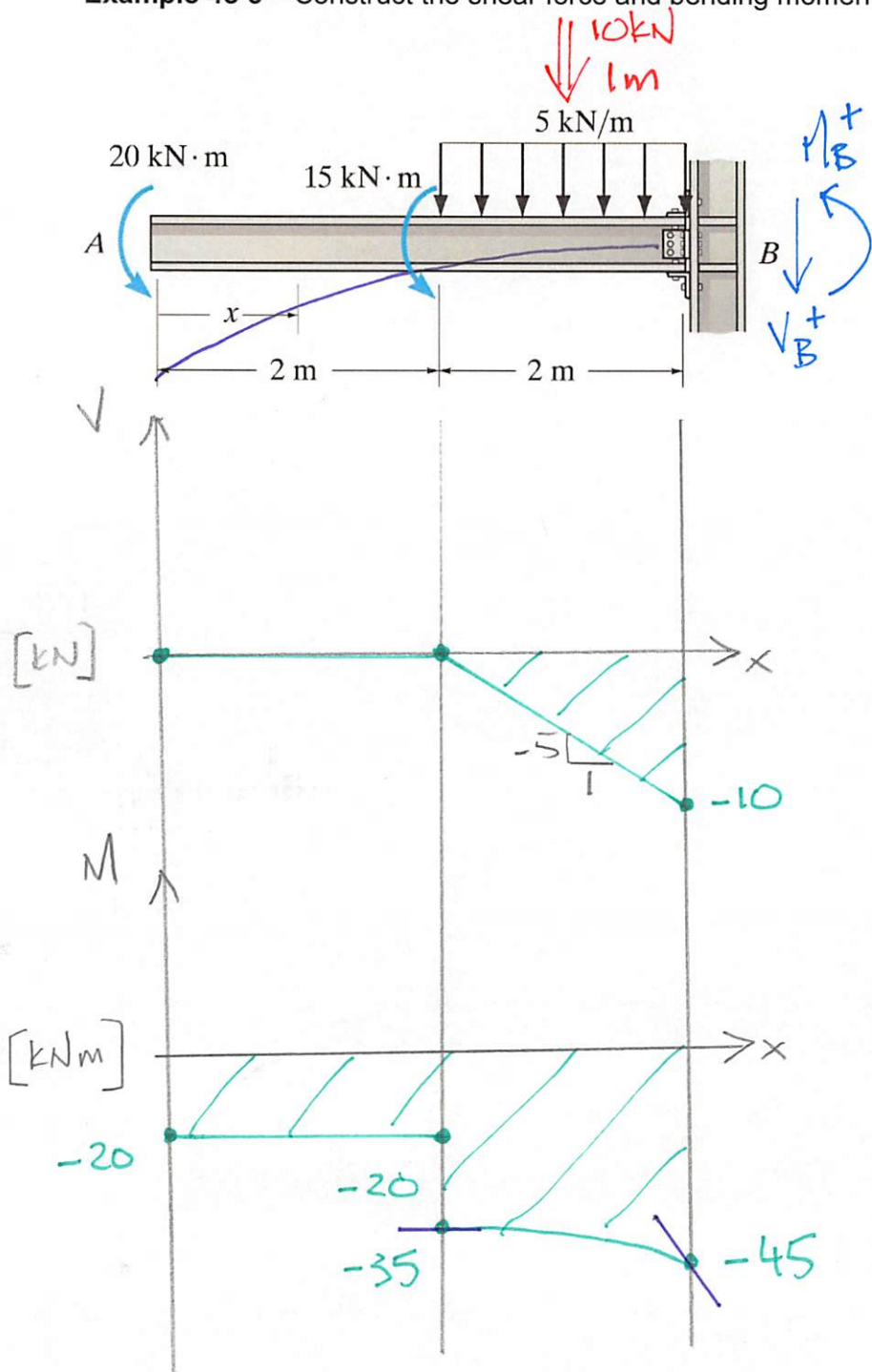


Example 4c-5 – Construct the shear force and bending moment diagrams.



$$\sum M_B = 0 = M_B + 10 \text{ kN}(1 \text{ m}) + 15 \text{ kN m} + 20 \text{ kN m}$$

$$\underline{M_B = -45 \text{ kN m}}$$

$$+\uparrow \sum F_y = 0 = -V_B - 10 \text{ kN} \quad \underline{V_B = -10 \text{ kN}}$$

$$\underline{V_{\text{FEND}} = 0} \quad \underline{M_{\text{F.END}} = -20 \text{ kN m}}$$

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

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

$$M_{\text{MAX}} = -45 \text{ kN m} \quad \text{FIXED END}$$