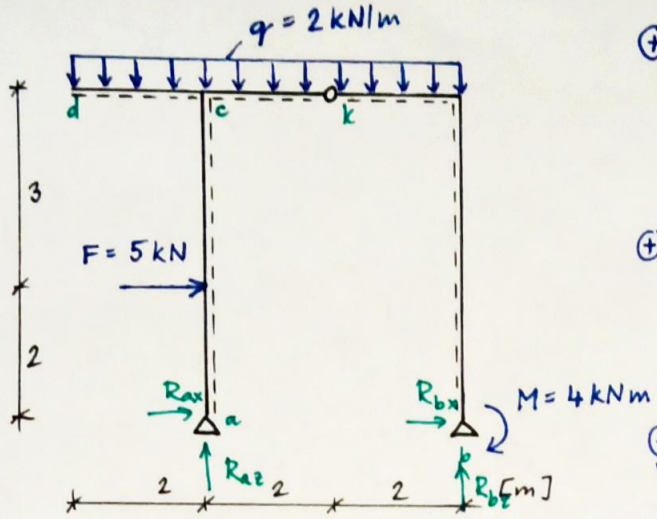


$\oplus\circlearrowleft \Sigma M_{ia} = 0$:

$-F \cdot 2 - q \cdot 6 \cdot 1 - M + R_{bz} \cdot 4 = 0$

$R_{bz} = \frac{5 \cdot 2 + 2 \cdot 6 \cdot 1 + 4}{4} = 6{,}5\ kN$

$\oplus\circlearrowleft \Sigma M_{ib} = 0$:

$-R_{az} \cdot 4 - F \cdot 2 + q \cdot 6 \cdot 3 - M = 0$

$R_{az} = \frac{-5 \cdot 2 + 2 \cdot 6 \cdot 3 - 4}{4} = 5{,}5\ kN$

$\oplus\circlearrowleft \Sigma M_{ik}^{L} = 0$:

$q \cdot 4 \cdot 2 + F \cdot 3 + R_{ax} \cdot 5 - R_{az} \cdot 2 = 0$

$R_{ax} = \frac{-2 \cdot 4 \cdot 2 - 5 \cdot 3 + 5{,}5 \cdot 2}{5} = -4\ kN$

$\oplus\circlearrowleft \Sigma M_{ik}^{P} = 0$:

$-q \cdot 2 \cdot 1 - M + R_{bx} \cdot 5 + R_{bz} \cdot 2 = 0$

$R_{bx} = \frac{2 \cdot 2 \cdot 1 + 4 - 6{,}5 \cdot 2}{5} = -1\ kN$

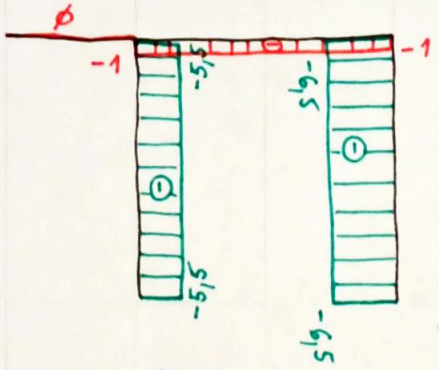
$k: \Sigma F_{iz} = 0: \quad R_{az} + R_{bz} - q \cdot 6 = 0$

$5{,}5 + 6{,}5 - 2 \cdot 6 = 0$ ✓

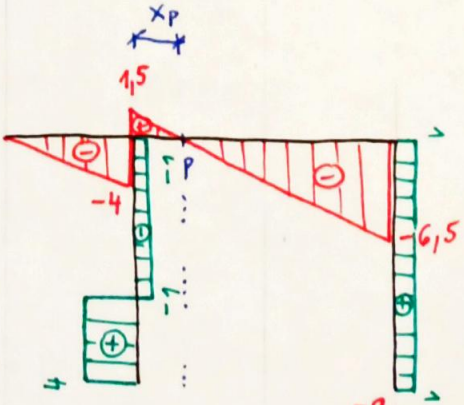
$\Sigma F_{ix} = 0: \quad R_{ax} + R_{bx} + F = 0$

$-4 + (-1) + 5 = 0$ ✓

(N)



