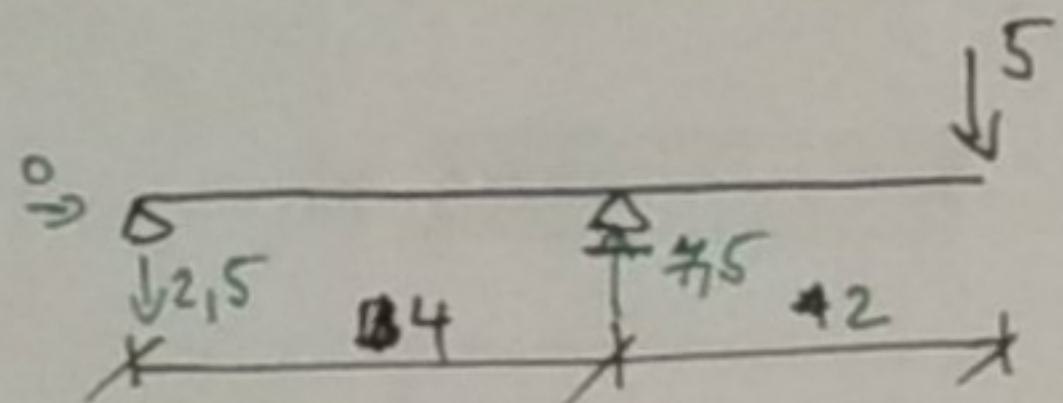




$$M(x) = -2.5 \cdot x \Big|_{x < 4} + 4.5 \cdot (x-4) \Big|_{x > 4}$$

$$EI w''' = -M(x)$$

$$EI w'' = 2.5x \Big|_{x < 4} - 4.5(x-4) \Big|_{x > 4}$$

$$EI w' = C_1 + 2.5 \frac{x^2}{2} \Big|_{x < 4} - 4.5 \frac{(x-4)^2}{2} \Big|_{x > 4}$$

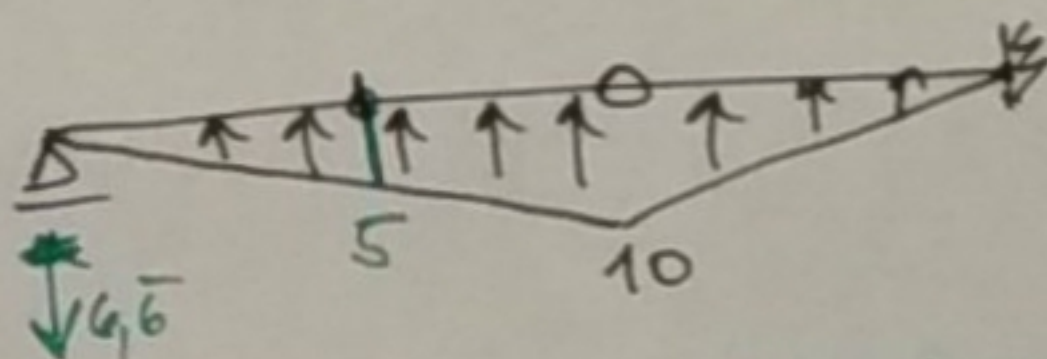
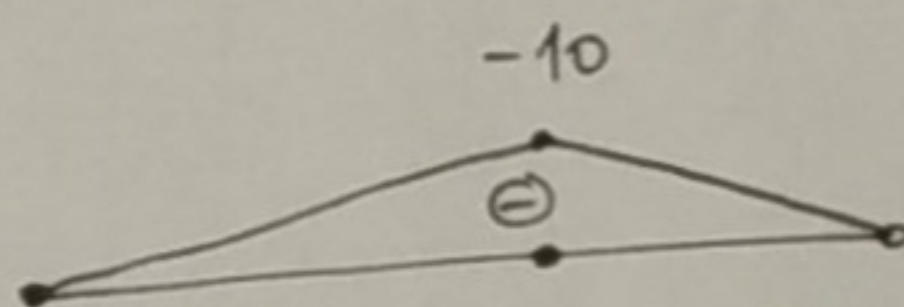
$$EI w = C_2 + C_1 x + 2.5 \frac{x^3}{6} \Big|_{x < 4} - 4.5 \frac{(x-4)^3}{6} \Big|_{x > 4}$$

$$w(x=0) = 0 \Rightarrow C_2 = 0$$

$$w(x=4) = 0 \Rightarrow C_1 \cdot 4 + 2.5 \cdot \frac{4^3}{6} = 0 \Rightarrow C_1 = -6.6$$

$$w = \frac{1}{EI} \left[-6.6x + 2.5 \frac{x^3}{6} \Big|_{x < 4} - 4.5 \frac{(x-4)^3}{6} \Big|_{x > 4} \right]$$

$$\boxed{\begin{aligned} w(x=2) &= -\frac{10}{EI} \\ w(x=6) &= \frac{40}{EI} \end{aligned}}$$



$$R \cdot 4 + \frac{1}{2} \cdot 10 \cdot 4 \cdot \frac{1}{3} \cdot 4 = 0$$

$$w_1 = \frac{H_1}{EI} = -6.6 \cdot 2 + \frac{1}{2} \cdot 5 \cdot 2 \cdot \frac{1}{3} \cdot 2 = -\frac{10}{EI}$$

$$w_2 = \frac{H_2}{EI} = \frac{-6.6 \cdot \frac{6}{3} + \frac{1}{2} \cdot 10 \cdot 4 \left(\frac{1}{3} \cdot 4 + 2 \right) + \frac{1}{2} \cdot 2 \cdot 10 \cdot \frac{2}{3} \cdot 2}{EI} = \frac{40}{EI}$$