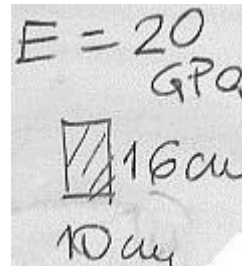
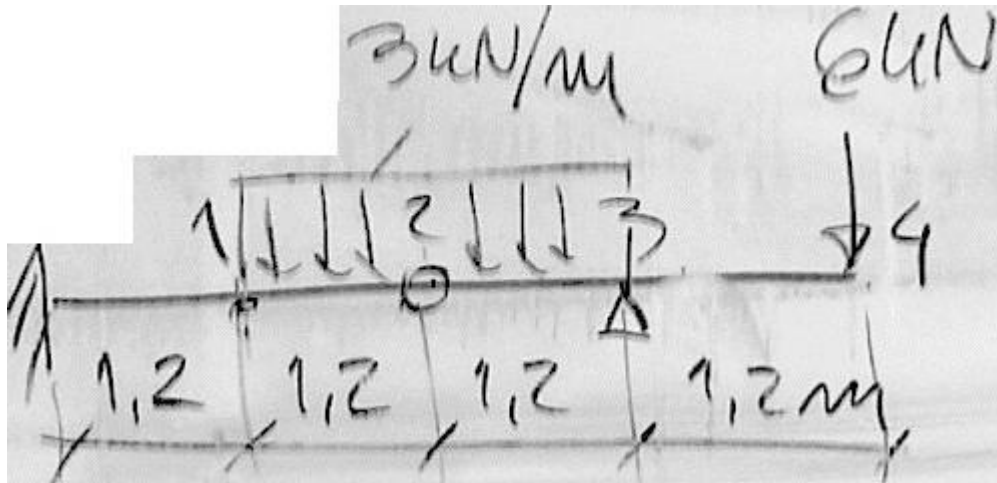


ORIGIN := 0



$$P := 6 \text{ kN} \quad q := 3 \frac{\text{kN}}{\text{m}} \quad E := 20 \text{ GPa} \quad \Delta := 1.2 \text{ m} \quad n := 4 \quad \underline{L} := n \cdot \Delta = 4.8 \text{ m}$$

$$b := 10 \text{ cm} \quad h := 16 \text{ cm} \quad \underline{J} := b \cdot \frac{h^3}{12} = 3413.333 \cdot \text{cm}^4$$

$$R3 := \frac{q \cdot \frac{\Delta^2}{2} + P \cdot 2\Delta}{\Delta} = 13.800 \cdot \text{kN} \quad T2 := q \cdot \Delta + P - R3 = -4.200 \cdot \text{kN} \quad M0 := T2 \cdot \Delta \cdot 2 + q \cdot \Delta^2 \cdot \frac{3}{2} = -3.6 \cdot \text{kN} \cdot \text{m}$$

$$R0 := T2 + q \cdot \Delta$$

$$\alpha := \frac{\Delta^2}{E \cdot J} \quad \alpha = 2.109 \times 10^{-3} \cdot \frac{1}{\text{kN}}$$

$$i := 0 .. n$$

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

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

$$i := 2 .. 3 \quad M_i := M2(X_i)$$

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

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

$$M2(x) := M1(x) - q \cdot \frac{(x - \Delta)^2}{2}$$

$$M3(x) := -P \cdot (L - x)$$

M =

	0
0	3.600
1	2.880
2	0.000
3	-7.200
4	0.000

· kN · m

X =

	0
0	0.000
1	1.200
2	2.400
3	3.600
4	4.800

m

A :=

0	2	0	0	0
1	-2	1	0	0
1	0	0	0	0
0	0	1	-2	1
0	0	0	1	0

y := lsolve(A, α · M)

y =

0.00 × 10 ⁰
3.80 × 10 ⁰
1.37 × 10 ¹
0.00 × 10 ⁰
-2.89 × 10 ¹

· mm

