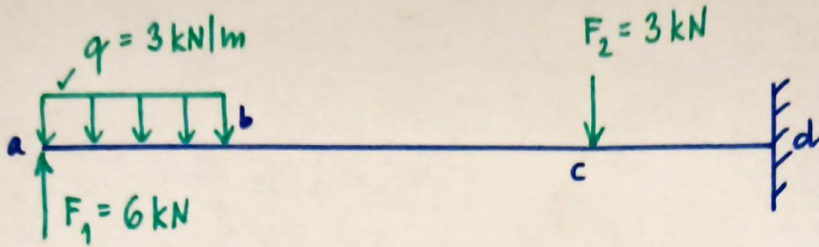
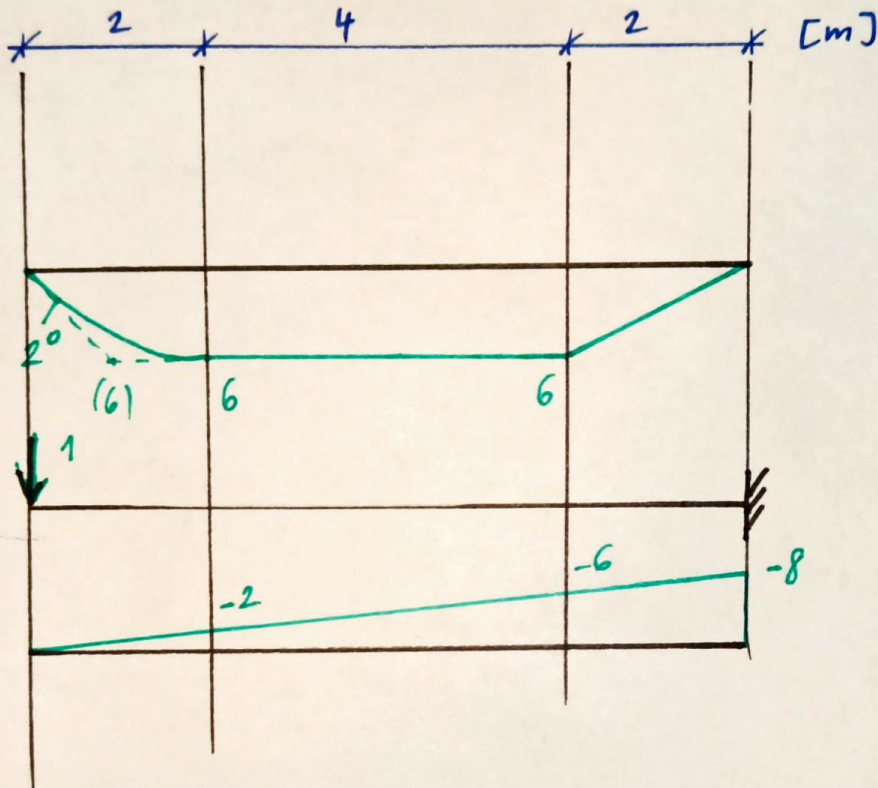


