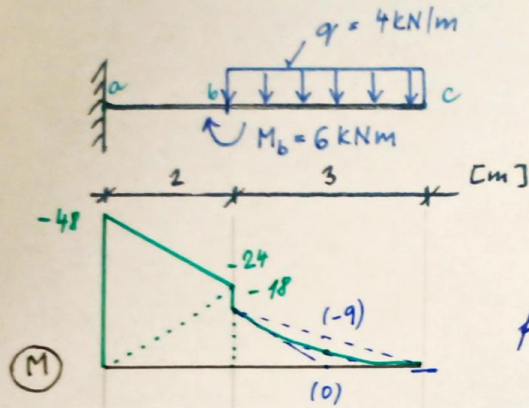


(a)

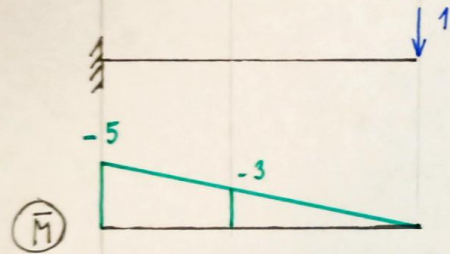
VITENOV

$$W_C = ?$$

$$EI = 1,08 \cdot 10^4 \text{ kPa} \cdot \text{m}^4$$



$$f = \frac{1}{8} q l^2 = \frac{1}{8} \cdot 4 \cdot 3^2 = 4,5$$



$$W_C = \frac{1}{EI} \left\{ \left(\frac{1}{2} \cdot 2 \cdot (-48) \right) \cdot \left[\frac{2}{3}(-5) + \frac{1}{3}(-3) \right] + \left(\frac{1}{2} \cdot 2 \cdot (-24) \right) \cdot \left[\frac{1}{3}(-5) + \frac{2}{3}(-3) \right] \right.$$

$$+ \left(\frac{1}{2} \cdot (-18) \cdot 3 \right) \cdot \left[\frac{2}{3}(-3) \right] + \left(\frac{2}{3} \cdot 3 \cdot 4,5 \right) \cdot \left[\frac{1}{2} \cdot (-3) \right] \Big\} =$$

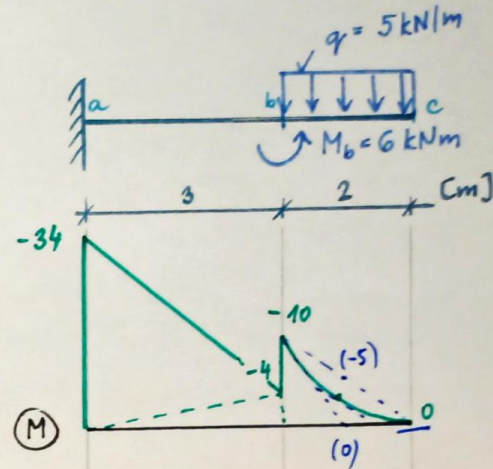
$$= \frac{336,5}{EI} = 0,03116 \text{ m} = \underline{\underline{31,16 \text{ mm}}}$$

(b)

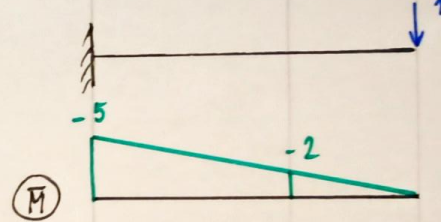
VITENOV

$$W_C = ?$$

$$EI = 1,08 \cdot 10^4 \text{ kPa} \cdot \text{m}^4$$



$$f = \frac{1}{8} q l^2 = \frac{1}{8} \cdot 5 \cdot 2^2 = 2,5$$



$$W_C = \frac{1}{EI} \left\{ \left(\frac{1}{2} \cdot 3 \cdot (-34) \right) \cdot \left[\frac{2}{3}(-5) + \frac{1}{3}(-2) \right] + \left(\frac{1}{2} \cdot 3 \cdot (-4) \right) \cdot \left[\frac{1}{3}(-5) + \frac{2}{3}(-2) \right] \right.$$

$$+ \left(\frac{1}{2} \cdot 2 \cdot (-10) \right) \cdot \left[\frac{2}{3}(-2) \right] + \left(\frac{2}{3} \cdot 2 \cdot 2,5 \right) \cdot \left[\frac{1}{2}(-2) \right] \Big\} = \frac{232}{EI} =$$

$$= 0,02148 \text{ m} = \underline{\underline{21,48 \text{ mm}}}$$