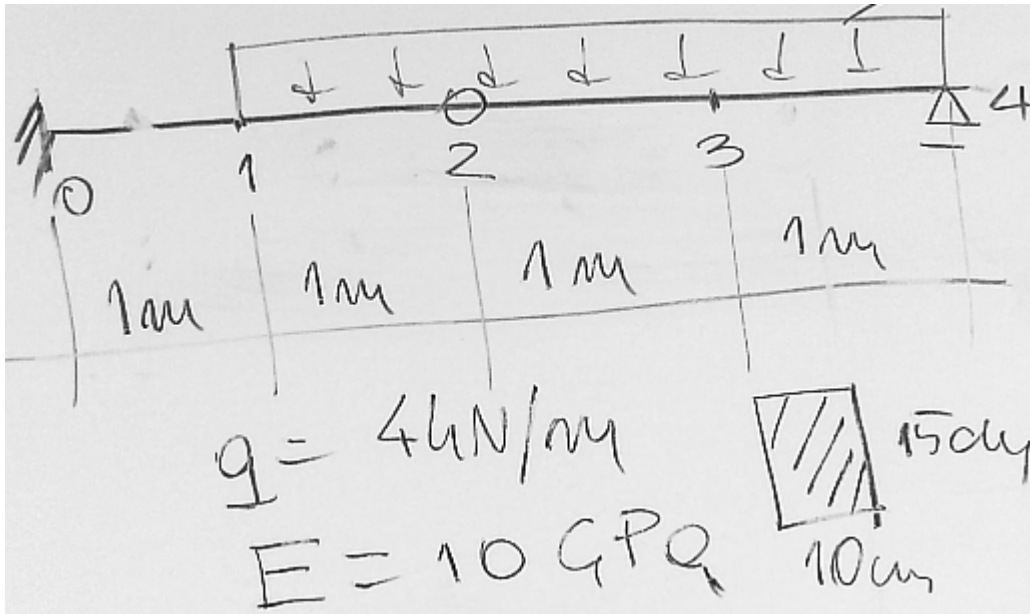


Grupa 1

ORIGIN := 0



$$P := 0 \text{ kN} \quad q := 4 \frac{\text{kN}}{\text{m}}$$

$$\underline{L} := 4 \text{ m} \quad b := 10 \text{ cm} \quad h := 15 \text{ cm} \quad \underline{J} := b \cdot \frac{h^3}{12} \quad E := 10 \text{ GPa}$$

$$R_4 := \frac{q \cdot 2 \text{ m} \cdot 1 \text{ m}}{2 \text{ m}} = 4 \cdot \text{kN} \quad R_0 := q \cdot 3 \text{ m} - R_4 = 8 \cdot \text{kN} \quad T_2 := q \cdot 1 \text{ m} = 4 \cdot \text{kN}$$

$$M_0 := q \cdot 1 \text{ m} \cdot 1.5 \text{ m} + T_2 \cdot 2 \text{ m} = 14 \cdot \text{kN} \cdot \text{m}$$

$$n := 4 \quad \Delta := \frac{L}{n} = 1 \text{ m} \quad \alpha := \frac{\Delta^2}{E \cdot J} \quad \alpha = 3.556 \times 10^{-3} \cdot \frac{1}{\text{kN}}$$