①



$w_a = ?$
 $EI = \text{konst.}$

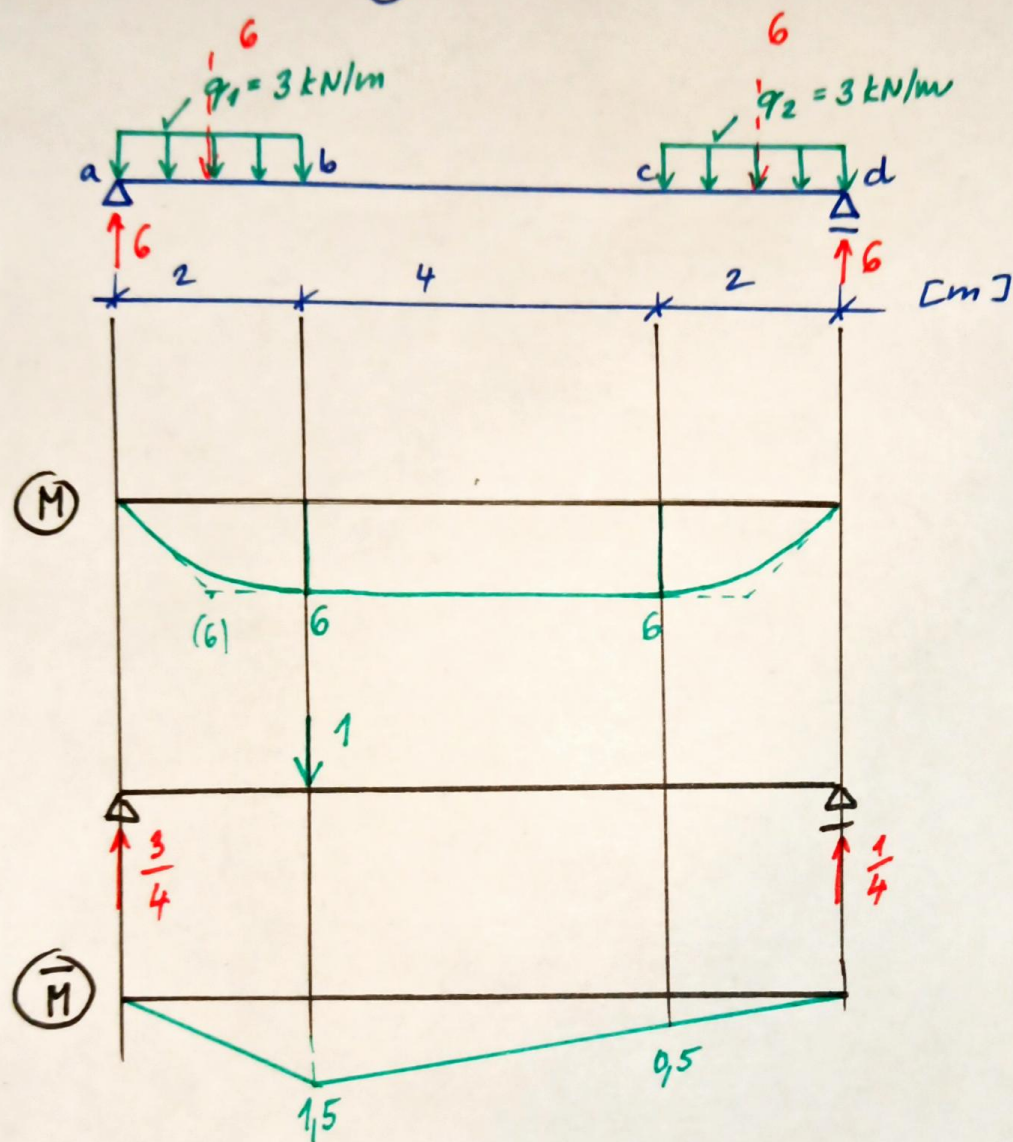


$$w_a = \frac{1}{EI} \left\{ \left(\frac{1}{2} \cdot 2 \cdot 6 \right) \cdot \left[\frac{2}{3} (-2) \right] + \left(\frac{2}{3} \cdot 2 \cdot 1.5 \right) \cdot \left[\frac{1}{2} \cdot (-2) \right] + \right.$$

$f = \frac{1}{8} \cdot 3 \cdot 2^2 = 1.5$

$$+ (6 \cdot 4) \cdot [-4] + \left(\frac{1}{2} \cdot 2 \cdot 6 \right) \cdot \left[\frac{1}{3} (-8) + \frac{2}{3} (-6) \right] \Big\} =$$
$$= \underline{\underline{\frac{-146}{EI}}}$$

(2)



$w_b = ?$
 $EI = \text{konst.}$

$$\begin{aligned}
 \underline{\underline{w_b}} &= \frac{1}{EI} \left\{ \left(\frac{1}{2} \cdot 2 \cdot 6 \right) \cdot \left[\frac{2}{3} \cdot 1,5 \right] + \left(\frac{2}{3} \cdot 2 \cdot 1,5 \right) \cdot \left[\frac{1}{2} \cdot 1,5 \right] + \right. \\
 &\quad + (4 \cdot 6) \cdot [1] + \left(\frac{1}{2} \cdot 6 \cdot 2 \right) \cdot \left[\frac{2}{3} \cdot 0,5 \right] + \left(\frac{2}{3} \cdot 2 \cdot 1,5 \right) \cdot \left[\frac{1}{2} \cdot \frac{1}{2} \right] \left. \right\} \\
 &= \underline{\underline{\frac{34}{EI}}}
 \end{aligned}$$

③

$q = 3 \text{ kN/m}$

$w_c = ?$

$EI = \text{konst.}$

(M)

$f = \frac{1}{8} \cdot 3 \cdot 4^2 = 6$

(M)

$$w_c = \frac{1}{EI} \left\{ \left(\frac{1}{2} \cdot 2 \cdot 12 \right) \cdot \left[\frac{2}{3} \cdot 0,5 \right] + (4 \cdot 12) \cdot \left[\frac{1}{2} \cdot 0,5 + \frac{1}{2} \cdot 1,5 \right] + \left(\frac{2}{3} \cdot 4 \cdot 6 \right) \cdot \left[\frac{1}{2} \cdot 0,5 + \frac{1}{2} \cdot 1,5 \right] + \left(\frac{1}{2} \cdot 2 \cdot 12 \right) \cdot \left[\frac{2}{3} \cdot 1,5 \right] \right\} =$$

$$= \frac{80}{EI}$$