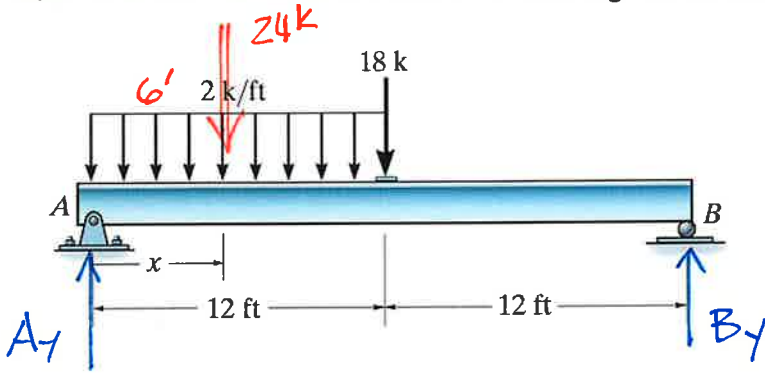


Determine the internal shear force and bending moment as a function of x throughout the beam.



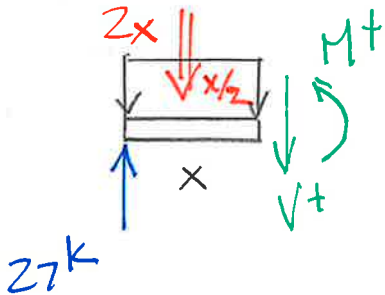
$$\sum \uparrow M_B = 0 = 18^k(12') + 24^k(18') - A_y(24')$$

$$\underline{A_y = 27^k}$$

$$\sum \uparrow F_y = 0 = A_y + B_y - 18^k - 24^k$$

$$\underline{B_y = 15^k}$$

$$\underline{0 \leq x \leq 12}$$



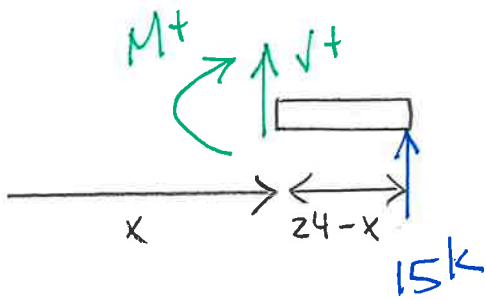
$$\sum \uparrow M_{cut} = 0 = M + 2x\left(\frac{x}{2}\right) - 27x$$

$$\underline{\underline{M(x) = [-x^2 + 27x]}}$$

$$\sum \uparrow F_y = 0 = -V - 2x + 27^k$$

$$\underline{\underline{V(x) = [-2x + 27] k}}$$

$$\underline{12 \leq x \leq 24}$$



$$\sum \uparrow M_{cut} = 0 = -M + 15(24-x)$$

$$\underline{\underline{M(x) = [15(24-x)] kft}}$$

$$\sum \uparrow F_y = 0 = V + 15^k$$

$$\underline{\underline{V(x) = -15^k}}$$