

Today:

torque  
angular momentum  
rotational inertia  
precession

if time:

pressure  
atmospheric pressure  
Fluids

# PHY 117 HS2024

Reminder: please ask questions  
about exercises on the  
OLAT forum.

Week 4, Lecture 2  
Oct. 9th, 2024  
Prof. Ben Kilminster

# Quiz 2:

Unanswered Right Wrong

The spring constant would be the same on the moon than on the earth. ( $k = \frac{mg}{\Delta x}$ , and  $g$  is different on the moon)

answer  118

~~119~~

$k$  is a constant, independent of the type of force.  
If we pull on a spring with any force  $F$ , it will extend by  $\Delta x$ , so  $k = \frac{F}{\Delta x}$ .

More info...





yesterday

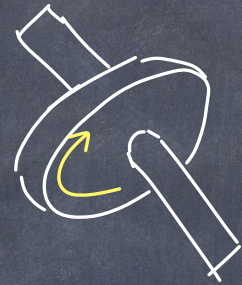
linear motion  
 $\vec{F} = m\vec{a}$

rotational motion  
 $\vec{\tau} = I\vec{\alpha}$

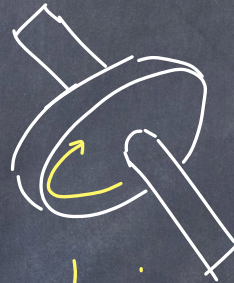
I is kind of like mass ( $I = mr^2$ ) for one particle

Newton's second law of rotation  
 $\Sigma \vec{\tau} = I\vec{\alpha}$





speeding up



slowing down















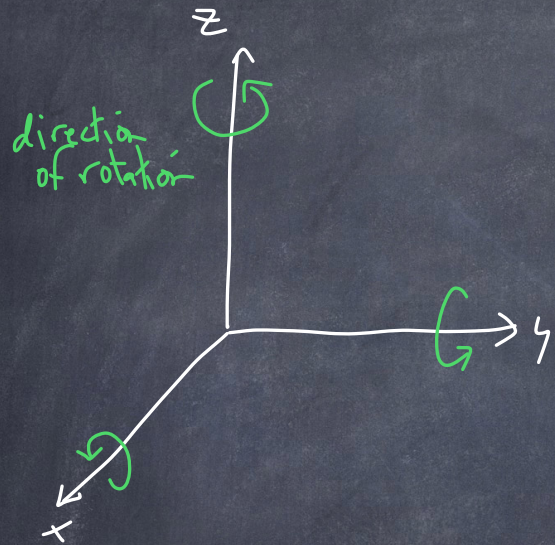








Objects can spin around 3 axes.





Initial :



Final:

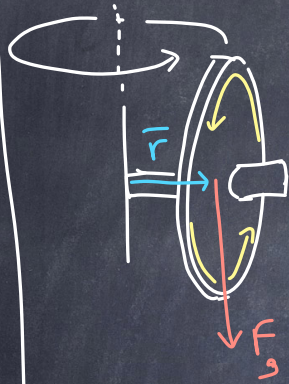








view from side:



view from above:

(2)

