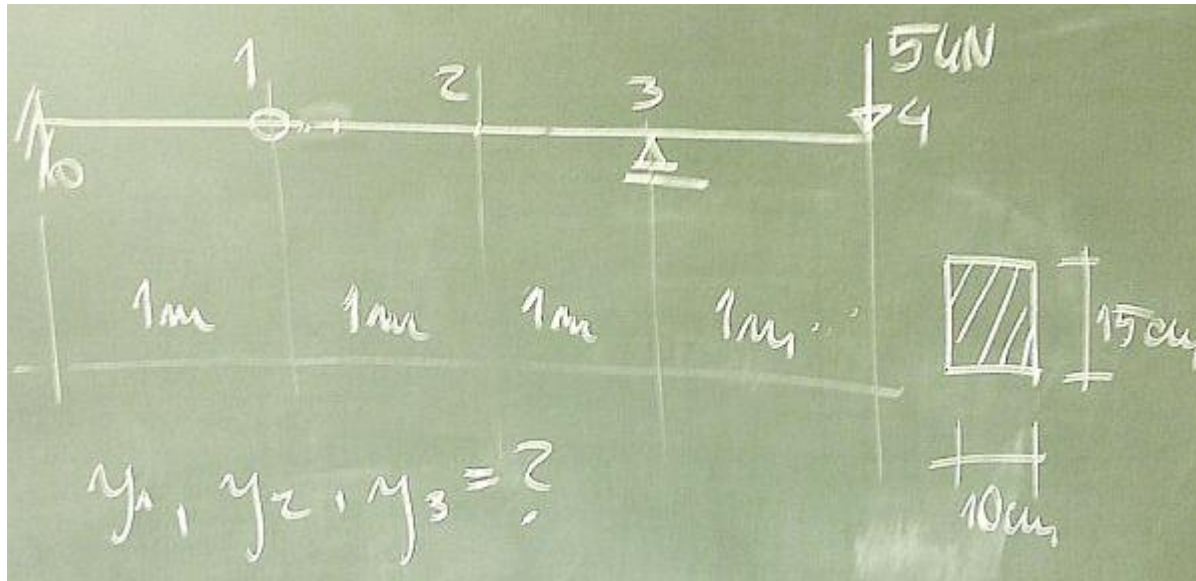


ORIGIN := 0



$$P := 5\text{kN} \quad q := 0 \frac{\text{kN}}{\text{m}}$$

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

$$R3 := \frac{P \cdot 3\text{m}}{2\text{m}} \quad R0 := P - R3$$

$$M0 := P \cdot 0.5\text{m} \quad M0 = 2.5 \cdot \text{kN} \cdot \text{m} \quad R0 = -2.5 \cdot \text{kN}$$

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

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

$$M2(x) := M1(x) + R3 \cdot (x - 3m)$$

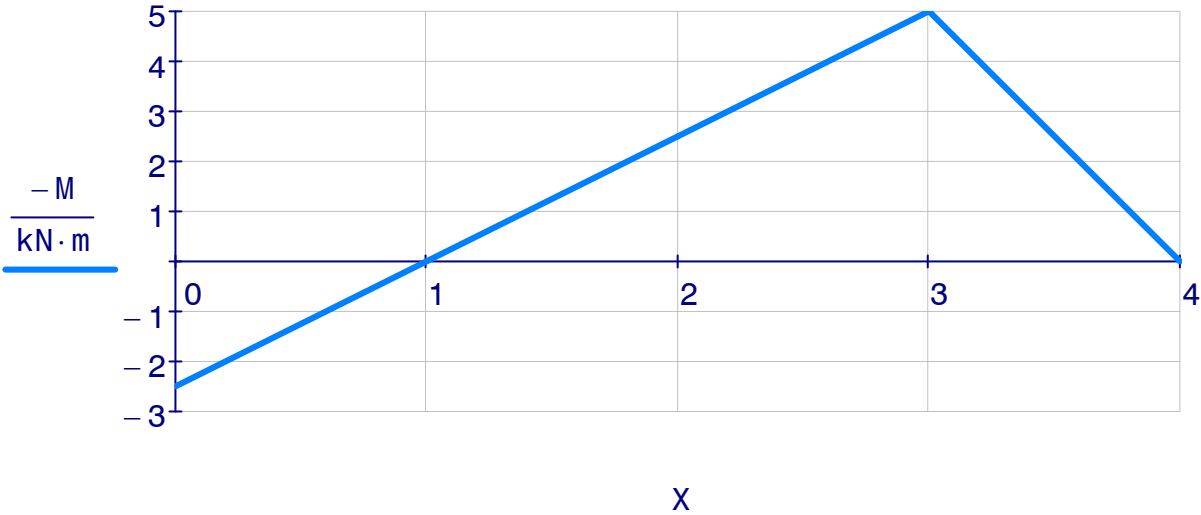
$$i := 0 .. n$$

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

$$i := 0 .. 2 \qquad M_i := M1(X_i)$$

$$i := 3 .. 4 \qquad M_i := M2(X_i)$$

M =		0	· kN · m	X =	0	m
		0				
		1				
		2				
		3				
		4				
		2.5			0	
		0			1	
		-2.5			2	
		-5			3	
		0			4	



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

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

$$y = \begin{pmatrix} 0 \\ 4.444 \\ 6.667 \\ 0 \\ -24.444 \end{pmatrix} \cdot \text{mm}$$

