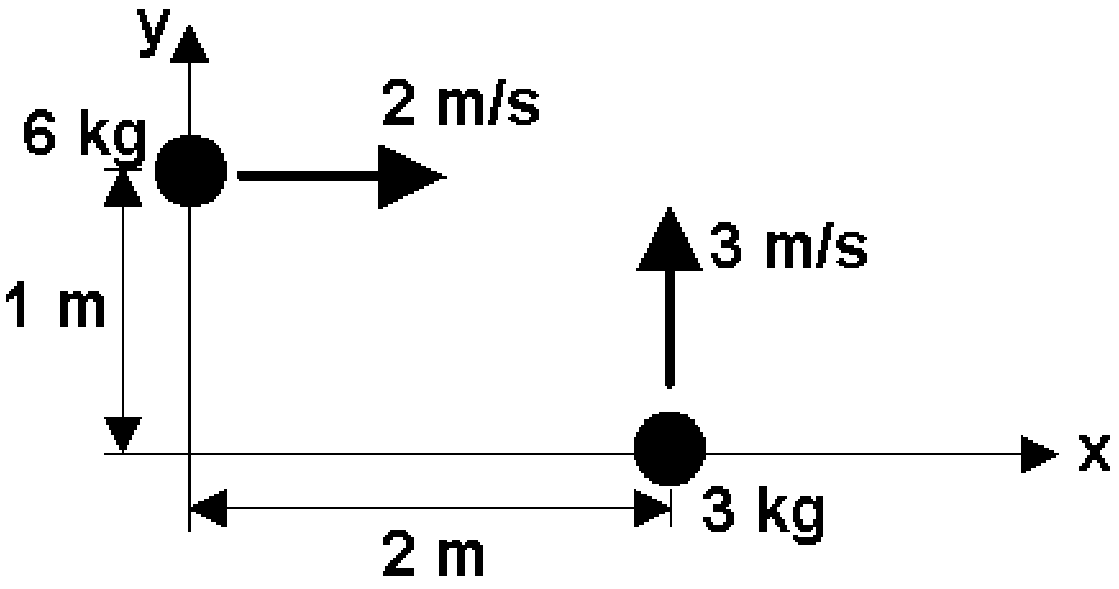
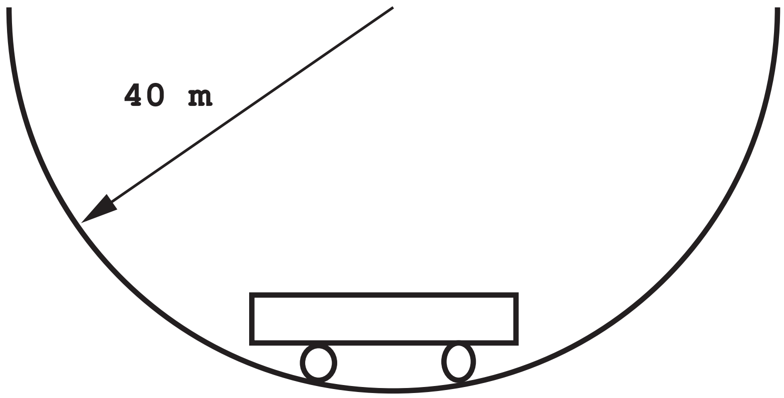
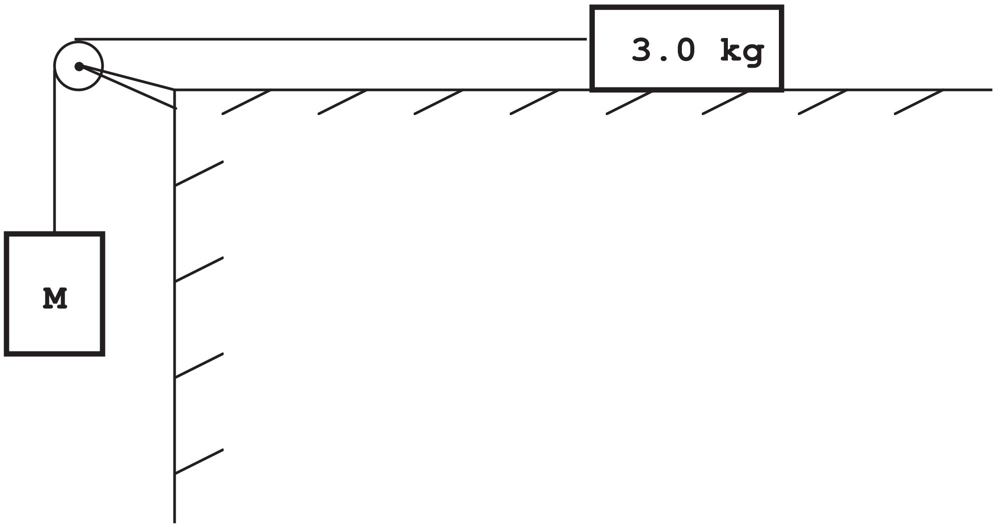

