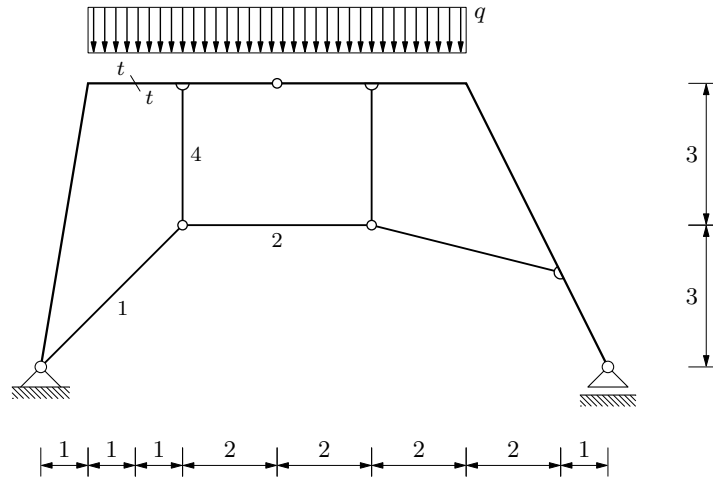


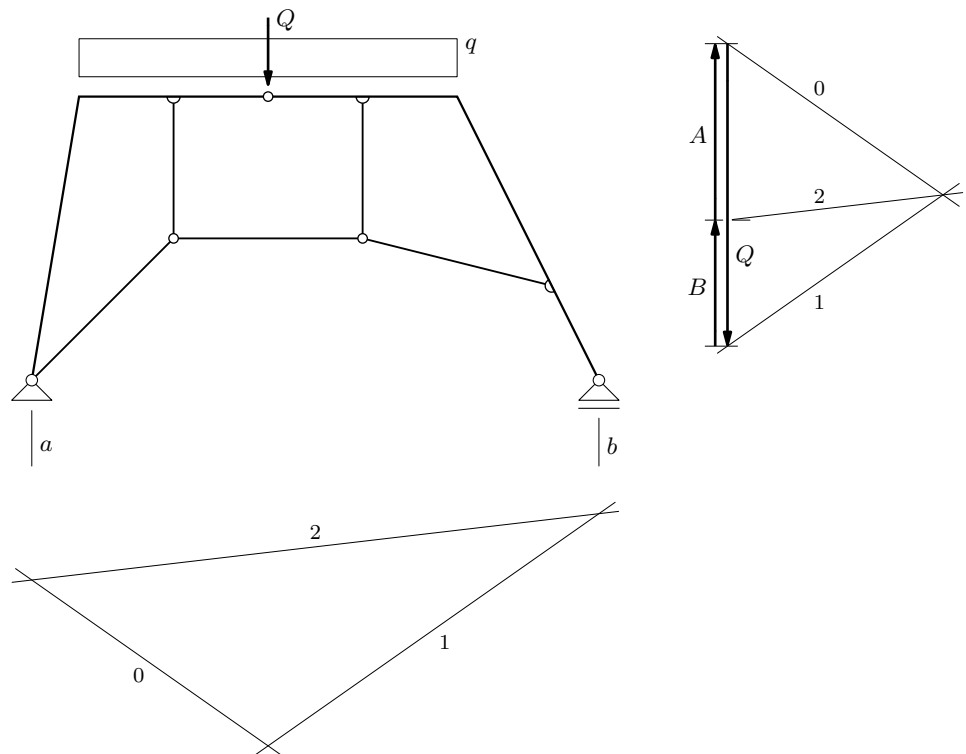
Trozglobni sistem sa zategama – grafički postupak

Grafičkim postupkom odredite vrijednosti reakcija i sila u presjeku $t-t$!

