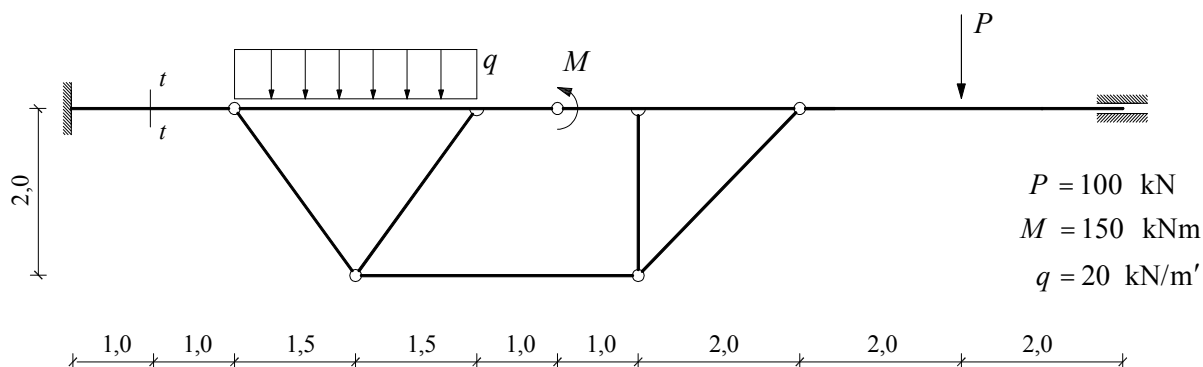
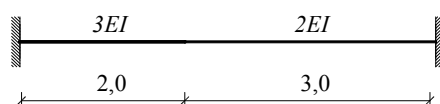


GS 1. – 15.06.2010.

1. a) Primjenom principa superpozicije nacrtajte M dijagram.
 b) Grafičkim postupkom odredite sile u presjeku $t-t$.

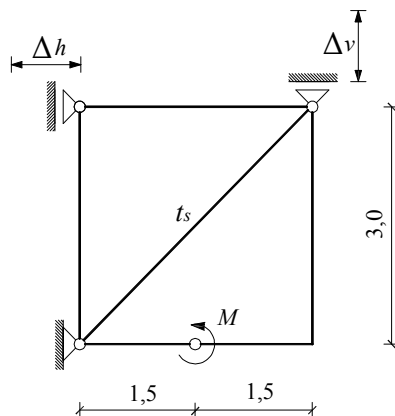


2. Primjenom metode sila izračunajte koeficijent k_{56} matrice krutosti štapa.



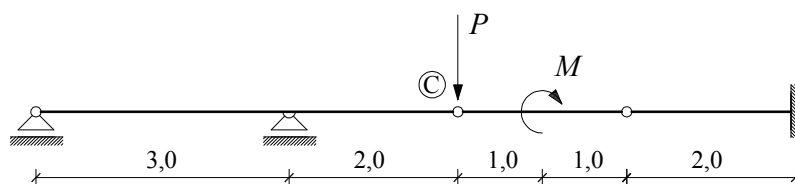
$$EI = 20\,000 \text{ kNm}^2$$

3. Nacrtajte M dijagram.



$$\begin{aligned}
 M &= 100 \text{ kNm} \\
 \Delta v &= 2,5 \text{ cm} \\
 \Delta h &= 3,0 \text{ cm} \\
 b/h &= 25/30 \text{ cm} \\
 E &= 3 \times 10^7 \text{ kN/m}^2 \\
 t_s &= 12 \text{ }^\circ\text{C} \\
 \alpha_t &= 10^{-5} \text{ }^\circ\text{C}^{-1}
 \end{aligned}$$

4. a) Nacrtajte progibnu liniju nosača. Izravnajte zaključnu liniju.
 b) Izračunajte progib točke C.



$$\begin{aligned}
 P &= 100 \text{ kN} \\
 M &= 100 \text{ kNm} \\
 EI &= 40\,000 \text{ kNm}^2
 \end{aligned}$$