

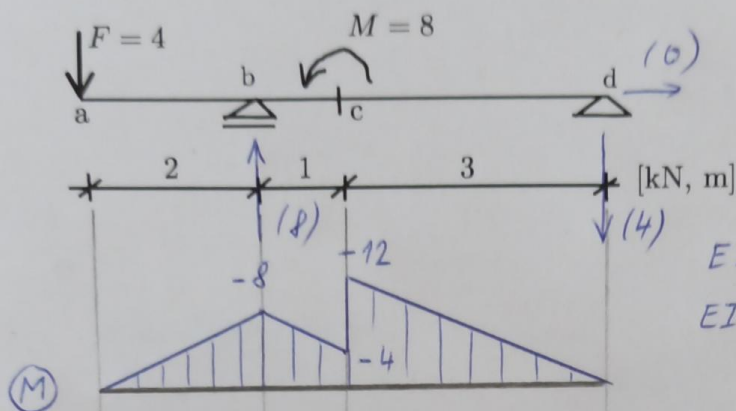
Řešte Mohrovou analogií.

$$E = 30 \text{ GPa}$$

$$I_y = 5,4 \cdot 10^{-4} \text{ m}^4$$

$$\text{průhyb } w_c = ?$$

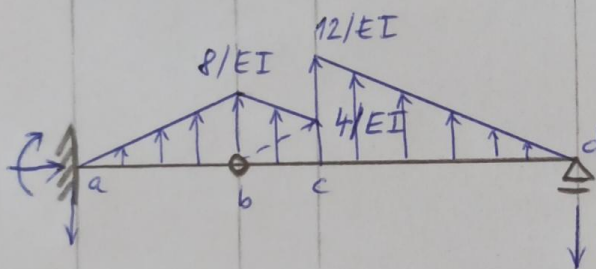
$$\text{pootočení } \varphi_b = ?$$



$$EI = 30 \cdot 10^6 \cdot 5,4 \cdot 10^{-4}$$

$$EI = 16200 \text{ kPa} \cdot \text{m}^4$$

Fiktivní nosník:



$$\sum M_{ib}^P = 0:$$

$$-\tilde{R}_d \cdot 4 + \frac{1}{2} \cdot \frac{12}{EI} \cdot 3 \cdot 2 + \frac{1}{2} \cdot \frac{4}{EI} \cdot 1 \cdot \frac{2}{3} + \frac{1}{2} \cdot \frac{8}{EI} \cdot 1 \cdot \frac{1}{3} = 0$$

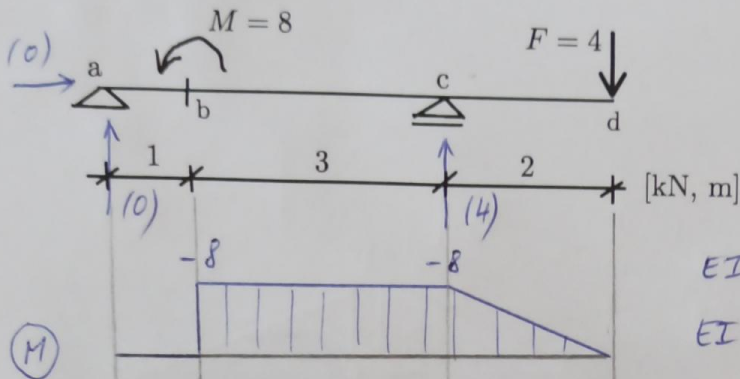
$$\tilde{R}_d = \frac{29}{3EI} = (9,6/EI) [-]$$

$$\varphi_b = \tilde{V}_b = +\tilde{R}_d - \frac{1}{2} \cdot \frac{12}{EI} \cdot 3 - \frac{1}{2} \cdot \frac{4}{EI} \cdot 1 - \frac{1}{2} \cdot \frac{8}{EI} \cdot 1 = \frac{-14,3}{EI} = \frac{-14,3}{16200} = -0,885 \cdot 10^{-3} \text{ rad}$$

$$w_c = \tilde{M}_c = -\tilde{R}_d \cdot 3 + \frac{1}{2} \cdot \frac{12}{EI} \cdot 3 \cdot 1 = \frac{-11}{EI} = \frac{-11}{16200} = -0,679 \cdot 10^{-3} \text{ m}$$

Řešte Mohrovou analogií.

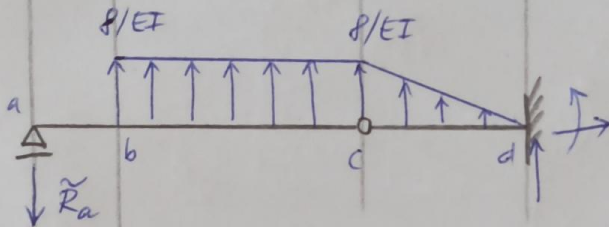
$E = 30 \text{ GPa}$
 $I_y = 5,4 \cdot 10^{-4} \text{ m}^4$
 průhyb $w_d = ?$
 pootočení $\varphi_d = ?$



$$EI = 30 \cdot 10^6 \cdot 5,4 \cdot 10^{-4}$$

$$EI = 16200 \text{ kPa} \cdot \text{m}^4$$

Fiktivní nosník:



$$\textcircled{+} \sum M_{ic}^L = 0: -\tilde{R}_a \cdot 4 + \frac{8}{EI} \cdot 3 \cdot 1,5 = 0$$

$$\tilde{R}_a = \frac{9}{EI} \quad [-]$$

$$\underline{w_d = \tilde{M}_d} = -\tilde{R}_a \cdot 6 + \frac{8}{EI} \cdot 3 \cdot 3,5 + \frac{1}{2} \cdot \frac{8}{EI} \cdot 2 \cdot \frac{2}{3} \cdot 2 = \frac{40,6}{EI}$$

$$= \frac{40,6}{16200} = \underline{\underline{2,510 \cdot 10^{-3} \text{ m}}}$$

$$\underline{\varphi_d = \tilde{V}_d} = -\tilde{R}_a + \frac{8}{EI} \cdot 3 + \frac{1}{2} \cdot \frac{8}{EI} \cdot 2 = \frac{23}{EI}$$

$$= \frac{23}{16200} = \underline{\underline{1,420 \cdot 10^{-3} \text{ rad}}}$$