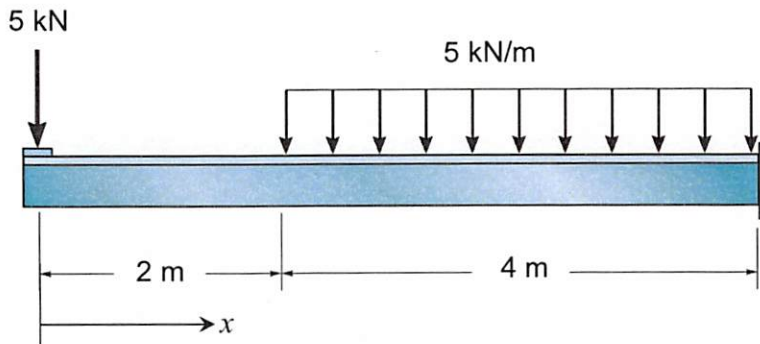
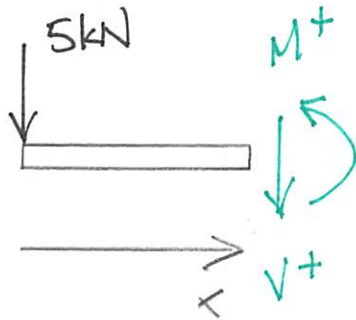


Determine the internal shear force and bending moment as a function of x throughout the beam.



$$0 \leq x \leq 2\text{m}$$



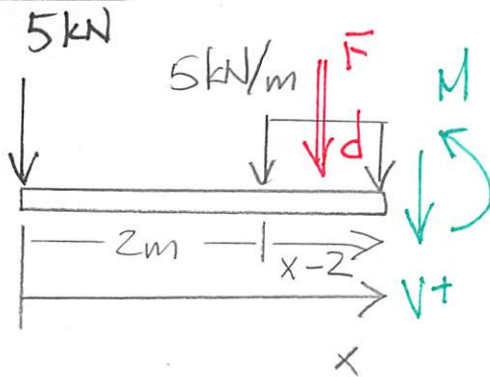
$$\sum M_{\text{cut}} = 0 = M + 5\text{kN}(x)$$

$$M = [-5x] \text{ kNm}$$

$$+\uparrow \sum F_y = 0 = -V - 5\text{kN}$$

$$V = -5\text{kN}$$

$$2 \leq x \leq 6\text{m}$$



$$\sum M_{\text{cut}} = 0 = M + Fd + 5\text{kN}(x)$$

$$M = \left[-\frac{5}{2}(x-2)^2 - 5x \right] \text{ kNm}$$

$$F = 5(x-2) \text{ kN}$$

$$d = \frac{1}{2}(x-2) \text{ m}$$

$$+\uparrow \sum F_y = 0 = -V - F - 5\text{kN}$$

$$V = [-5(x-2) - 5] \text{ kN}$$