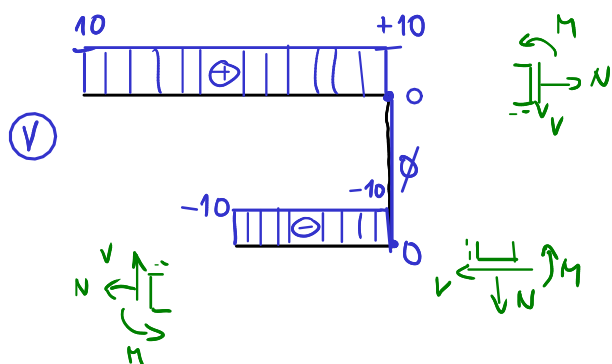
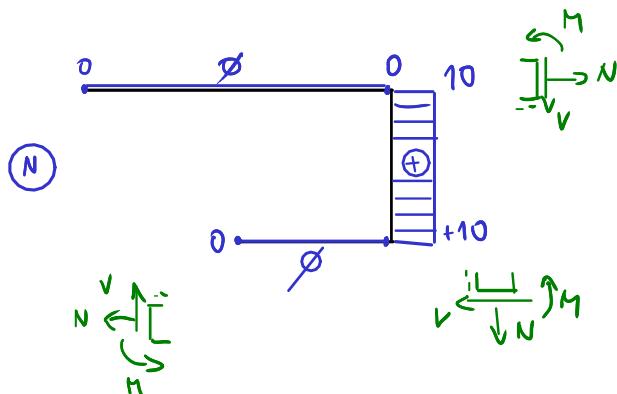
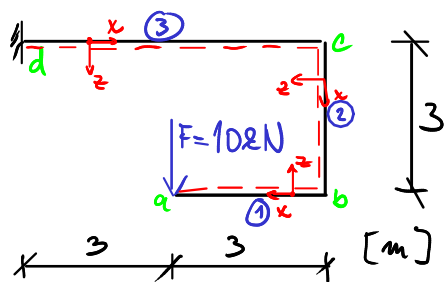
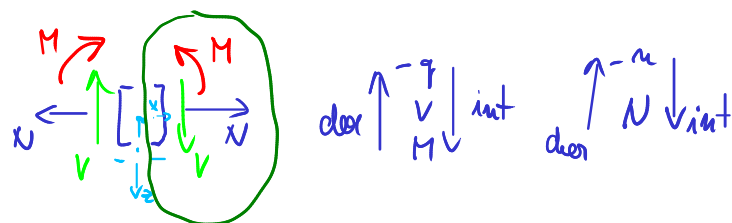


# Pravouhlé lomené nosníky a konzoly



$$\sum F_{xi} = 0 \quad \checkmark$$

$$\sum F_{zi} = 0 \quad \checkmark$$

$$\sum M_{ci} = 0 \quad \checkmark$$

$$N_{cd} = -V_{cb}$$

$$V_{cd} = N_{cb}$$

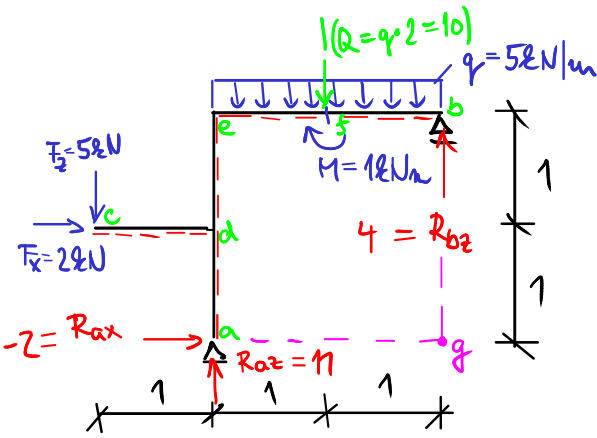
$$M_{cd} = M_{cb}$$

$$M_a = 0 \text{ kNm}$$

$$M_b = F \cdot 3 = 30 \text{ kNm}$$

$$M_c = F \cdot 3 = 30 \text{ kNm}$$

$$M_d = -F \cdot 3 = -30 \text{ kNm}$$



$$\sum F_{xi} = 0 \quad (+) \rightarrow$$

$$R_{ax} + F_x = 0 \Rightarrow \underline{R_{ax} = -F_x = -2 \text{ kN}}$$

$$\sum M_{ai} = 0 \quad (+) \curvearrowright$$

$$R_{bz} \cdot 2 - M - Q \cdot 1 + F_z \cdot 1 - F_x \cdot 1 = 0$$

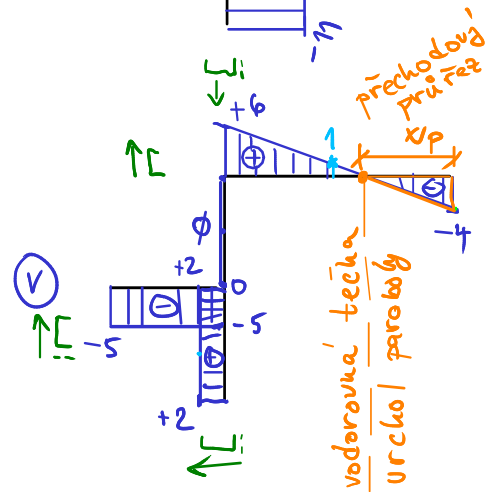
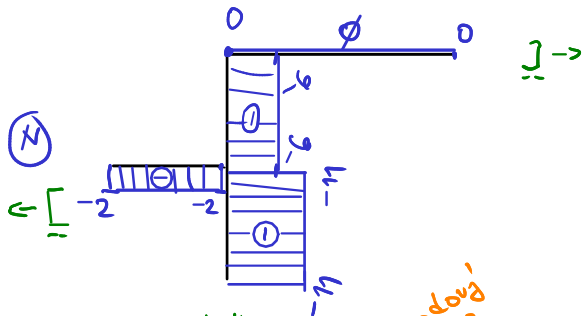
$$\underline{R_{bz} = 4 \text{ kN}}$$

