

Formulas:

$$\omega = \frac{d\theta}{dt} \quad \alpha = \frac{d\omega}{dt} \quad s = r\theta \quad v = r\omega \quad a_t = r\alpha \quad a_c = r\omega^2$$

$$\bar{\omega} = \frac{\omega_i + \omega_f}{2} \quad \omega_f = \alpha t + \omega_i \quad \theta = \frac{1}{2}\alpha t^2 + \omega_i t + \theta_i$$

$$I = \sum mr^2 = \int r^2 dm \quad \vec{\tau} = \vec{r} \times \vec{F} \quad \sum \tau = I\alpha$$

$$\vec{L} = \vec{r} \times \vec{p} \quad L = I\omega \quad K = \frac{1}{2}I\omega^2 \quad W = \int \tau d\theta$$

Other formulas you may want:

$$K = \frac{1}{2}mv^2 \quad U = mgh \quad F_c = \frac{mv^2}{r}$$

Some Moments of Inertia you may want (M = mass, R = radius, L = length):

Disk : $\frac{1}{2}MR^2$

Hoop: MR^2

Hollow Spherical Shell: $\frac{2}{3}MR^2$

Solid Sphere: $\frac{2}{5}MR^2$

Thin Rod, about center of mass: $\frac{1}{12}ML^2$

Thin Rod, about one end: $\frac{1}{3}ML^2$

Equations:

$$x = x_m \sin(\omega t + \phi) \quad \ddot{x} = -\omega^2 x \quad T = \frac{2\pi}{\omega} \quad f = \frac{1}{T}$$

$$T = 2\pi\sqrt{\frac{m}{k}} \quad T = 2\pi\sqrt{\frac{L}{g}} \quad T = 2\pi\sqrt{\frac{I}{rmg}}$$

$$U = \frac{1}{2}kx^2 \quad U = mgh \quad K = \frac{1}{2}mv^2 \quad F = -kx$$