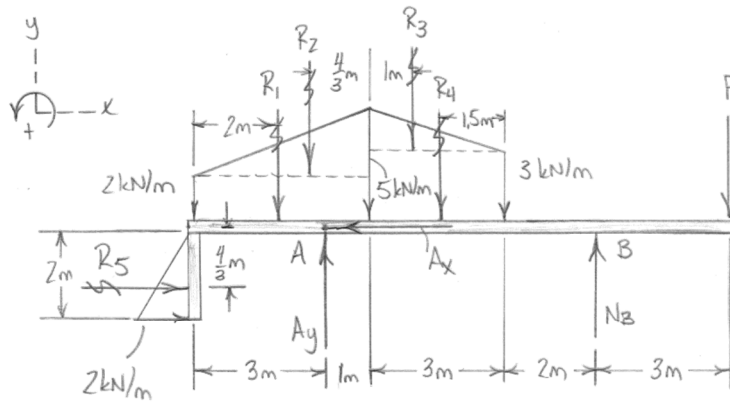


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Find F for $A_y = N_B$



$$\begin{cases} R_1 = 2(4) = 8 \text{ kN} \\ R_2 = \frac{1}{2}(5-2)(4) = 6 \text{ kN} \\ R_3 = \frac{1}{2}(5-3)(3) = 3 \text{ kN} \end{cases} \quad \begin{cases} R_4 = 3(3) = 9 \text{ kN} \\ R_5 = \frac{1}{2}(2)(2) = 2 \text{ kN} \end{cases}$$

$$\sum F_x = 0: -A_x + R_5 = 0 \rightarrow A_x = 2 \text{ kN}$$

$$\sum F_y = 0: A_y + N_B - F - R_1 - R_2 - R_3 - R_4 = 0$$

$$\sum M_B = 0: -3F + 3.5R_4 + 4R_3 + (5 + \frac{4}{3})R_2 + 7R_1 + \frac{4}{3}R_5 - 6A_y = 0$$

$$A_y = N_B = 18.18 \text{ kN}$$

$$F = 10.36 \text{ kN}$$

$$R_A = \sqrt{A_x^2 + A_y^2} = \sqrt{2^2 + 18.18^2} \rightarrow R_A = 18.29 \text{ kN}$$