$$\sum M_{gi} = 0 \quad (+) \downarrow$$

$$R_{az} \cdot 2 + F_x \cdot 1 - F_z \cdot 3 - Q \cdot 1 + M = 0$$

$$\underline{R_{az} = 11 \text{ kN}}$$

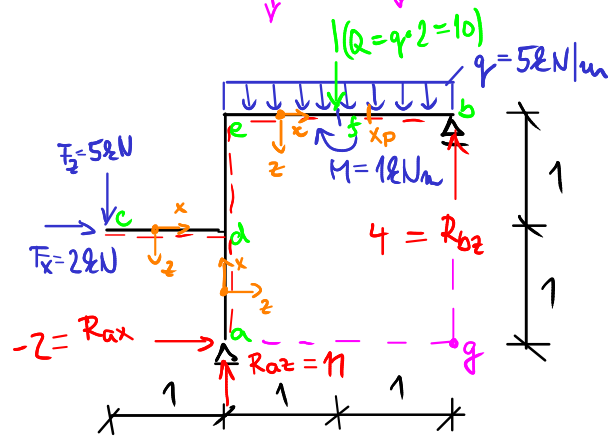
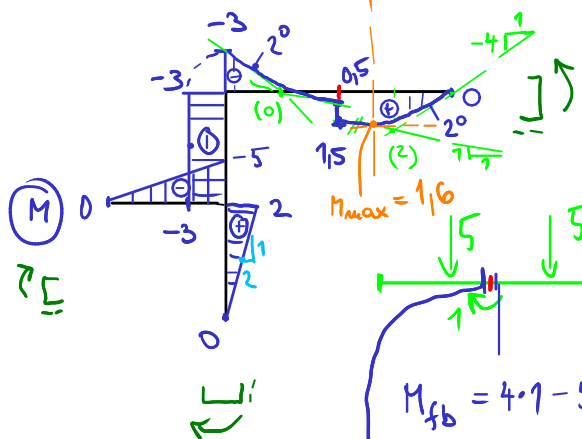
kontrola  $\sum F_{zi} = 0 \quad (+) \uparrow$   
 $R_{az} + R_{bz} - F_z - Q = 0 \quad \checkmark$



$$x_p = \frac{V_{bf}}{q} = \frac{4}{5} = 0.8 \text{ m}$$

$$M_{max} = M_{xp} = R_{ax} \cdot x_p - (q \cdot x_p) \frac{x_p}{2} = 1.6 \text{ kNm}$$

$$M_{max} = M_{xp} = M_b - \int_b^{x_p} V dx = 0 - \frac{1}{2} x_p \cdot (-4) = 1.6 \text{ kNm}$$



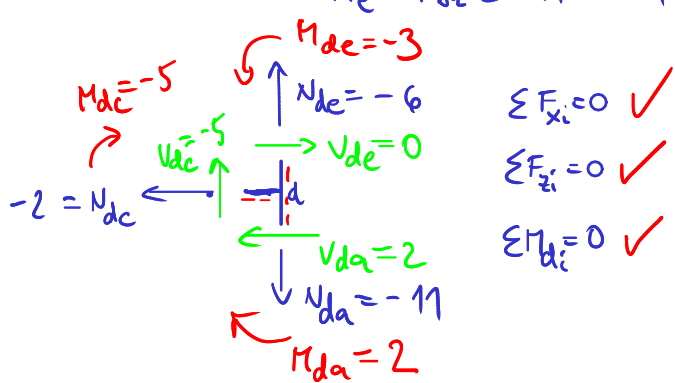
deg  $\uparrow$   $\frac{q}{m}$   $\downarrow$  int

$$M_{da} = -R_{ax} \cdot 1 = \underline{2 \text{ kNm}}$$

$$M_{de} = -F_z \cdot 1 - R_{ax} \cdot 1 = -5 + 2 = -3 \text{ kNm}$$

$$M_{ed} = -R_{ax} \cdot 2 - F_z \cdot 1 - F_x \cdot 1 = -3 \text{ kNm}$$

$$M_e = R_{bz} \cdot 2 - M - Q \cdot 1 = -3 \text{ kNm}$$

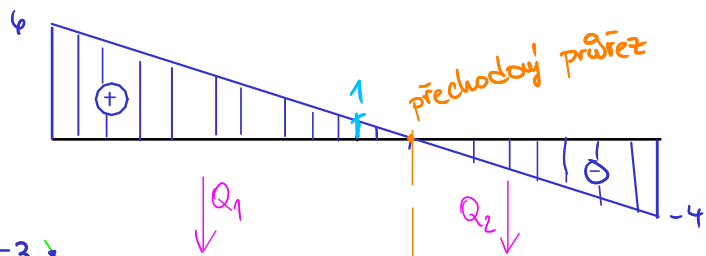


$$\sum F_{xi} = 0 \quad \checkmark$$

$$\sum F_{zi} = 0 \quad \checkmark$$

$$\sum M_{di} = 0 \quad \checkmark$$

$v_{e-b}$



$v_{e-b}$