$$q = 25 \text{ kN/m}$$



vrijednosti reakcija:



mjerilo duljina: 1 cm :: 1,6 m

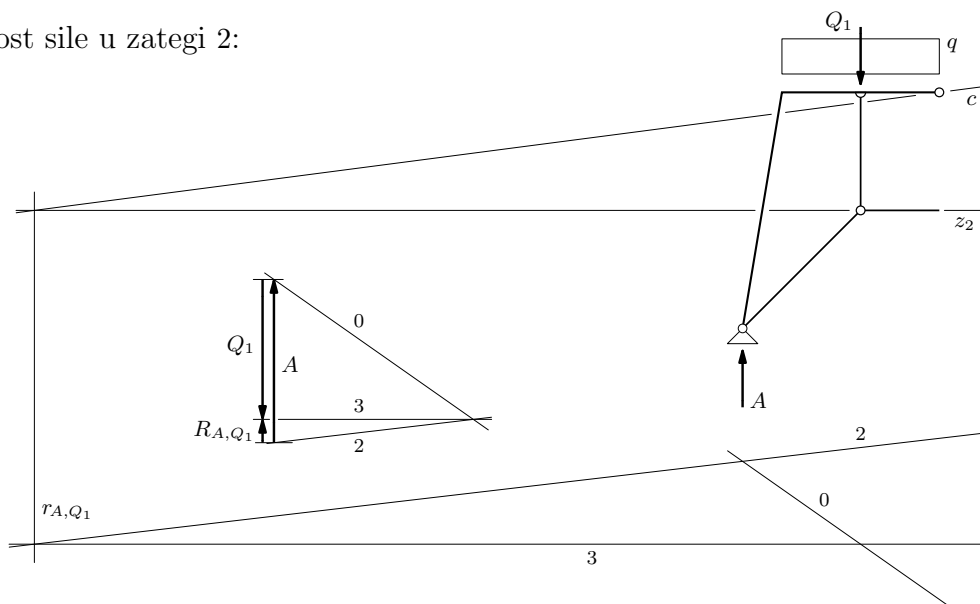
mjerilo sila: 1 cm :: 50 kN

$$Q = q \cdot 8 = 200 \text{ kN} \quad \Rightarrow \quad \tilde{Q} = 4 \text{ cm} \quad (\text{duljina prikaza sile u poligonu sila})$$

$$\text{očitano: } \tilde{B} = 16 \text{ i } 2/3 \text{ mm} \quad \Rightarrow \quad B = 83,3 \text{ kN}$$

$$\tilde{A} = 23 \text{ i } 1/3 \text{ mm} \quad \Rightarrow \quad B = 116,7 \text{ kN}$$

vrijednost sile u zategi 2:



(ovo je skica postupka; cjeloviti crtež u mjerilu s trokutom sila za Z_2 na sljedećoj je stranici)

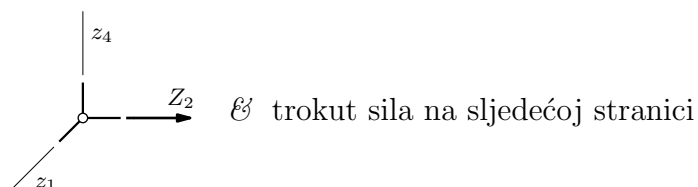
$$Q_1 = q \cdot 4 = 100 \text{ kN} \quad \Rightarrow \quad \tilde{Q}_1 = 2 \text{ cm}$$

$\vec{Q}_1$ rastavljamo u sile na stranicama 0 i 3 verižnoga poligona

$\vec{R}_{A,Q_1}$ je rezultanta sile na stranicama 2 i 3, pa prolazi njihovim sjecištem

rezultanta sile $\vec{R}_{A,Q_1}$ i $\vec{Z}_2$ mora biti na pravcu c koji prolazi srednjim zglobom

vrijednost sile u zategi 1:



vrijednosti sile u presjeku $t-t$:

(slica postupka; crtež u mjerilu s poligonom sila (u mjerilu sila) je na stranici 4)