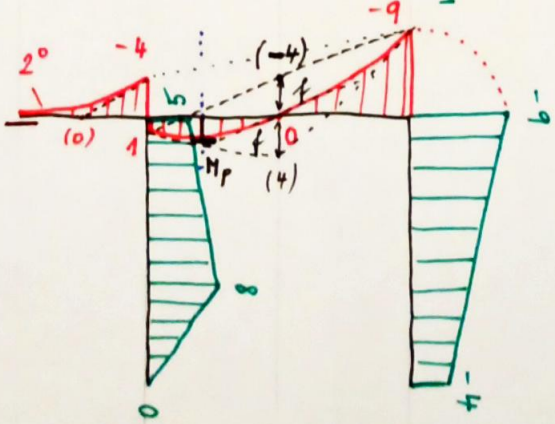
(V)



$V_P^{L} = 0: \quad -q \cdot 2 + R_{az} - q \cdot x_P = 0$

$x_P = \frac{5{,}5 - 2 \cdot 2}{q} = \frac{1{,}5}{2} = 0{,}75\ m$

(M)



$M_{cd} = -q \cdot 2 \cdot 1 = -2 \cdot 2 \cdot 1 = -4\ kNm$

$M_{ca} = -R_{ax} \cdot 5 - F \cdot 3 = -(-4) \cdot 5 - 5 \cdot 3 = 5\ kNm$

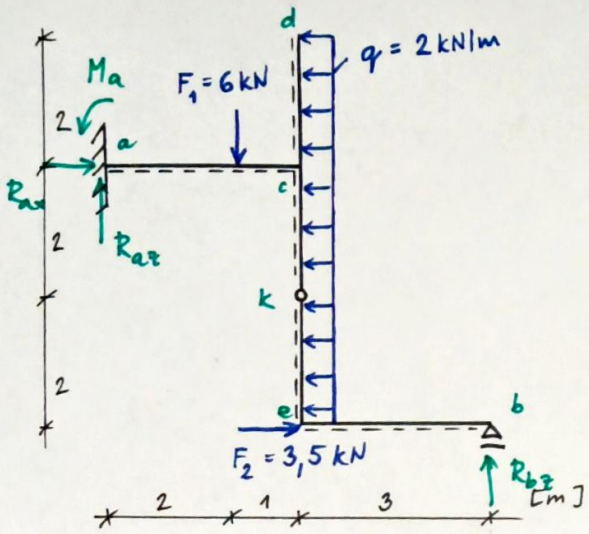
$M_{ck} = -q \cdot 2 \cdot 1 - R_{ax} \cdot 5 - F \cdot 3 =$

$= -2 \cdot 2 \cdot 1 - (-4) \cdot 5 - 5 \cdot 3 = 1\ kNm$

$f = \frac{1}{8} q l^2 = \frac{1}{8} \cdot 2 \cdot 4^2 = 4$

$M_P = 1 + \frac{1}{2} \cdot 1{,}5 \cdot 0{,}75 = M_{ck} + \int_c^k V\,dx =$

$= 1{,}5625\ kNm$



$\oplus\circlearrowleft \sum M_{ik}^{P} = 0$:

$R_{bz} \cdot 3 + F_2 \cdot 2 - q \cdot 2 \cdot 1 = 0$

$R_{bz} = \frac{-3{,}5 \cdot 2 + 2 \cdot 2 \cdot 1}{3} = \underline{\underline{-1\,kN}}$

$\oplus\downarrow \sum F_{iz} = 0$:

$-R_{az} + F_1 - R_{bz} = 0$

$R_{az} = 6 - (-1) = \underline{\underline{7\,kN}}$

$\oplus\rightarrow \sum F_{ix} = 0$:

$R_{ax} - q \cdot 6 + F_2 = 0$

$R_{ax} = 2 \cdot 6 - 3{,}5 = \underline{\underline{8{,}5\,kN}}$

$\oplus\circlearrowleft \sum M_{ia} = 0$:

