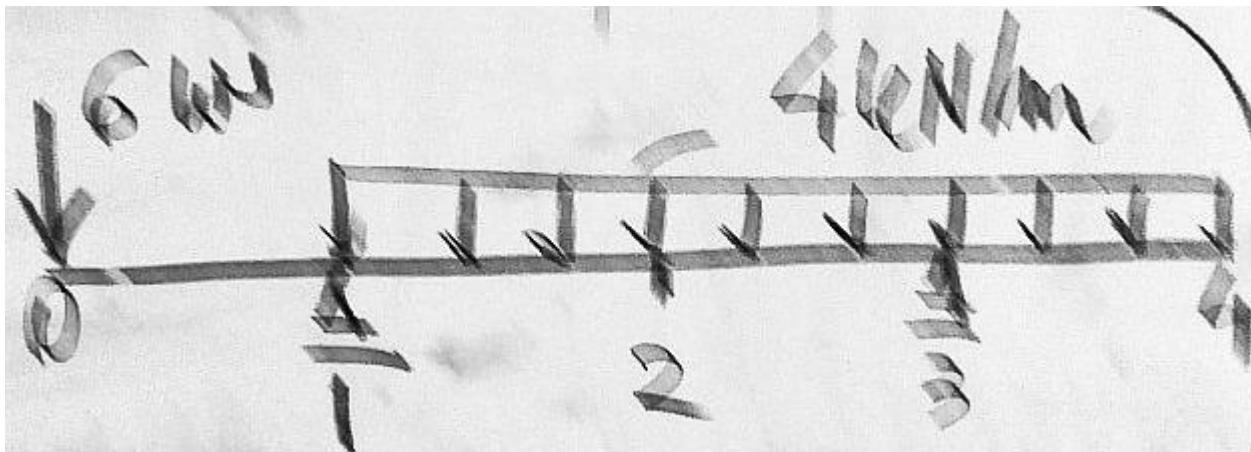


Grupa B2

ORIGIN := 0



$$P := 6 \text{ kN} \quad q := 4 \frac{\text{kN}}{\text{m}}$$

$$\underline{L} := 4 \text{ m} \quad b := 8 \text{ cm} \quad h := 15 \text{ cm} \quad \underline{J} := b \cdot \frac{h^3}{12} \quad E := 15 \text{ GPa}$$

$$R1 := \frac{q \cdot 3 \text{ m} \cdot 0.5 \text{ m} + P \cdot 3 \text{ m}}{2 \text{ m}} = 12 \text{ kN} \quad R3 := P + q \cdot 3 \text{ m} - R1$$

$$n := 4 \quad \Delta := \frac{L}{n} = 1 \text{ m} \quad \alpha := \frac{\Delta^2}{E \cdot J} \quad \alpha = 2.963 \times 10^{-3} \cdot \frac{1}{\text{kN}}$$

$$M1(x) := -P \cdot x$$

$$M2(x) := M1(x) - q \cdot \frac{(x - 1\text{m})^2}{2} + R1 \cdot (x - 1\text{m})$$

$$M3(x) := M2(x) + R3 \cdot (x - 3\text{m})$$

$$i := 0 .. \quad n$$

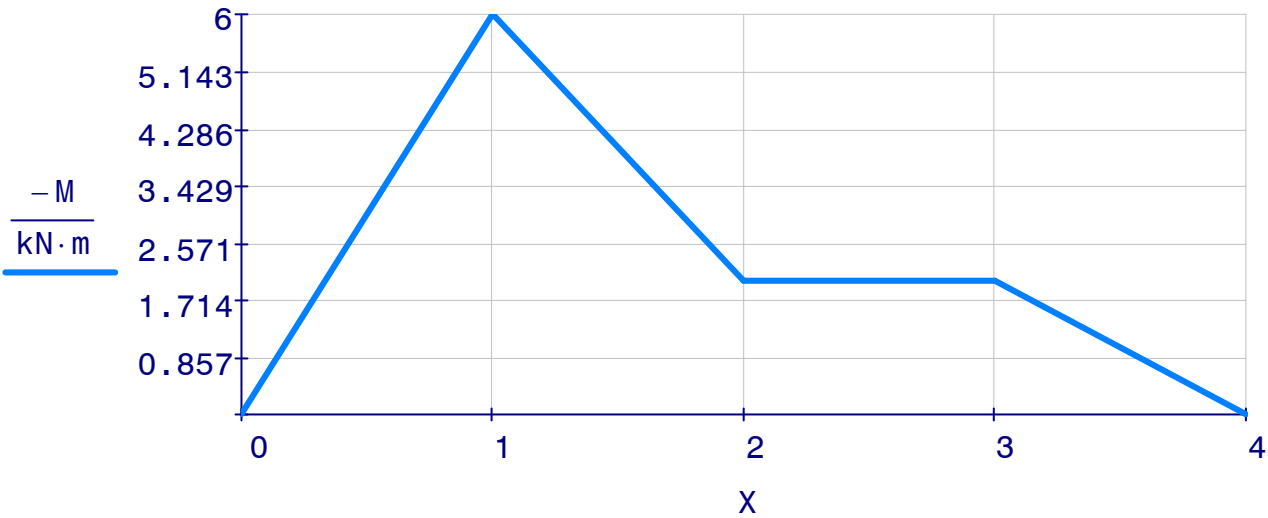
$$X_i := i \cdot \Delta$$

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

$$i := 1 .. \quad 3 \qquad M_i := M2(X_i)$$

$$i := 3 .. \quad n \qquad M_i := M3(X_i)$$

M =		0	· kN · m	X =		0	m
	0	0			0	0	
	1	-6			1	1	
	2	-2			2	2	
	3	-2			3	3	
	4	0			4	4	



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

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

$$y = \begin{pmatrix} -20.741 \\ 0 \\ 2.963 \\ 0 \\ -8.889 \end{pmatrix} \cdot \text{mm}$$