y
6 kg
2 m/s
1 m
3 m/s
x
3 kg
2 m


40 m


3.0 kg
M

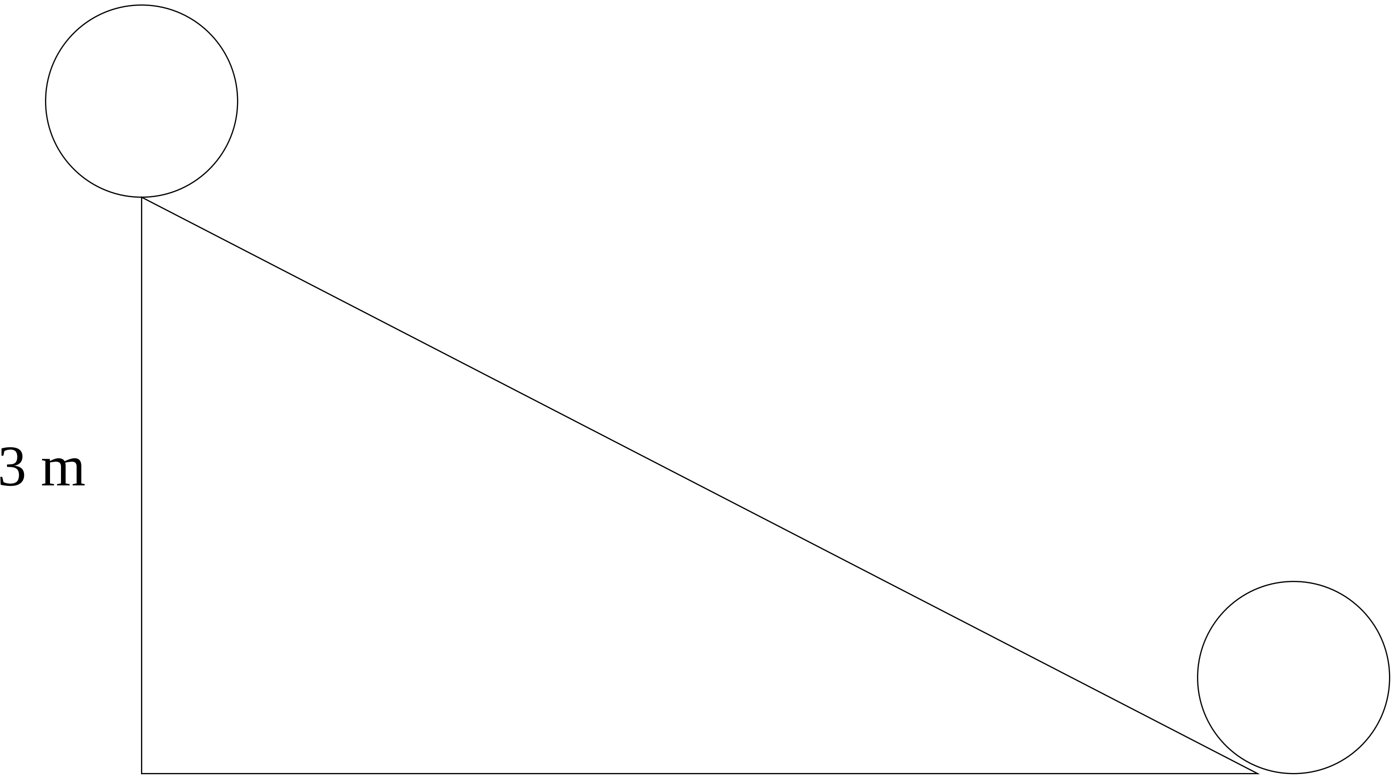
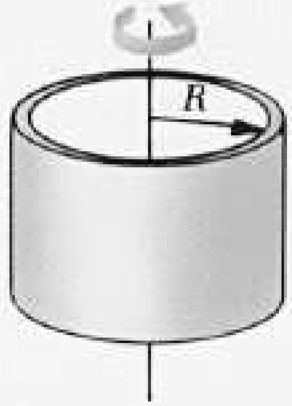

