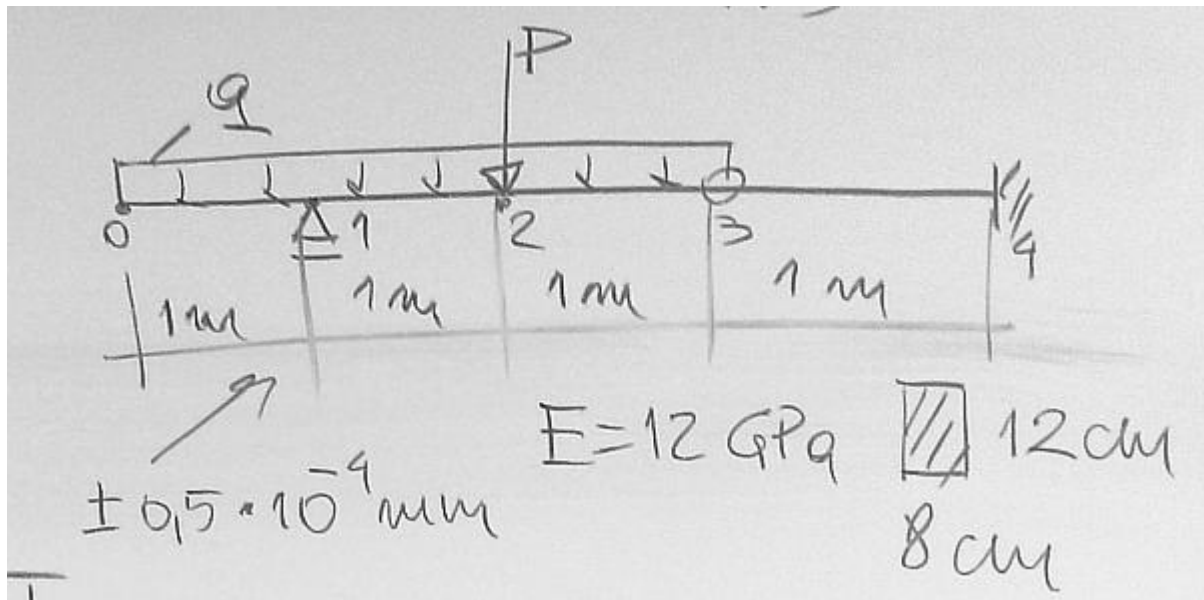


Grupa 2

ORIGIN := 0



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

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

$$R1 := \frac{q \cdot 3 \text{ m} \cdot 1.5 \text{ m} + P \cdot 1 \text{ m}}{2 \text{ m}} = 11.5 \cdot \text{kN}$$

$$n := 4 \quad \Delta := \frac{L}{n} = 1 \text{ m} \quad \alpha := \frac{\Delta^2}{E \cdot J} \quad \alpha = 7.2338 \times 10^{-3} \cdot \frac{1}{\text{kN}}$$