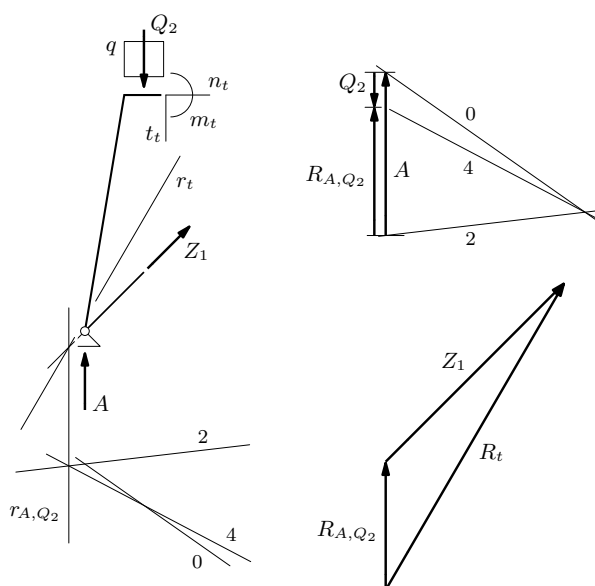
$$Q_2 = q \cdot 1 = 25 \text{ kN}$$

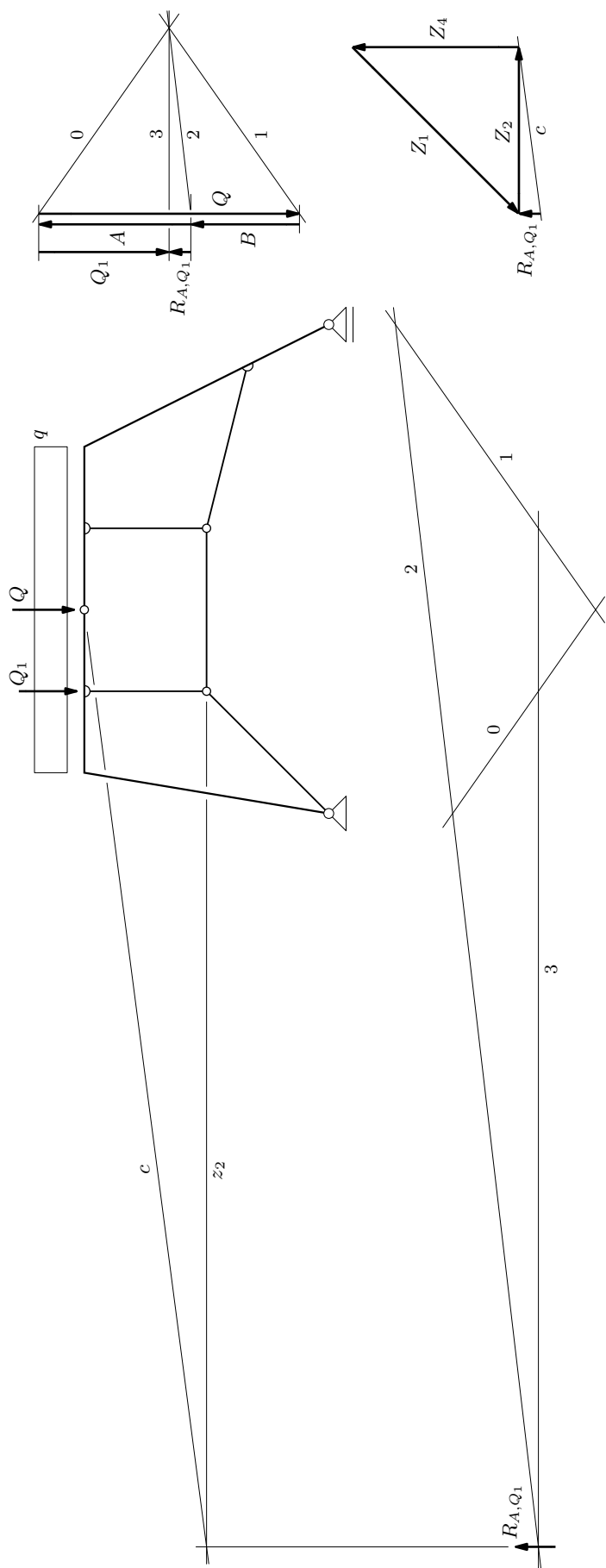
$\vec{Q}_2$ rastavljamo u sile na stranicama 0 i 4 verižnoga poligona

