

# Foundations of Physics Cycle Sheet

May 8, 2017 through May 12, 2017



**Goals:** Roller and Semester Final

**Monday:** Rollercoaster Work Day

**Homework:** Study for final

**Tuesday:** Rollercoaster Work Day

**Homework:** Study for final

**Wednesday:** Rollercoaster Work Day

**Homework:** Study for final

**Thursday:** Rollercoaster Work Day

**Homework:** Study for final

**Friday:** Rollercoaster Due Day

**Homework:** Study for final

## Vocabulary

torque	tangential speed	rotational inertia
lever	centripetal force	rotational speed
fulcrum	equilibrium	center of mass

## Know the following

circular motion	rotational inertia
torque	angular momentum
angular velocity	angular acceleration



## Rotational Speed

The number of rotations or revolutions per unit of time.

revolutions per minute (RPM)  
radians per second  
 $360^\circ = 2\pi$  radians

## Rotational Inertia

The measure of an objects' resistance to a change in rotation.

If an object is at rest it tends to stay at rest; if rotating it tends to stay rotating unless acted upon by an external torque.

## Tangential Speed

It's the linear speed tangent to a curved path.

## Angular Displacement

$$\theta = \frac{s}{r}$$

## angular motion

$$\omega_1 = \omega_0 + \alpha t$$

## angular velocity

The angular distance per unit of time.

$$\omega = \frac{\theta}{t}$$

## Centripetal Force

It's a center seeking force that causes an object to follow a circular path.