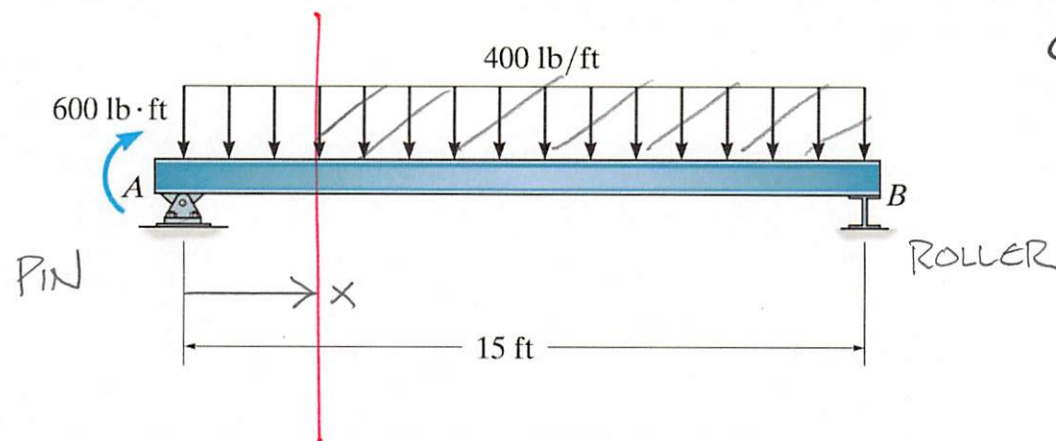
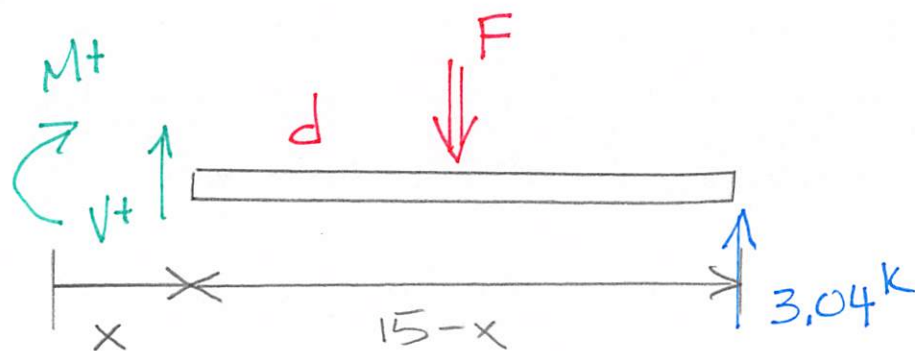


Example 4b-2 - Determine the internal shear and bending moment as a function of x .



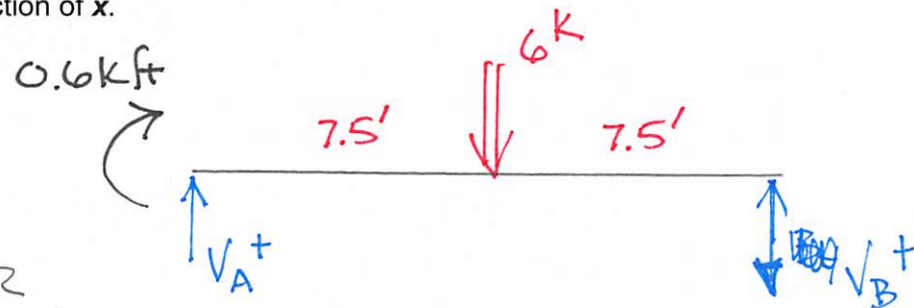
$$0 \leq x \leq 15$$



$$F = 0.4(15-x) \text{ k}$$

$$d = \frac{1}{2}(15-x) \text{ ft}$$

$$\frac{dM}{dx} = V$$



$$\sum M_A = 0 = -0.6 \text{ kft} - 6 \text{ k}(7.5') - V_B(15 \text{ ft})$$

$$V_B = -3.04 \text{ k}$$

$$\sum M_{\text{cut}} = 0 = -M - Fd + 3.04(15-x)$$

$$M = \underline{\underline{[-0.2(15-x)^2 + 3.04(15-x)] \text{ kft}}}$$

$$M(x=0) = 0.6 \text{ kft} \quad M(x=15) = 0$$

$$\sum F_y = 0 = V - F + 3.04 \text{ k}$$

$$V = \underline{\underline{[0.4(15-x) - 3.04] \text{ k}}}$$

$$V(x=15) = -3.04 \text{ k}$$