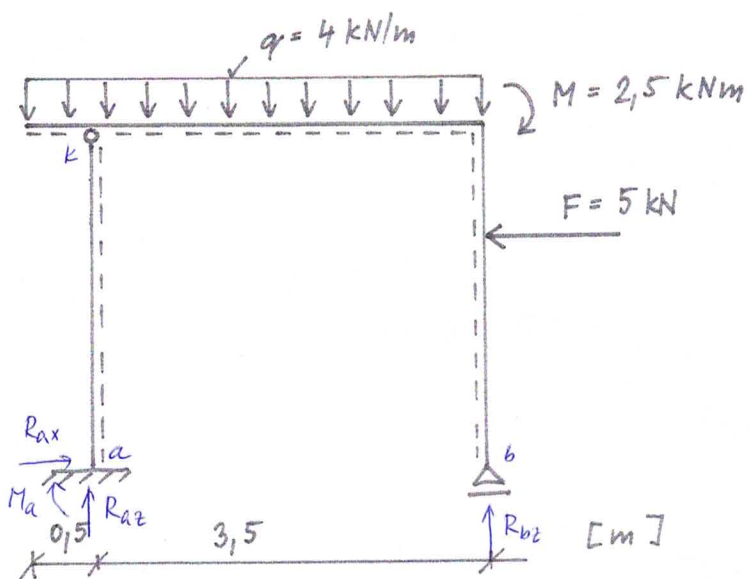




$$\sum F_{ix} = 0:$$

$$R_{ax} - F = 0$$

$$R_{ax} = F = \underline{5 \text{ kN}} \quad (\rightarrow)$$

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

$$-q \cdot 4 \cdot 1.5 - M - F \cdot 1 + R_{b2} \cdot 3.5 = 0$$

$$R_{b2} = \frac{4 \cdot 4 \cdot 1.5 + 2.5 + 5 \cdot 1}{3.5}$$

$$\underline{R_{b2} = 9 \text{ kN}} \quad (\uparrow)$$

$$\sum M_{ia} = 0 \quad \odot \oplus$$

$$-M_a - q \cdot 4 \cdot 1.5 - M + F \cdot 2 + R_{b2} \cdot 3.5 = 0$$

$$M_a = -4 \cdot 4 \cdot 1.5 - 2.5 + 5 \cdot 2 + 9 \cdot 3.5$$

$$\underline{M_a = 15 \text{ kNm}}$$

$$KO: \sum M_{ik}^L = 0 \quad \odot \oplus$$

$$R_{ax} \cdot 3 - M_a = 0$$

$$5 \cdot 3 - 15 = 0 \quad \checkmark$$

$$\sum M_{ib} = 0 \quad \odot \oplus:$$

$$-R_{a2} \cdot 3.5 - M_a + q \cdot 4 \cdot 2 - M + F \cdot 2 = 0$$

$$R_{a2} = \frac{-15 + 4 \cdot 4 \cdot 2 - 2.5 + 5 \cdot 2}{3.5}$$

$$\underline{R_{a2} = 7 \text{ kN}}$$

$$KO: \sum F_{iz} = 0$$

$$R_{a2} + R_{b2} - q \cdot 4 = 0$$

$$7 + 9 - 4 \cdot 4 = 0 \quad \checkmark$$

$$V_P^L = 0: R_{a2} - q \cdot 0.5 - q \cdot x_p = 0$$

$$7 - 4 \cdot 0.5 - 4 x_p = 0$$

$$\underline{x_p = \frac{5}{4} = 1.25 \text{ m}}$$

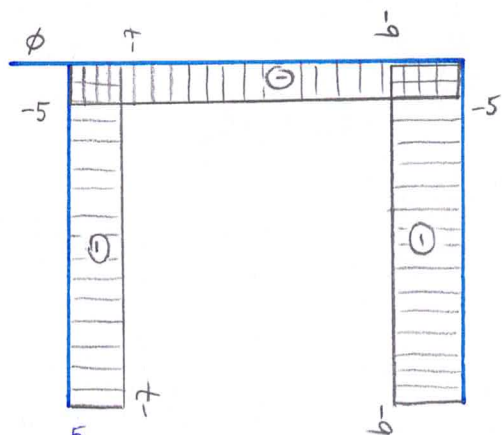
$$\begin{aligned} \underline{M_P^L} &= M_a + R_{a2} \cdot x_p - R_{ax} \cdot 3 - q \cdot 0.5 \cdot (x_p + 0.25) - \\ &\quad - q \cdot x_p \cdot \frac{x_p}{2} = \\ &= 15 + 7 \cdot 1.25 - 5 \cdot 3 - 4 \cdot 0.5 \cdot 1.5 - 4 \cdot \frac{1.25^2}{2} = \\ &= \underline{2.625 \text{ kNm}} \end{aligned}$$

nebo:

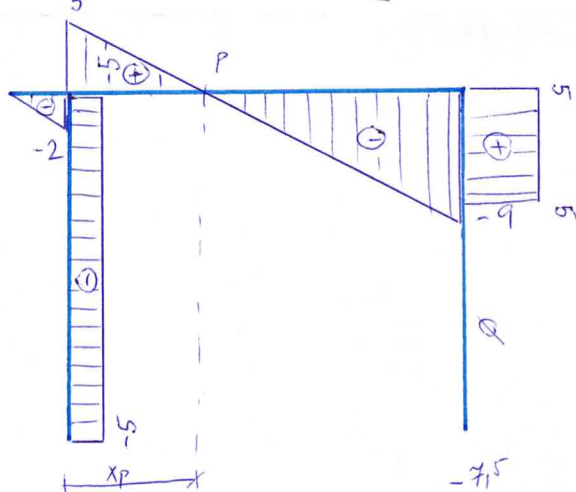
$$\begin{aligned} \underline{M_P} &= M_{pred} + \int V dx = \\ &= -0.5 + \frac{1}{2} \cdot 5 \cdot 1.25 = \underline{2.625 \text{ kNm}} \end{aligned}$$

$$f = \frac{1}{8} \cdot 4 \cdot 3.5^2 = 6.125$$

(N)



(V)



(M)

