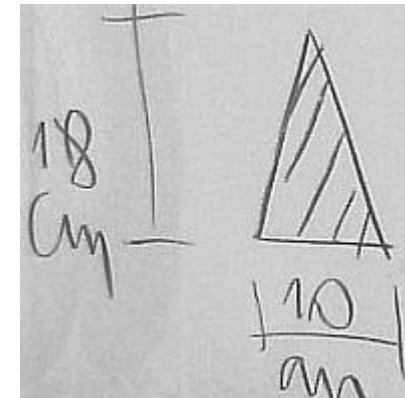
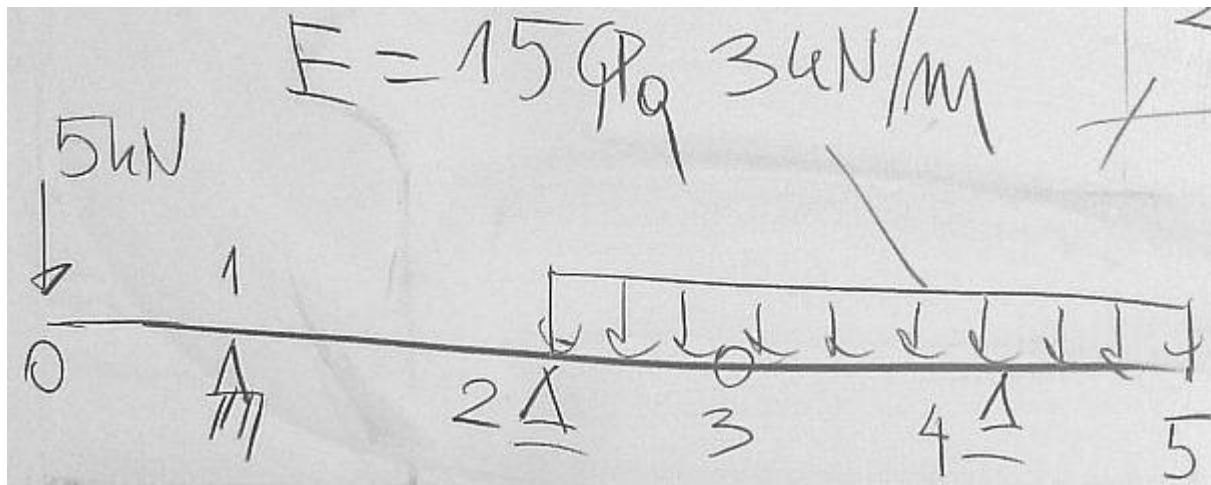


Grupa B

ORIGIN := 0



$$P := 5 \text{ kN} \quad q := 3 \frac{\text{kN}}{\text{m}}$$

$$L := 5 \text{ m} \quad b := 10 \text{ cm} \quad h := 18 \text{ cm} \quad J := b \cdot \frac{h^3}{36} \quad E := 15 \text{ GPa}$$

$$R4 := \frac{q \cdot 2 \text{ m} \cdot 1 \text{ m}}{1 \text{ m}} = 6 \cdot \text{kN} \quad T3 := 0 \quad R1 := \frac{P \cdot 2 \text{ m} - q \cdot 1 \text{ m} \cdot 0.5 \text{ m}}{1 \text{ m}} = 8.5 \text{ kN}$$

$$R2 := P + q \cdot 1 \text{ m} - R1 = -0.5 \text{ kN}$$

$$n := 5 \quad \Delta := \frac{L}{n} = 1 \text{ m} \quad \alpha := \frac{\Delta^2}{E \cdot J} \quad \alpha = 4.11523 \times 10^{-3} \cdot \frac{1}{\text{kN}}$$

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

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

$$M3(x) := M2(x) + R2 \cdot (x - 2\text{m}) - q \cdot \frac{(x - 2\text{m})^2}{2}$$

$$M4(x) := -q \cdot \frac{(5\text{m} - x)^2}{2}$$

$$i := 0 .. n \qquad X_i := i \cdot \Delta$$

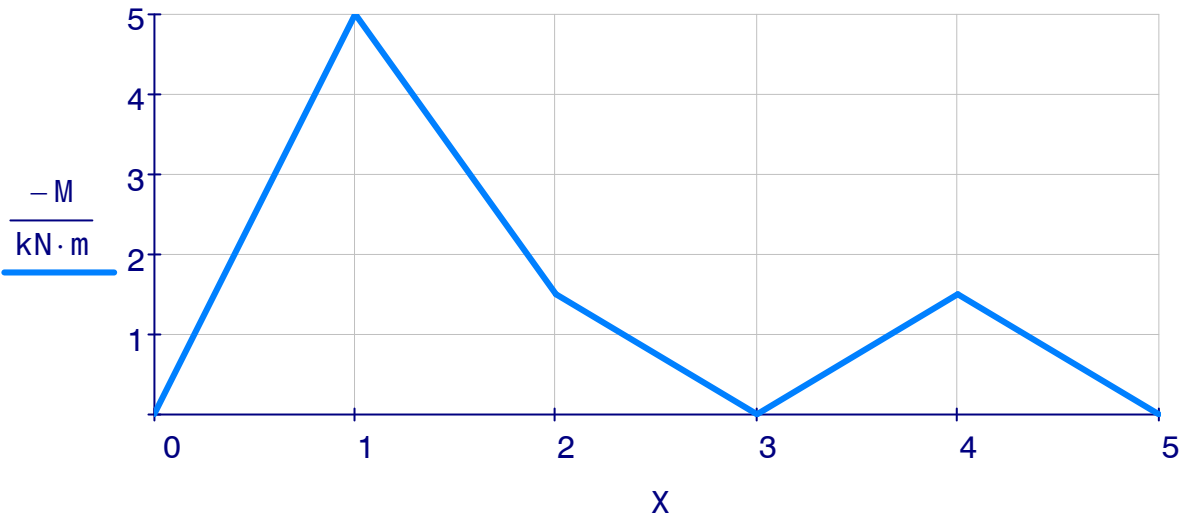
$$i := 0 .. 1 \qquad M_i := M1(X_i)$$

$$i := 1 .. 2 \qquad M_i := M2(X_i)$$

$$i := 2 .. 4 \qquad M_i := M3(X_i)$$

$$i := 4 .. n \qquad M_i := M4(X_i)$$

M =		0	· kN · m	X =		0	m
	0	0			0	0	
	1	-5			1	1	
	2	-1.5			2	2	
	3	0			3	3	
	4	-1.5			4	4	
	5	0			5	5	



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

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

$$y = \begin{pmatrix} -20.576 \\ 0 \\ 0 \\ -6.173 \\ 0 \\ 0 \end{pmatrix} \cdot \text{mm}$$

