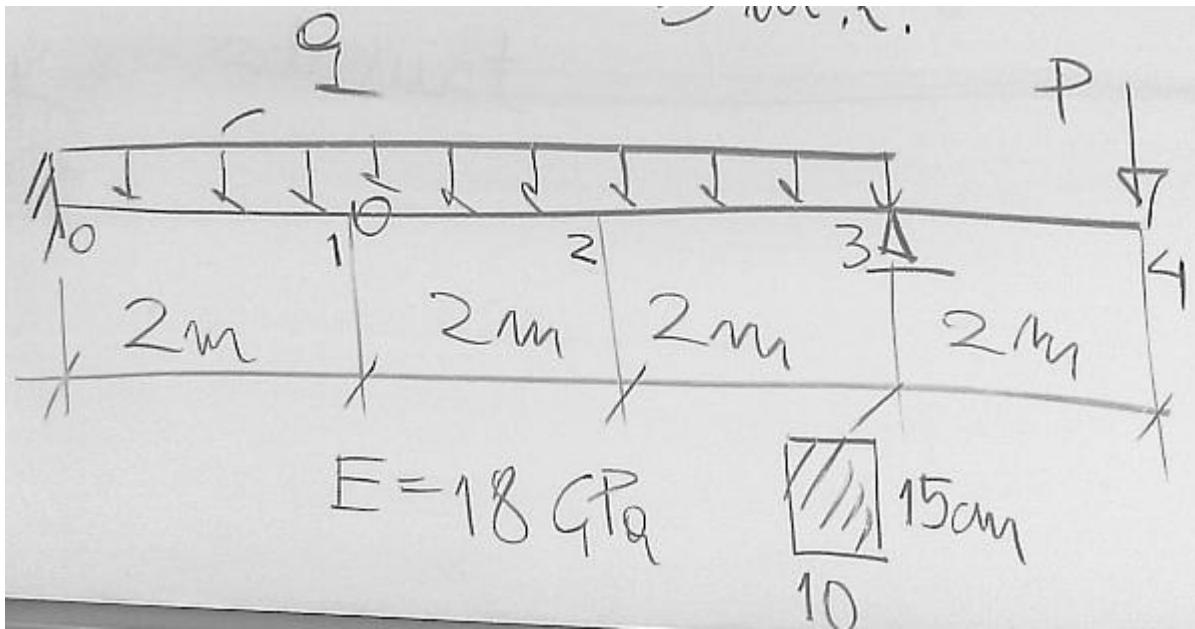


Grupa 1

ORIGIN := 0



$$P := 5 \text{ kN} \quad q := 4 \frac{\text{kN}}{\text{m}}$$

$$\underline{L} := 8 \text{ m} \quad b := 10 \text{ cm} \quad h := 15 \text{ cm} \quad \underline{J} := b \cdot \frac{h^3}{12} \quad E := 18 \text{ GPa}$$

$$R3 := \frac{q \cdot 4 \text{ m} \cdot 2 \text{ m} + P \cdot 6 \text{ m}}{4 \text{ m}} = 15.5 \cdot \text{kN}$$

$$R0 := q \cdot 6 \text{ m} + P - R3 = 13.5 \text{ kN}$$

$$M0 := q \cdot 6 \text{ m} \cdot 3 \text{ m} + P \cdot 8 \text{ m} - R3 \cdot 6 \text{ m} = 19 \text{ kN} \cdot \text{m}$$

$$n := 4 \quad \Delta := \frac{L}{n} = 2 \text{ m} \quad \alpha := \frac{\Delta^2}{E \cdot J} \quad \alpha = 7.901 \times 10^{-3} \cdot \frac{1}{\text{kN}}$$

