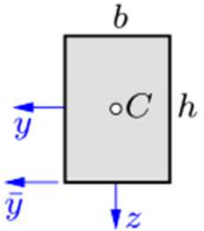
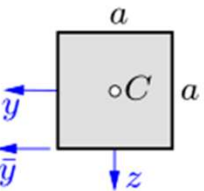
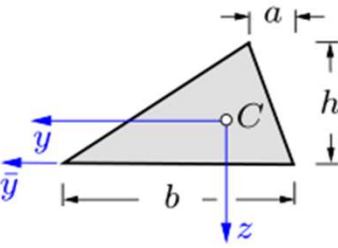
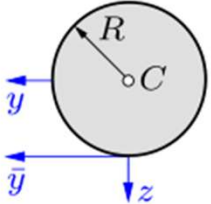
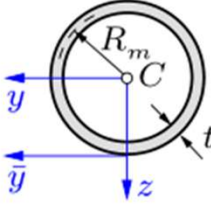
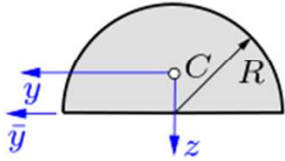
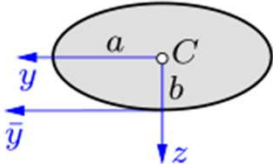


Table 4.1. Moments of Inertia

Area	I_y	I_z	I_{yz}	I_p	$I_{\bar{y}}$
Rectangle 	$\frac{b h^3}{12}$	$\frac{h b^3}{12}$	0	$\frac{b h}{12} (h^2 + b^2)$	$\frac{b h^3}{3}$
Square 	$\frac{a^4}{12}$	$\frac{a^4}{12}$	0	$\frac{a^4}{6}$	$\frac{a^4}{3}$
Triangle 	$\frac{b h^3}{36}$	$\frac{b h}{36} (b^2 - b a + a^2)$	$-\frac{b h^2}{72} (b - 2 a)$	$\frac{b h}{36} (h^2 + b^2 - b a + a^2)$	$\frac{b h^3}{12}$

Circle 	$\frac{\pi R^4}{4}$	$\frac{\pi R^4}{4}$	0	$\frac{\pi R^4}{2}$	$\frac{5\pi}{4} R^4$
Thin Circular Ring $t \ll R_m$ 	$\pi R_m^3 t$	$\pi R_m^3 t$	0	$2 \pi R_m^3 t$	$3 \pi R_m^3 t$
Semi-Circle 	$\frac{R^4}{72 \pi} (9 \pi^2 - 64)$	$\frac{\pi R^4}{8}$	0	$\frac{R^4}{36 \pi} (9 \pi^2 - 32)$	$\frac{\pi R^4}{8}$
Ellipse 	$\frac{\pi}{4} a b^3$	$\frac{\pi}{4} b a^3$	0	$\frac{\pi a b}{4} (a^2 + b^2)$	$\frac{5\pi}{4} a b^3$