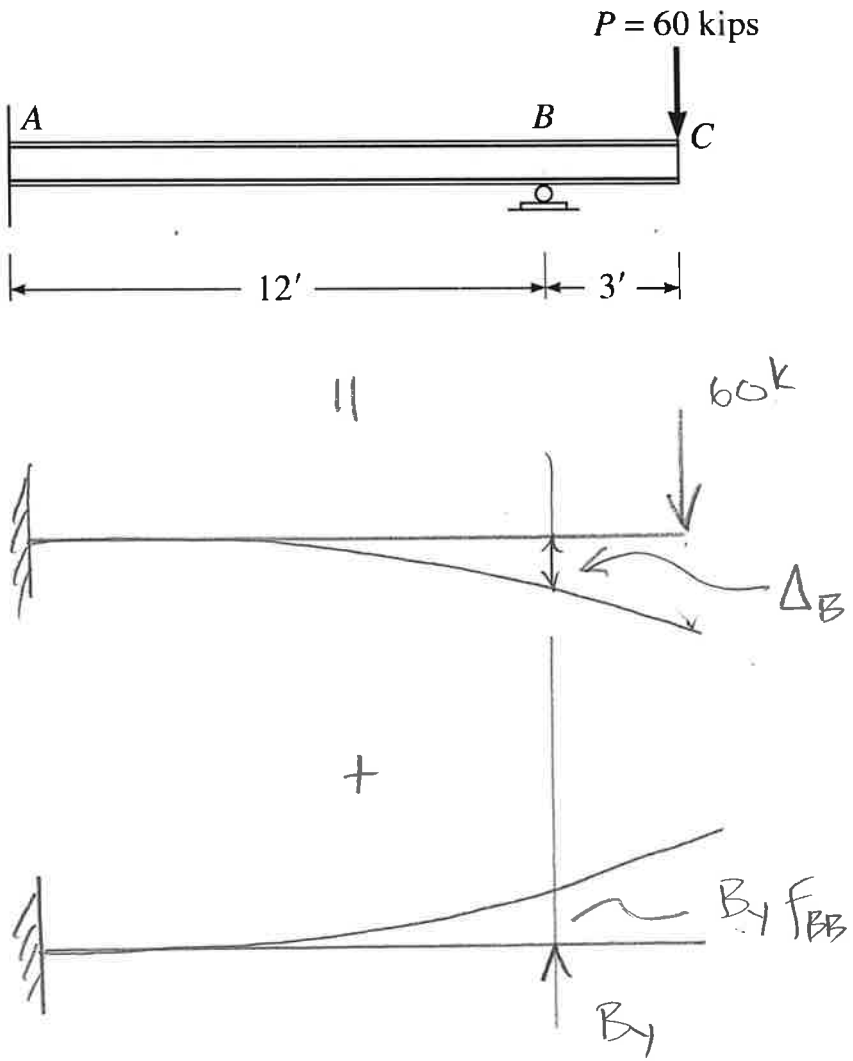
Problem 9a-4 – Compute the reactions and draw the shear and moment curves for the following beam.



$$\Delta_B + B_y f_{BB} = 0$$

$$\Delta_B = \frac{P}{6EI}\left(x^3 - 3Lx^2\right) \qquad L = 15' \quad x = 12'$$