$$M1(x) := R0 \cdot x - M0 - q \cdot \frac{x^2}{2}$$

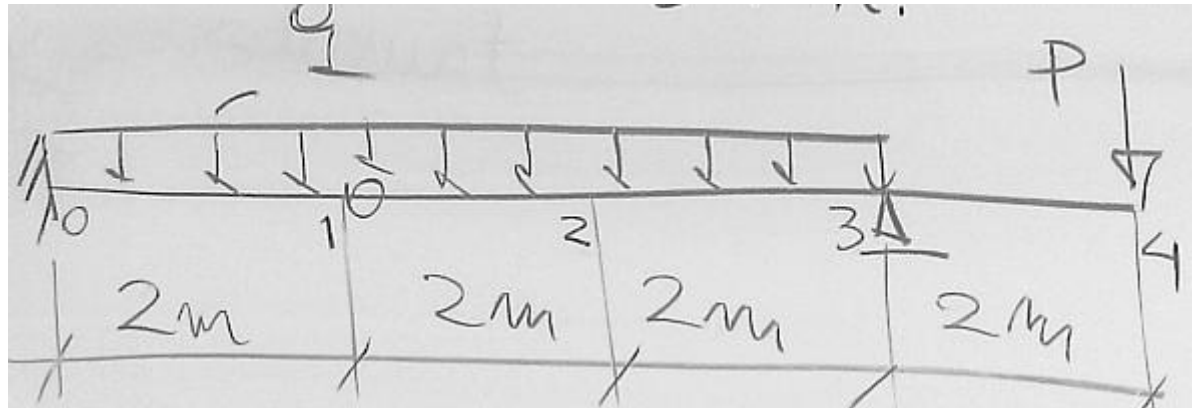
$$M2(x) := M1(x) + R3 \cdot (x - 6m) + q \cdot \frac{(x - 6m)^2}{2}$$

$$i := 0 .. n$$

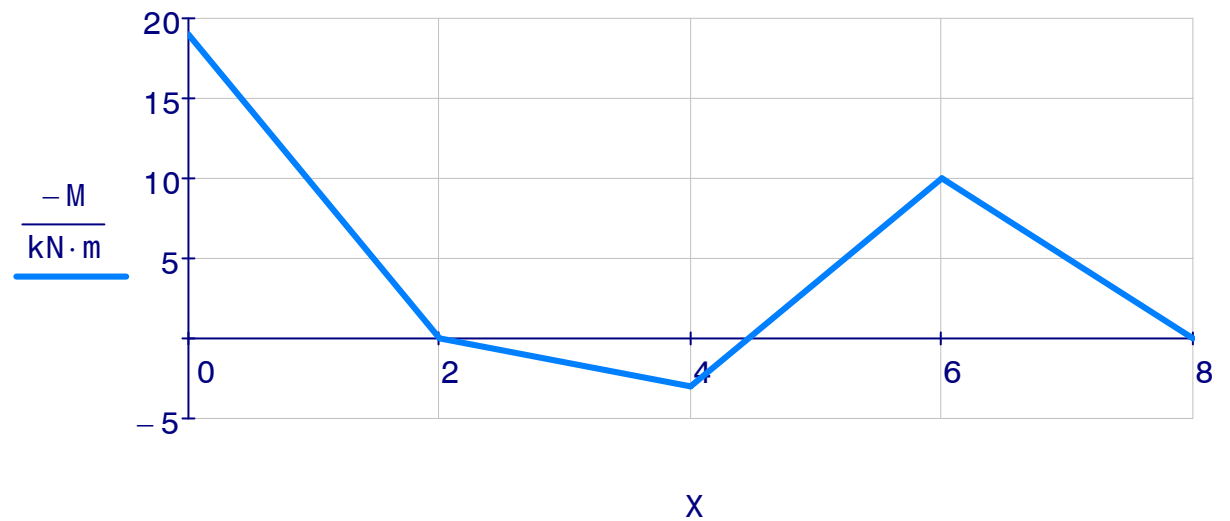
$$X_i := i \cdot \Delta$$

$$i := 0 .. 3 \quad M_i := M1(X_i)$$

$$i := 3 .. n \quad M_i := M2(X_i)$$



$$M = \begin{array}{|c|c|} \hline & 0 \\ \hline 0 & -19 \\ \hline 1 & 0 \\ \hline 2 & 3 \\ \hline 3 & -10 \\ \hline 4 & 0 \\ \hline \end{array} \cdot \text{kN} \cdot \text{m}$$

$$X = \begin{array}{|c|c|} \hline & 0 \\ \hline 0 & 0 \\ \hline 1 & 2 \\ \hline 2 & 4 \\ \hline 3 & 6 \\ \hline 4 & 8 \\ \hline \end{array} \text{m}$$


$$\underline{\underline{A}} := \begin{pmatrix} 0 & 2 & 0 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & -2 & 1 & 0 \\ 0 & 0 & 1 & -2 & 1 \\ 0 & 0 & 0 & 1 & 0 \end{pmatrix}$$

$$y := \text{lsolve}(\underline{\underline{A}}, \alpha \cdot M)$$

$$y = \begin{pmatrix} 0 \\ -75.062 \\ -49.383 \\ 0 \\ -29.63 \end{pmatrix} \cdot \text{mm}$$

