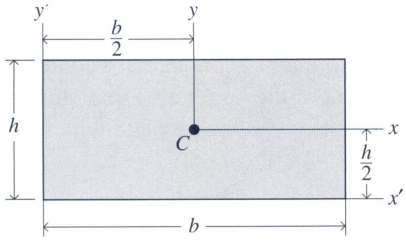
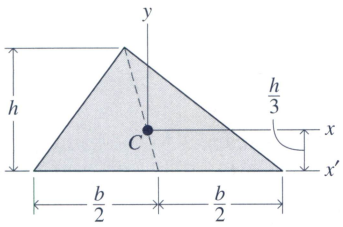
TABLE 8-1 Second Moments of Plane Areas



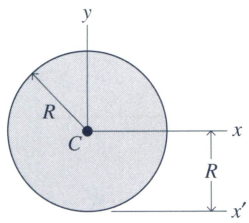
$$I_x = \frac{bh^3}{12} \qquad I_{x'} = \frac{bh^3}{3}$$

$$A = bh$$



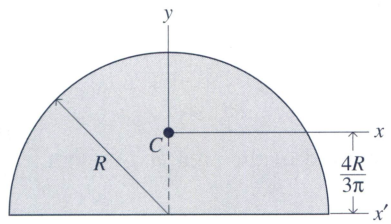
$$I_x = \frac{bh^3}{36} \qquad I_{x'} = \frac{bh^3}{12}$$

$$A = \frac{1}{2}bh$$



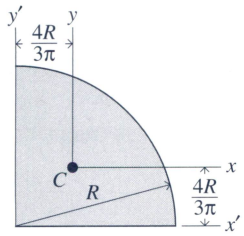
$$I_x = \frac{\pi R^4}{4} \qquad I_{x'} = \frac{5\pi R^4}{4}$$

$$A = \pi R^2$$



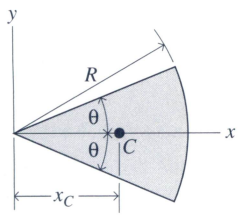
$$I_x = \frac{\pi R^4}{8} - \frac{8R^4}{9\pi} \qquad I_{x'} = \frac{\pi R^4}{8}$$

$$I_y = \frac{\pi R^4}{8} \qquad A = \frac{1}{2}\pi R^2$$



$$I_x = \frac{\pi R^4}{16} - \frac{4R^4}{9\pi} \qquad I_{x'} = \frac{\pi R^4}{16}$$

$$A = \frac{1}{4}\pi R^2$$



$$I_x = \frac{R^4}{4}\left(\theta - \frac{1}{2}\sin 2\theta\right) \qquad x_C = \frac{2}{3}\frac{R\sin\theta}{\theta}$$

$$I_y = \frac{R^4}{4}\left(\theta + \frac{1}{2}\sin 2\theta\right) \qquad A = \theta R^2$$