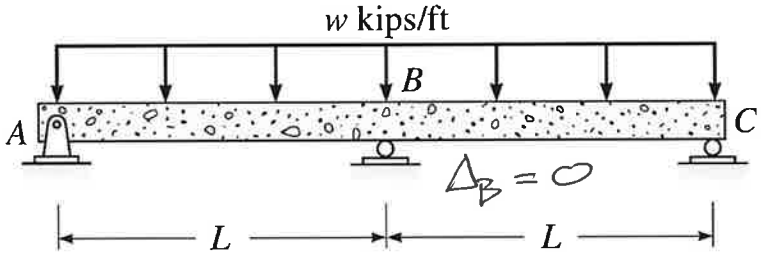
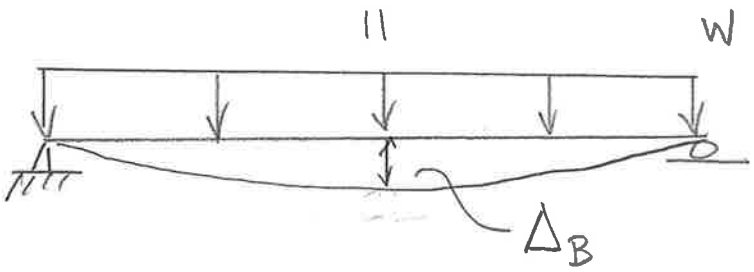
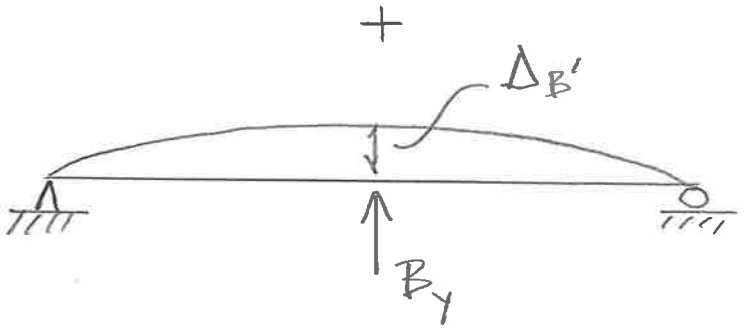
Problem 9a-1 – Compute the reactions and draw the shear and moment curves for the following beam.







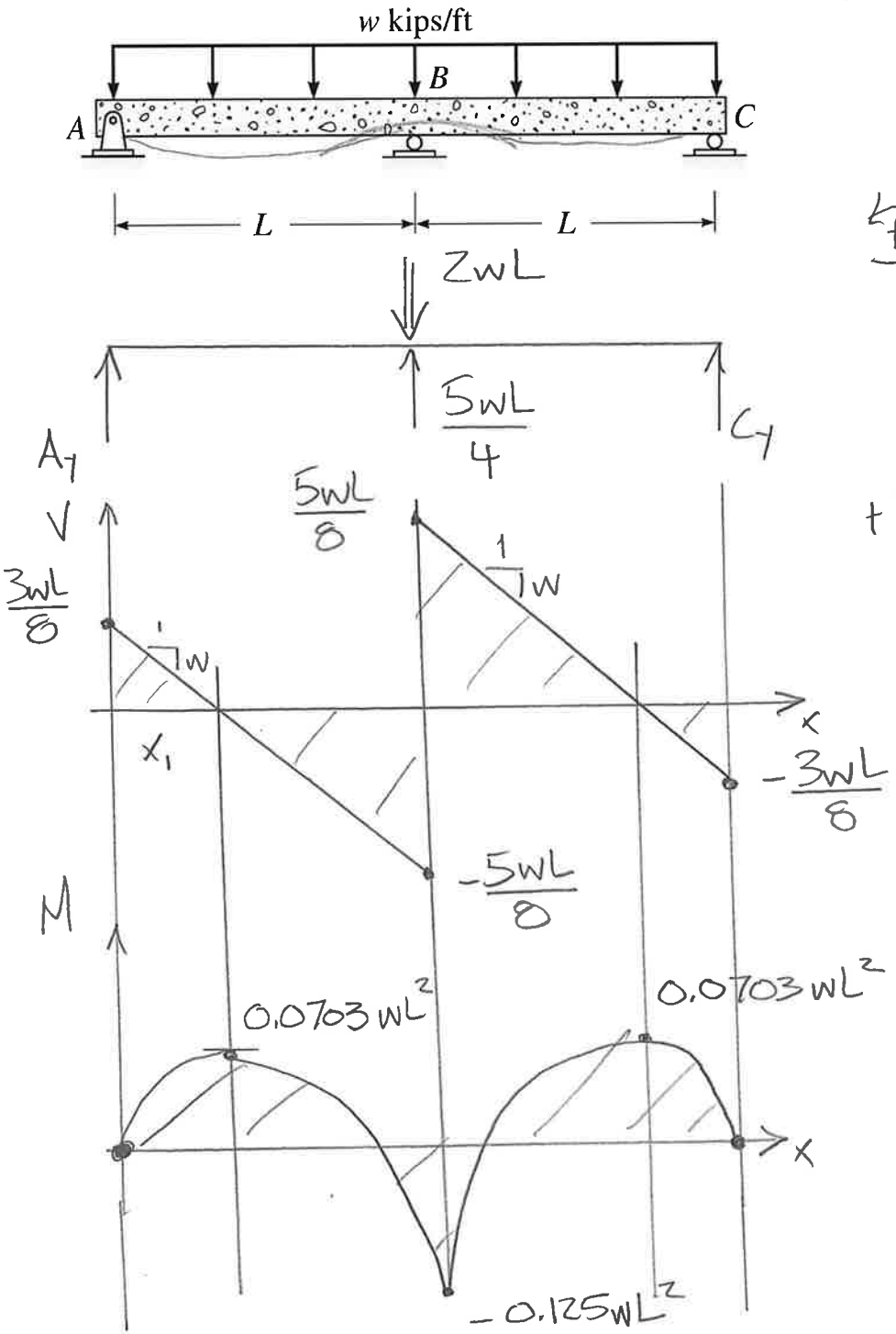
$$\Delta_B + \Delta_{B'} = 0$$

$$\Delta_B = -\frac{5w(2L)^4}{384EI} \qquad \Delta_{B'} = \frac{B_y(2L)^3}{48EI}$$

$$-\frac{5w(2L)^4}{384EI} + \frac{B_y(2L)^3}{48EI} = 0$$

$$B_y = \frac{5wL}{4}$$

Problem 9a-1 – Compute the reactions and draw the shear and moment curves for the following beam.



$$\circlearrowleft \Sigma M_C = 0 = 2wL(L) - \frac{5wL}{4}(L) - A_y(2L)$$

$$A_y = \frac{3wL}{8}$$

$$+\uparrow \Sigma F_y = 0 = A_y + C_y + \frac{5wL}{4} - 2wL$$

$$C_y = \frac{3wL}{8}$$

$$X = \frac{\frac{3wL}{8}}{w} = \frac{3L}{8}$$