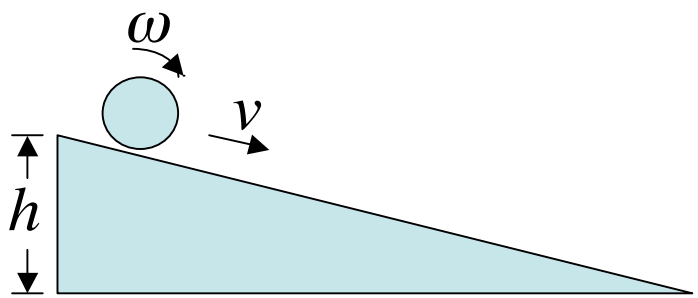
Conservation of Energy



If the object is now made to roll down an incline of height h as shown, the correct equation for energy conservation is (assume r << h):

a.) $mgh = \left(\frac{1}{2}\right)mv^2$

b.) $mgh = \left(\frac{1}{2}\right)I\omega^2$

c.) $mgh = \frac{1}{2}\left(mv^2 + I\omega^2\right)$

d.) $mgh = \frac{1}{2}mv^2 + I\omega^2$

e.) $mgh = \left(mv^2 + I\omega^2\right)$