

$$E = 210 \text{ kN/mm}^2$$

$$I_{100} = 9,35 \cdot 10^6 \text{ mm}^4$$

$$I_{200} = 2,14 \cdot 10^7 \text{ mm}^4$$

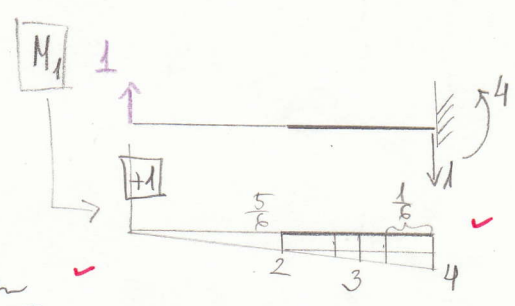
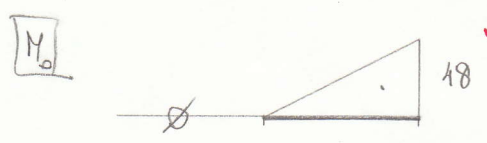
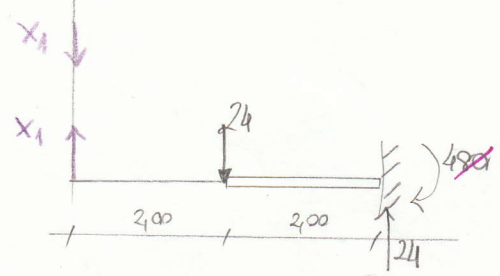
$$A_{08} = 50 \text{ mm}^2$$

$$E \cdot I_1 = 1,963 \cdot 10^9 \text{ kNm}^2$$

$$E \cdot I_2 = 4,494 \cdot 10^9 \text{ kNm}^2$$

$$E \cdot A = 10500 \text{ kN}$$

törzstarto:

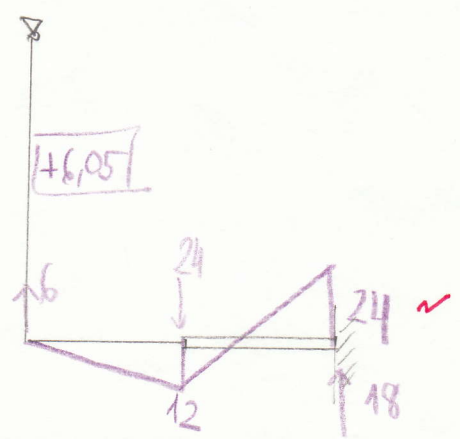


$$e_{10} = \frac{10^9}{E I_2} \left[\frac{48 \cdot 200}{2} \cdot \frac{4 \cdot 5}{6} \right] = -35,6 \text{ mm}$$

$$e_{11} = \frac{1^2 \cdot 400 \cdot 10^3}{10500} + \frac{10^9}{1,963 \cdot 10^9} \left[\frac{2 \cdot 200}{2} \cdot \frac{2}{3} \right] + \frac{10^9}{4,494 \cdot 10^9} \left[2 \cdot 200 \cdot 3 + \frac{2 \cdot 200 \cdot 4,5}{6} \right]$$

$$= 5,891 \text{ mm}$$

$$e_{10} + e_{11} x_1 = 0 \quad x_1 = -\frac{e_{10}}{e_{11}} = -\frac{-35,6}{5,891} = 6,05 \sim 6$$



$$48 \cdot 4 \cdot 6 = 240 \text{ kNm}$$

$$2 \cdot 6 = 12 \text{ kNm}$$

$$24 \cdot 6 = 180 \text{ kNm}$$

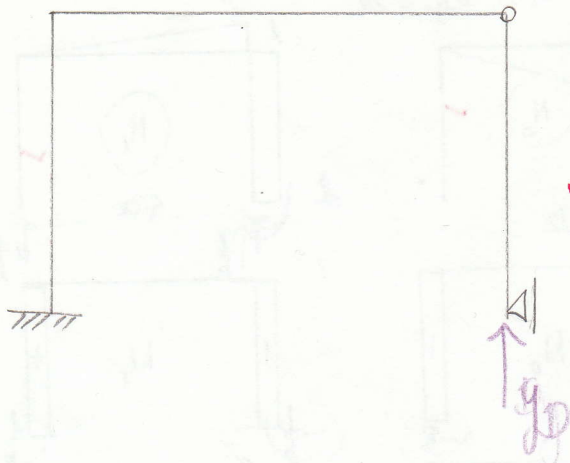
törzstád:



ez eredeti leg csukló
nem szilárd csukló
kiszáradt!
1. támad

2

2

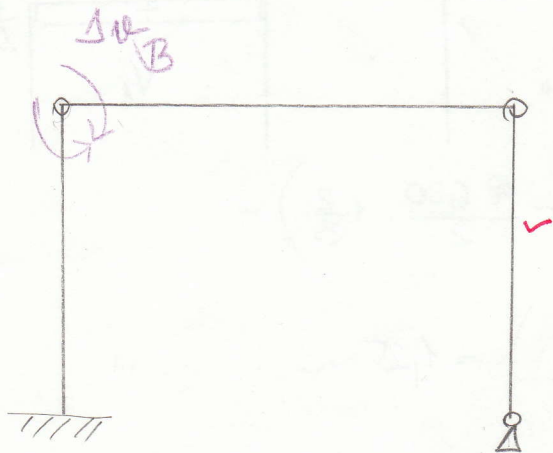


2. gerbstád

$$y_0 = 0$$

eredeti teljes kapcsolatára
bekötve kétféle függ. elrend.

3



3. támad + 3 csukló

$$3) \Delta \varphi_B = 0$$

eredeti teljes kapcsolatára
bekötve kétféle relatív
szögfordulás