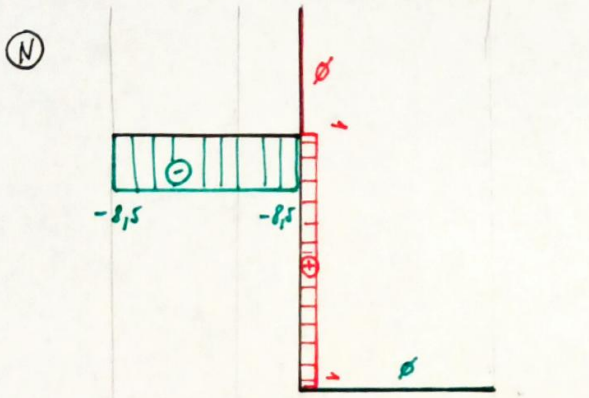
$M_a - F_1 \cdot 2 - q \cdot 6 \cdot 1 + F_2 \cdot 4 + R_{bz} \cdot 6 = 0$

$M_a = 6 \cdot 2 + 2 \cdot 6 \cdot 1 - 3{,}5 \cdot 4 - (-1) \cdot 6 = \underline{\underline{16\,kNm}}$

$\oplus\circlearrowleft$ K : $\sum M_{ik}^{L} = 0$:

$M_a - R_{ax} \cdot 2 - R_{az} \cdot 3 + F_1 \cdot 1 + q \cdot 4 \cdot 2 = 0$

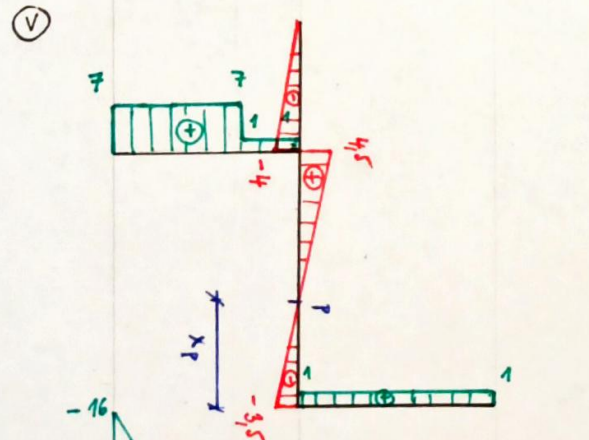
$16 - 8{,}5 \cdot 2 - 7 \cdot 3 + 6 \cdot 1 + 2 \cdot 4 \cdot 2 = 0$ ✓



$V_p^{P} = 0$:

$-3{,}5 + q \cdot x_p = 0$

$\underline{\underline{x_p = \frac{3{,}5}{2} = 1{,}75\,m}}$

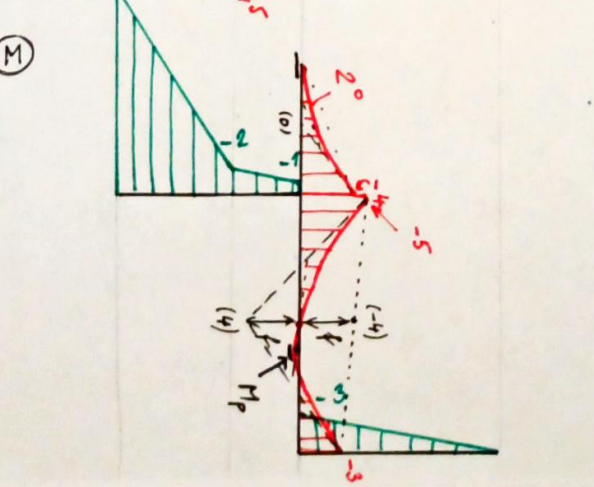


$M_{ca} = -M_a + R_{az} \cdot 3 - F_1 \cdot 1 = -16 + 7 \cdot 3 - 6 \cdot 1 = -1\,kNm$

$M_{cd} = -q \cdot 2 \cdot 1 = -2 \cdot 2 \cdot 1 = -4\,kNm$

$M_{ck} = -M_a + R_{az} \cdot 3 - F_1 \cdot 1 - q \cdot 2 \cdot 1 =$

$= -16 + 7 \cdot 3 - 6 \cdot 1 - 2 \cdot 2 \cdot 1 = -5\,kNm$



$f = \frac{1}{8} q l^2 = \frac{1}{8} \cdot 2 \cdot 4^2 = 4$

$\underline{M_p} = -3 - \frac{1}{2} \cdot (-3{,}5) \cdot 1{,}75 = M_e - \int_K^e V\,dx$

$= \underline{0{,}0625\,kNm}$