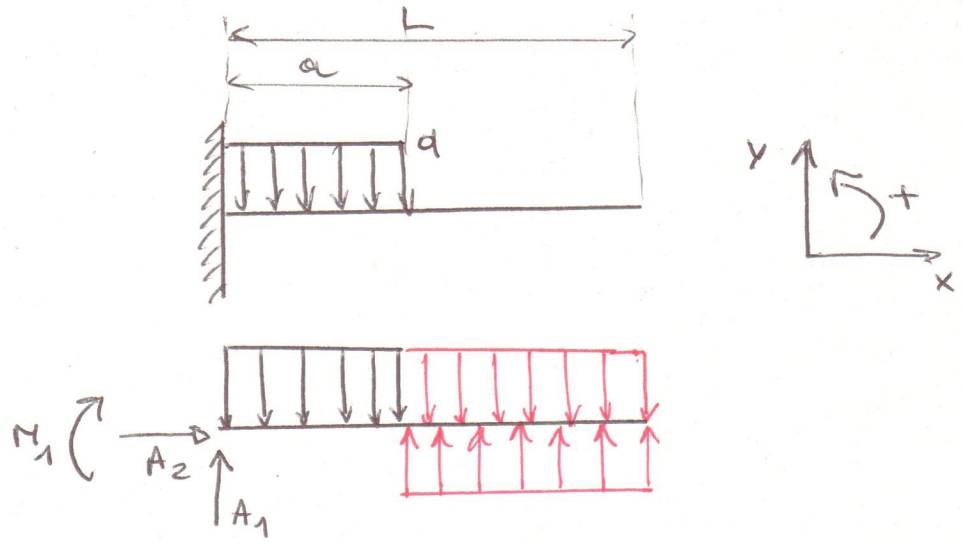
12.26:



krachten & momenten:

$\Sigma F_x = 0$: $A_2 = 0$

$\Sigma F_y = 0$: $A_1 - q.a = 0 \Rightarrow A_1 = q.a$

$\Sigma M_A = 0$: $-M_1 - q.a.\frac{a}{2} = 0 \Rightarrow M_1 = -\frac{q.a^2}{2}$

elastische lijn:

$$M(x) = \frac{q.a^2}{2} + A_1.x - q.x.\frac{x}{2} + q(x-a)\frac{(x-a)}{2}\delta(x-a)$$

$$M(x) = \frac{q.a^2}{2} + A_1.x - \frac{q}{2}.x^2 + \frac{q}{2}(x-a)^2\delta(x-a)$$

$$EI\alpha(x) = \frac{q.a^2}{2}.x + \frac{q.a.x^2}{2} - \frac{q.x^3}{2.3} + \frac{q}{2.3}(x-a)^3\delta(x-a) + C_1$$

$$EIy(x) = \frac{q.a^2.x^2}{4} + \frac{q.a.x^3}{6} - \frac{q.x^4}{24} + \frac{q(x-a)^4}{24}\delta(x-a) + C_1.x + C_2$$

$C_1 = 0$, $C_2 = 0$

$$EIy(L) = \frac{q.a^2.L^2}{4} + \frac{q.a.L^3}{6} - \frac{q.L^4}{24} + \frac{q(L-a)^4}{24}$$

$$= \frac{6q.a^2L^2}{24} + \frac{4q.aL^3}{24} - \frac{q.L^4}{24} + \frac{q(L-a)^4}{24}$$

MAPLE

$$= \frac{1}{24}q.a^2(12L^2 - 4La + a^2)$$

opl: $\frac{q.a^3}{24EI}(-4L + a)$