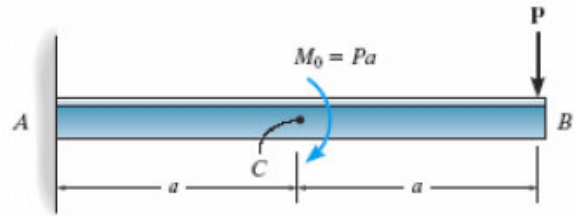


Problem 12-58

Determine the slope at C and the deflection at B . EI is constant.



$$\theta_{C/A} = \left(-\frac{2Pa}{EI}\right)a + \frac{1}{2}\left(-\frac{Pa}{EI}\right)a = -\frac{5Pa^2}{2EI} = \frac{5Pa^2}{2EI}$$

$$\theta_C = \theta_{C/A}$$

$$\theta_C = \frac{5Pa^2}{2EI} \quad \text{Ans}$$

$$\begin{aligned} \Delta_B = |\tau_{B/A}| &= \frac{1}{2}\left(-\frac{Pa}{EI}\right)\left(a\right)\left(\frac{2a}{3}\right) + \frac{1}{2}\left(-\frac{Pa}{EI}\right)a\left(a + \frac{2a}{3}\right) + \left(-\frac{2Pa}{EI}\right)(a)\left(a + \frac{a}{2}\right) \\ &= \frac{25Pa^3}{6EI} \quad \text{Ans} \end{aligned}$$