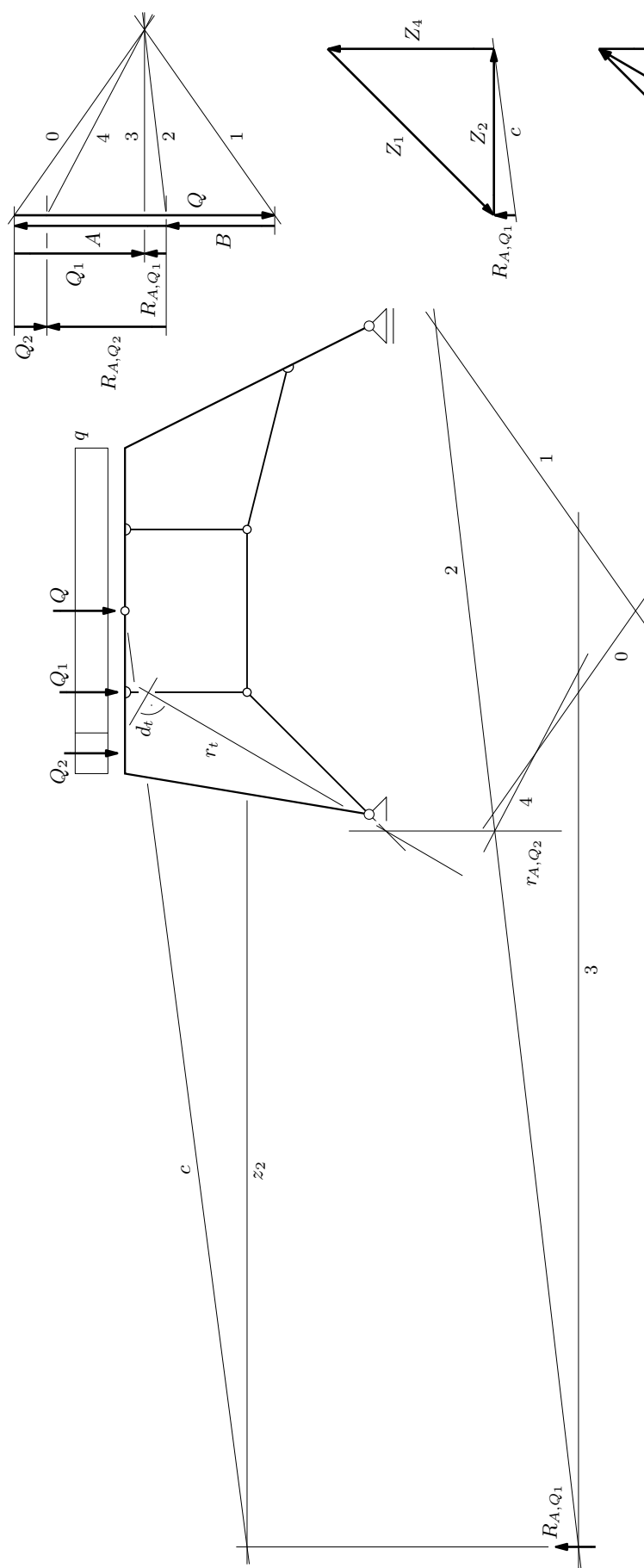
$\vec{R}_{A,Q_2}$ je prolazi sjecištem stranica 2 i 4 [zašto?]

$$\begin{aligned} \vec{R}_t &= \vec{A} + \vec{Q}_2 + \vec{Z}_1 \\ &= \vec{R}_{A,Q_2} + \vec{Z}_1 \end{aligned}$$

$\vec{R}_t$ prolazi sjecištem pravaca r_{A,Q_2} i z_1







očitano: $\tilde{T}_t = 44 \text{ mm} \Rightarrow T_t = 220 \text{ kN}$

$\tilde{N}_t = 25 \text{ i } 1/2 \text{ mm} \Rightarrow N_t = 127,5 \text{ kN}$

$\tilde{R}_t = 50 \text{ i } 3/4 \text{ mm} \Rightarrow R_t = 253,75 \text{ kN} \quad (\text{ili: } R_t = \sqrt{T_t^2 + N_t^2} = 254,3 \text{ kN})$

$\tilde{d}_t = 7 \text{ i } 1/5 \text{ mm} \Rightarrow d_t = 1,15 \text{ m}$

$\Rightarrow M_t = d_t \cdot R_t = 1,15 \cdot 253,75 = 291,8 \text{ kNm} \quad \curvearrowright$