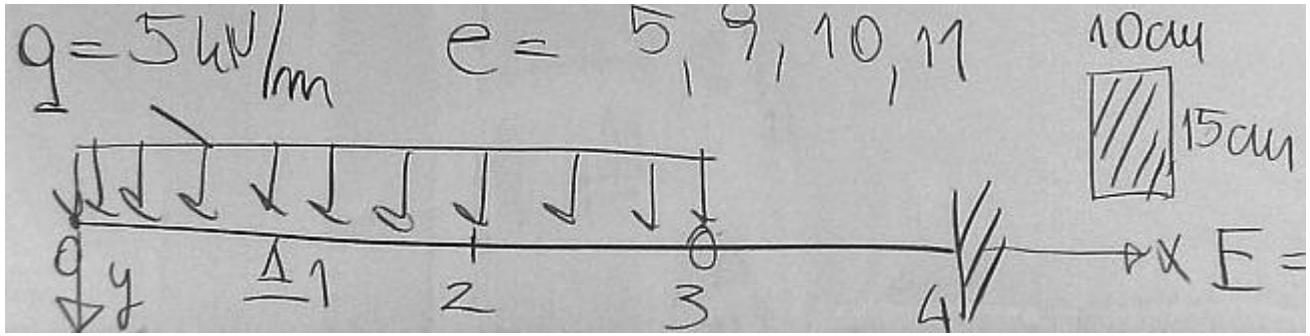
Grupa A

ORIGIN := 0



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

$L := 4m \qquad b := 10cm \qquad h := 15cm \qquad J := b \cdot \frac{h^3}{12} \qquad E := 30GPa$

$R1 := \frac{q \cdot 3m \cdot 1.5m}{2m} = 11.25\,kN$

$n := 4 \qquad \Delta := \frac{L}{n} = 1\,m \qquad \alpha := \frac{\Delta^2}{E \cdot J} \qquad \alpha = 1.18519 \times 10^{-3} \cdot \frac{1}{kN}$

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

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

$$M3(x) := M2(x) + q \cdot \frac{(x - 3m)^2}{2}$$

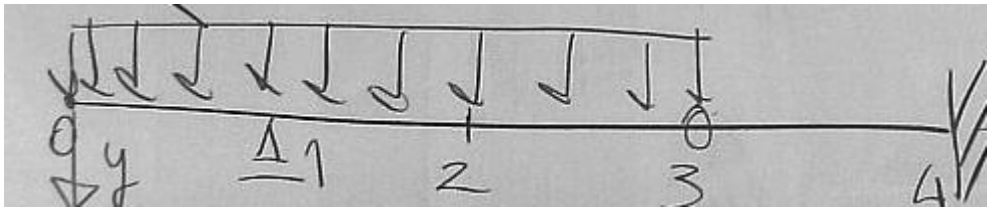
$i := 0 .. \quad n$

$X_i := i \cdot \Delta$

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

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

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



$M =$

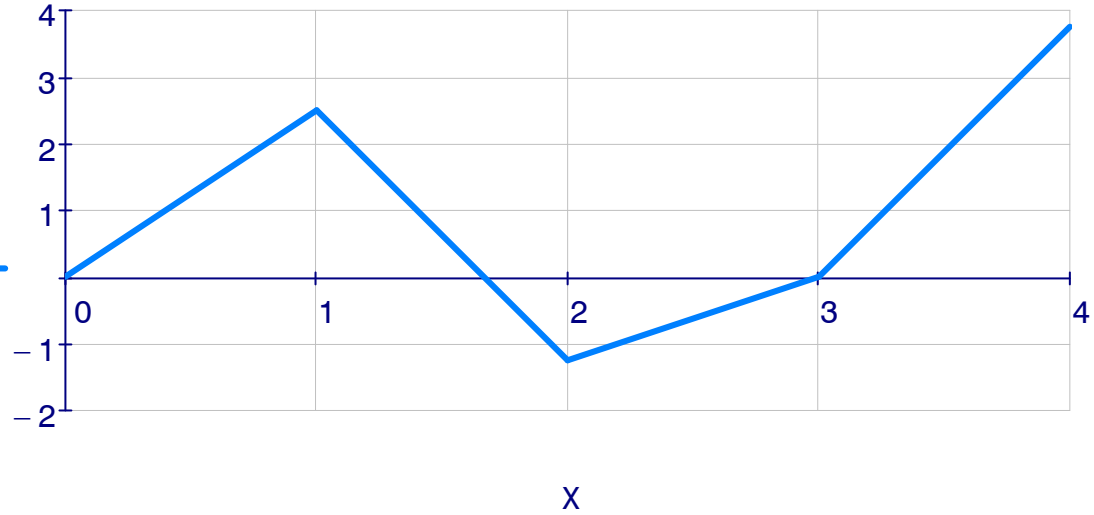
	0
0	0
1	-2.5
2	1.25
3	0
4	-3.75

$\cdot kN \cdot m$ $\qquad X =$

	0
0	0
1	1
2	2
3	3
4	4

m

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



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

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

$$y = \begin{pmatrix} -1.111 \\ 0 \\ -1.852 \\ -2.222 \\ 0 \end{pmatrix} \cdot mm$$