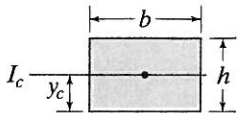
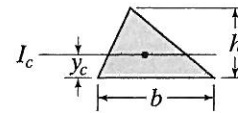
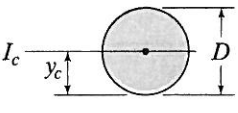
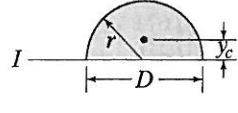
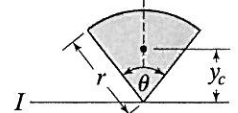
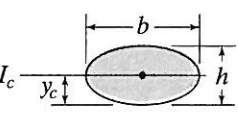
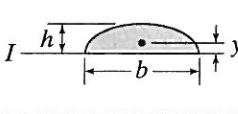
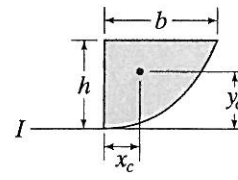


TABLE A.7 Properties of areas

Shape	Sketch	Area	Location of centroid	I_c or $I = I_c + Ay_c^2$
Rectangle		bh	$y_c = \frac{h}{2}$	$I_c = \frac{bh^3}{12}$
Triangle		$\frac{bh}{2}$	$y_c = \frac{h}{3}$	$I_c = \frac{bh^3}{36}$
Circle		$\frac{\pi D^2}{4}$	$y_c = \frac{D}{2}$	$I_c = \frac{\pi D^4}{64}$
Semicircle		$\frac{\pi D^2}{8}$	$y_c = \frac{4r}{3\pi}$	$I = \frac{\pi D^4}{128}$
Circular sector		$\frac{\theta r^2}{2}$	$y_c = \frac{4r}{3\theta} \sin \frac{\theta}{2}$	$I = \frac{r^4}{8} (\theta + \sin \theta)$
Ellipse		$\frac{\pi bh}{4}$	$y_c = \frac{h}{2}$	$I_c = \frac{\pi bh^3}{64}$
Semiellipse		$\frac{\pi bh}{4}$	$y_c = \frac{4h}{3\pi}$	$I = \frac{\pi bh^3}{16}$
Parabola		$\frac{2bh}{3}$	$x_c = \frac{3b}{8}$ $y_c = \frac{3h}{5}$	$I = \frac{2bh^3}{7}$