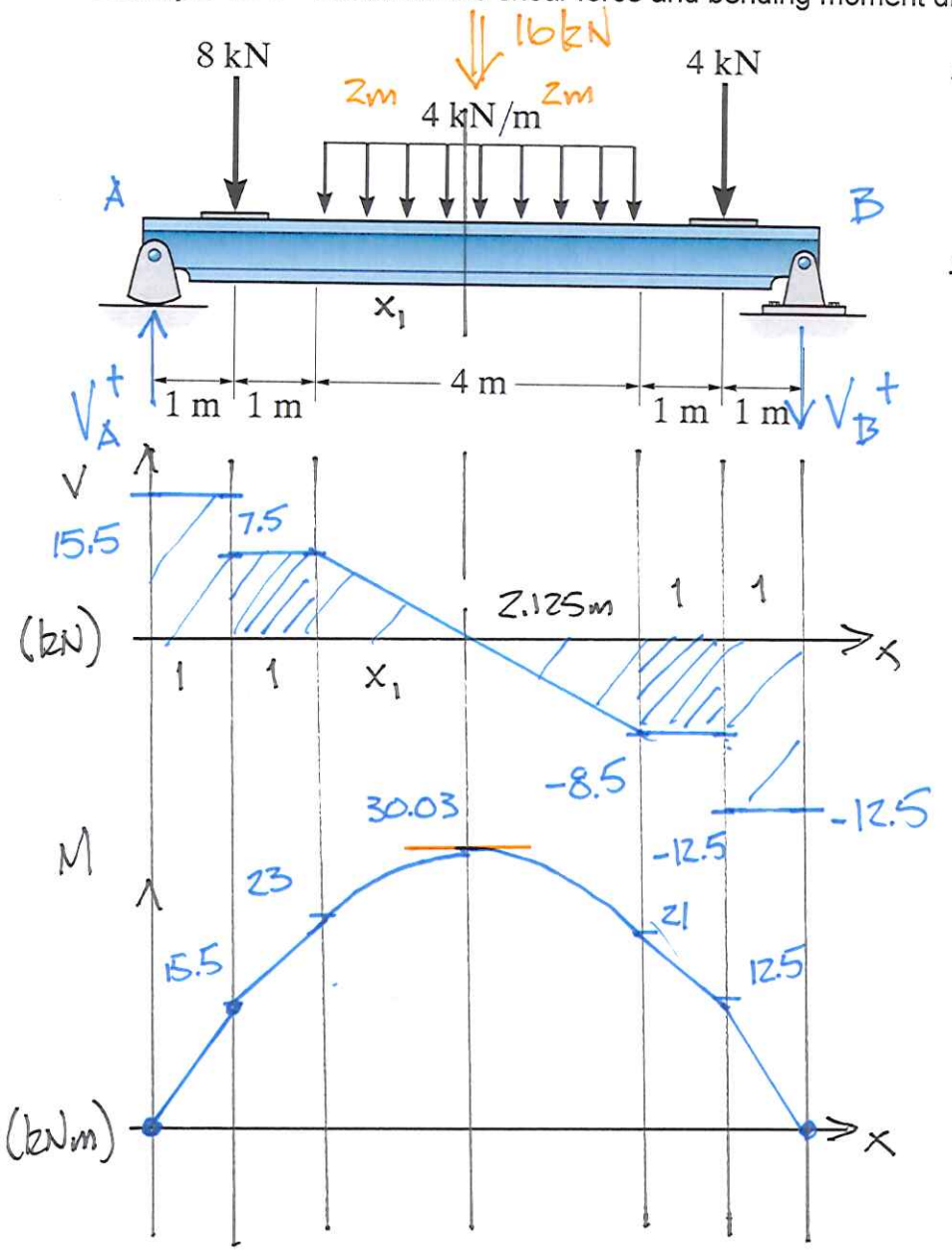
Example 4c-8 – Construct the shear force and bending moment diagrams



$$\circlearrowleft + \sum M_B = 0 = 4\,kN(1m) + 16\,kN(4m) + 8\,kN(7m) - V_A(8m)$$

$$V_A = 15.5\,kN$$

$$+\uparrow \sum F_y = 0 = V_A - V_B - 8\,kN - 16\,kN - 4\,kN$$

$$V_B = -12.5\,kN$$

$$\Delta V = \int w\,dx \qquad \frac{dV}{dx} = w$$

$$\Delta V = -7.5\,kN \qquad -7.5\,kN = -4x_1$$

$$x_1 = 1.875\,m$$

$$\int w\,dx = -4x_1$$

$$\Delta M = \int V\,dx \qquad \frac{dM}{dx} = V$$