$$M1(x) := R0 \cdot x - M0$$

$$M2(x) := M1(x) - q \cdot \frac{(x - 1\text{m})^2}{2}$$

$$i := 0..n$$

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

$$i := 0..1 \quad M_i := M1(X_i)$$

$$i := 2..n \quad M_i := M2(X_i)$$

$$M =$$

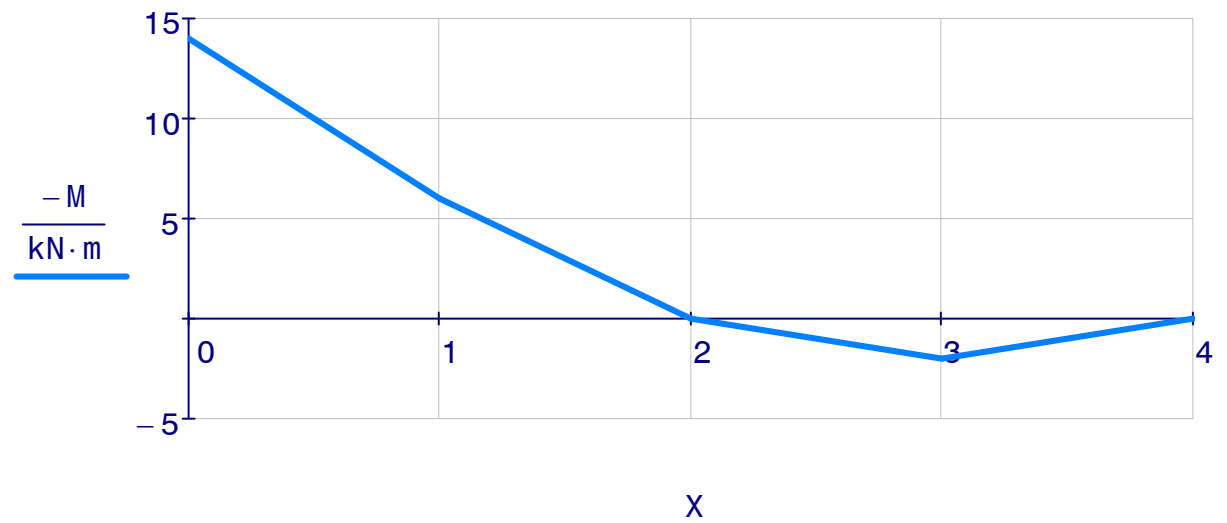
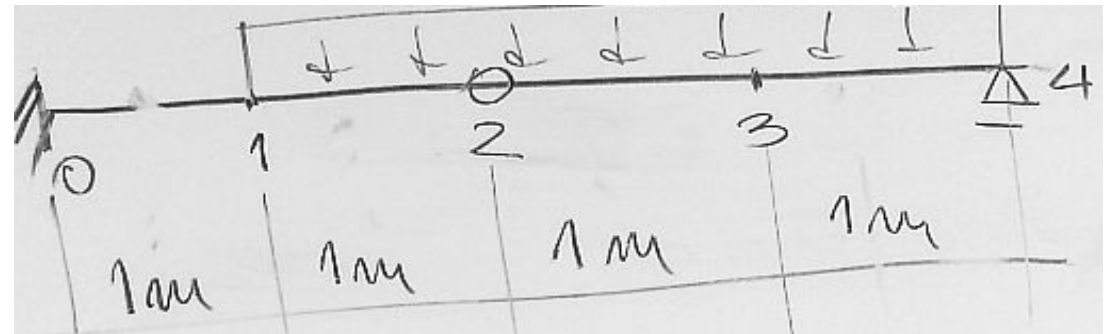
	0
0	-14
1	-6
2	0
3	2
4	0

· kN · m

$$X =$$

	0
0	0
1	1
2	2
3	3
4	4

m

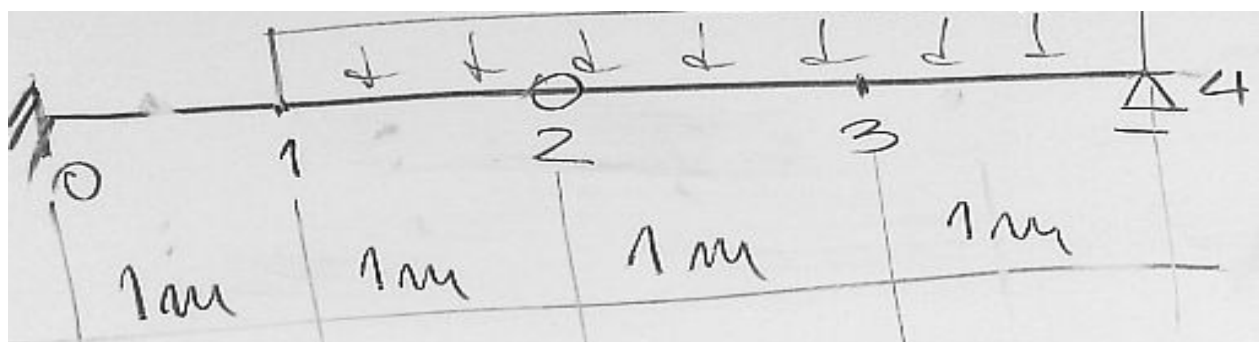


$$A := \begin{pmatrix} 0 & 2 & 0 & 0 & 0 \\ 1 & -2 & 1 & 0 & 0 \\ 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & -2 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

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

$$M = \begin{pmatrix} 0 \\ -14 \\ -6 \\ 0 \\ 2 \\ 0 \end{pmatrix} \cdot \text{kN} \cdot \text{m}$$

$$\alpha = 3.556 \cdot \frac{1}{\text{MN}}$$



$$y = \begin{pmatrix} 0 \\ -24.889 \\ -71.111 \\ -39.111 \\ 0 \end{pmatrix} \cdot \text{mm}$$