$$\Delta_B = \frac{60k}{6EI}\left((12)^3 - 3(15')(12')^2\right)$$

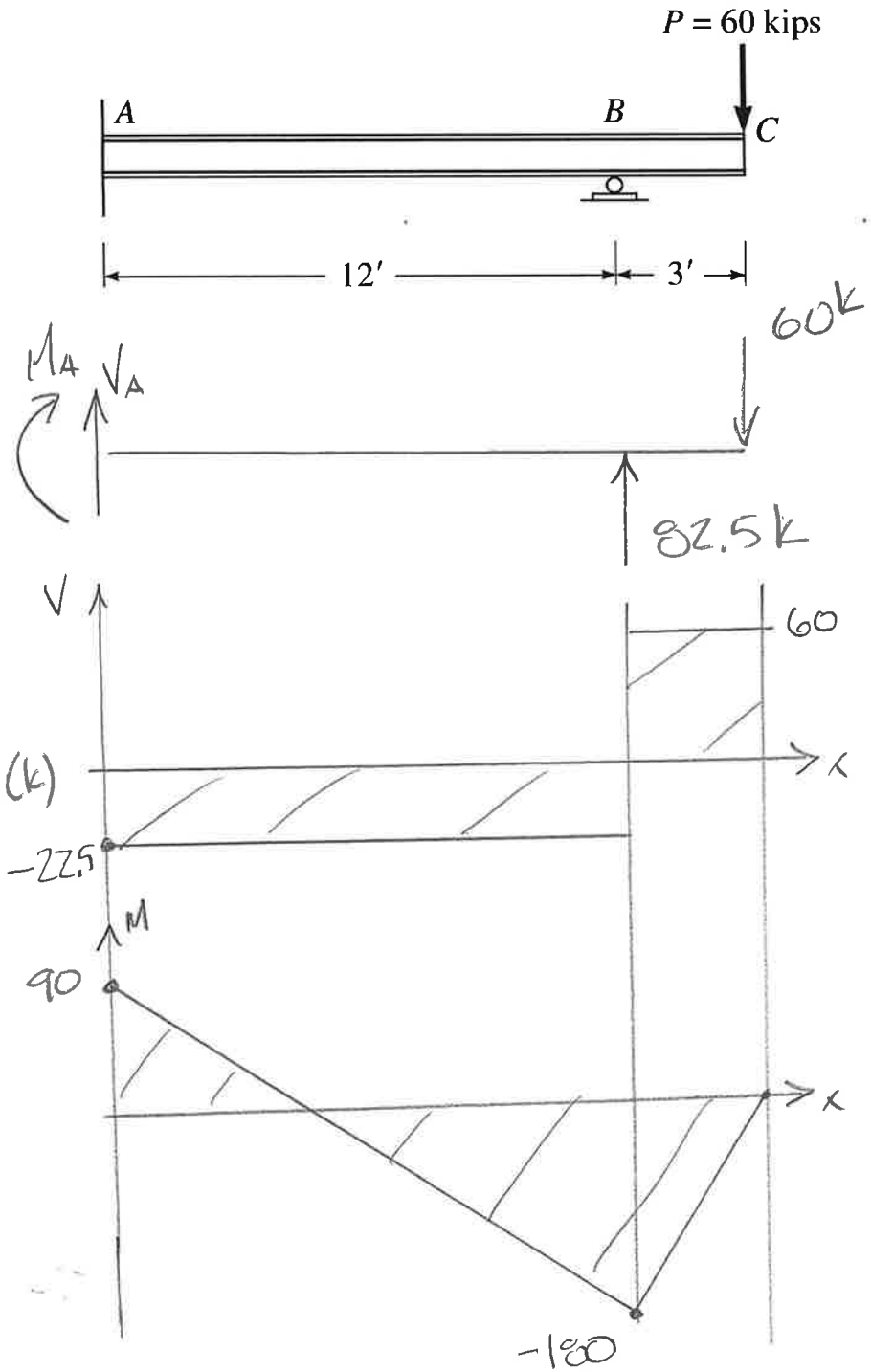
$$= -\frac{47{,}520\,k\,ft^3}{EI}$$

$$f_{BB} = \frac{L^3}{3EI} \qquad L = 12'$$

$$= \frac{(12)^3}{3EI} = \frac{576\,ft^3}{EI}$$

$$\underline{B_y = 82.5k}$$

Problem 9a-4 – Compute the reactions and draw the shear and moment curves for the following beam.



$$\circlearrowleft + \sum M_A = 0 = -60k(15') + 82.5k(12') - M_A$$

$$\underline{M_A = 90 k\text{ft}}$$

$$+\uparrow \sum F_y = 0 = V_A + 82.5k - 60^k$$

$$\underline{V_A = -22.5\,k}$$