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

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

$$M3(x) := M2(x) - P \cdot (x - 2\text{m})$$

$$M4(x) := M3(x) + q \cdot \frac{(x - 3\text{m})^2}{2}$$

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

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

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

$$i := 2..3 \quad M_i := M3(X_i)$$

$$i := 3..n \quad M_i := M4(X_i)$$

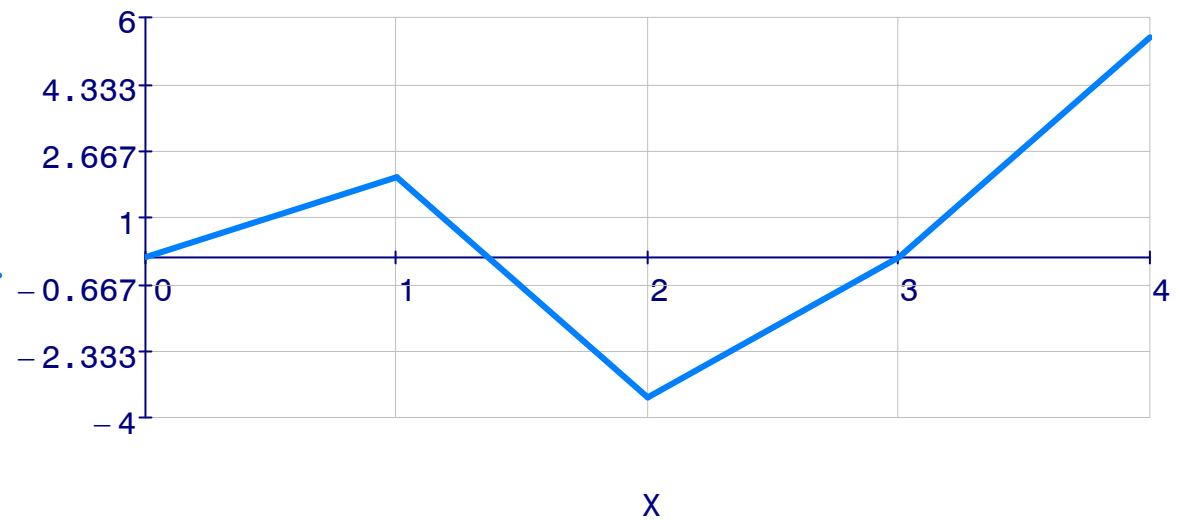
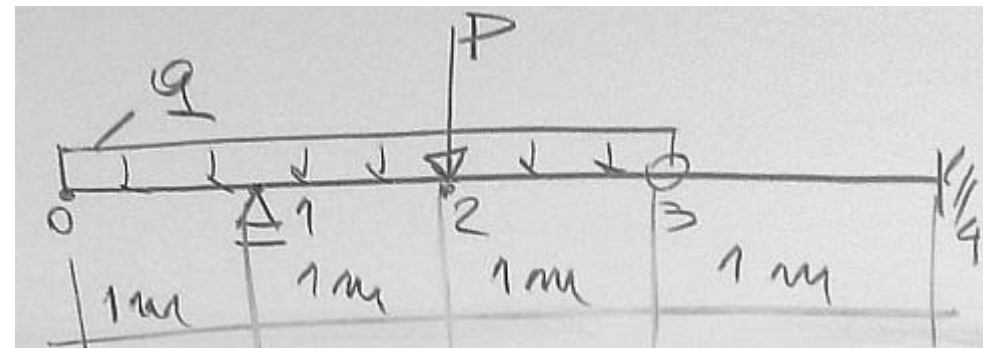
M =		0	
		0	0
		1	-2
		2	3.5
		3	0
		4	-5.5

· kN · m

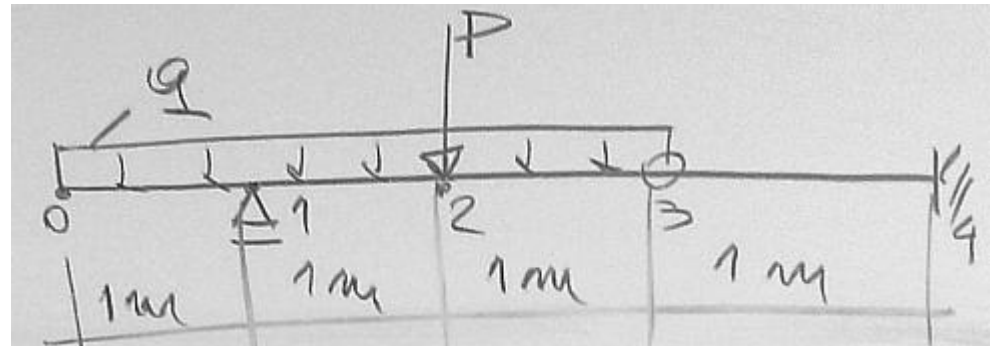
X =		0	
		0	0
		1	1
		2	2
		3	3
		4	4

m

$\frac{-M}{\text{kN} \cdot \text{m}}$



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



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

$$y = \begin{pmatrix} 8.138 \\ 0 \\ -22.606 \\ -19.893 \\ 0 \end{pmatrix} \cdot \text{mm}$$