3 m

TABLE 10.2 Moments of Inertia of Homogeneous Rigid Bodies with Different Geometries

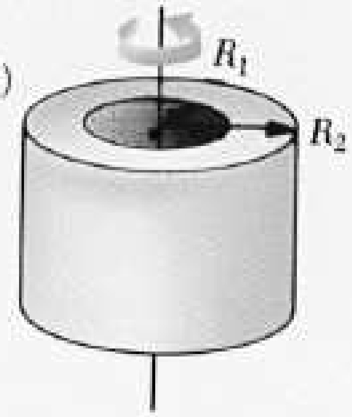
Hoop or cylindrical shell

$I_c = MR^2$



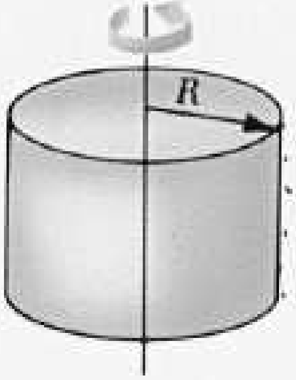
Hollow cylinder

$I_c = \frac{1}{2}M(R_1^2 + R_2^2)$



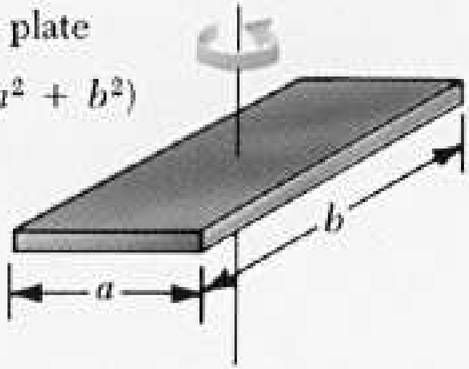
Solid cylinder or disk

$I_c = \frac{1}{2}MR^2$



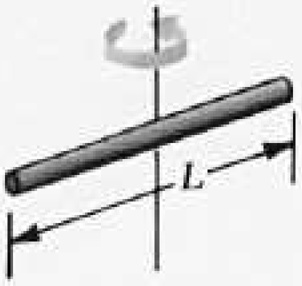
Rectangular plate

$I_c = \frac{1}{12}M(a^2 + b^2)$



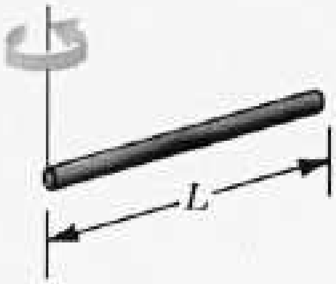
Long thin rod

$I_c = \frac{1}{12}ML^2$



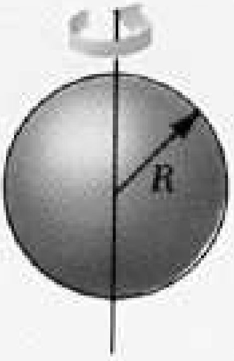
Long thin rod

$I = \frac{1}{3}ML^2$



Solid sphere

$I_c = \frac{2}{5}MR^2$



Thin spherical shell

$I_c = \frac{2}{3}MR^2$