

```
(*angular momentum*)
Clear["*"];

I;(*moment of inertia*)
 $\omega$ ;(*angular velocity*)
 $L = I\omega$ ;(*angular momentum*)
```

$I\omega$

```
 $\mathbf{r}$ ;(*vector*)
 $\mathbf{p}$ ;(*linear momentum*)
 $\mathbf{L} = \mathbf{r} \times \mathbf{p}$ 
 $\mathbf{r} \times \mathbf{p}$ 
```

$E_r = \frac{1}{2} m v^2$ (*rotational kinetic energy*)

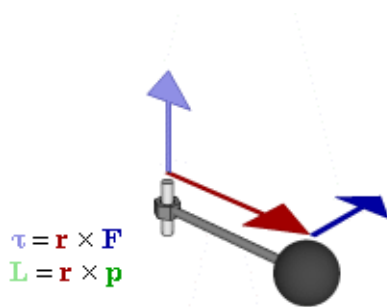
$\frac{m v^2}{2}$

```
 $\alpha$ ;(*angular velocity*)
 $\tau = I\alpha$  (*torque*)
```

$i\alpha$

$\boldsymbol{\tau} = \mathbf{r} \times \mathbf{F}$

$\mathbf{r} \times \mathbf{F}$



```
 $\theta$ ;(*angle between force and lever arm vector*)
 $\tau = r F \sin \theta$ 
```

$F r \sin \theta$

