

NYU physics I

2017-01-14

Agenda: - Reading -

τ , L , I

$\vec{r} \times \vec{p}$

$I\omega$

11-axis theorem
~~1-axis theorem~~

- Questions

- Gravity

(~~these~~ objects)

- Orbits

1. solid sphere
 $\odot mR^2$

- Ballistics.

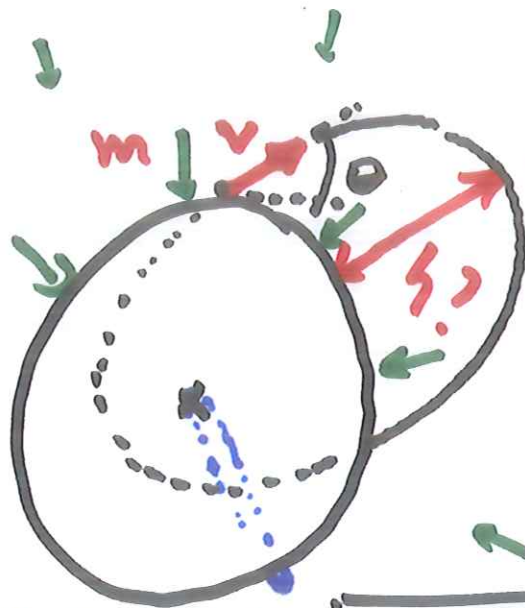
- Kepler's Laws



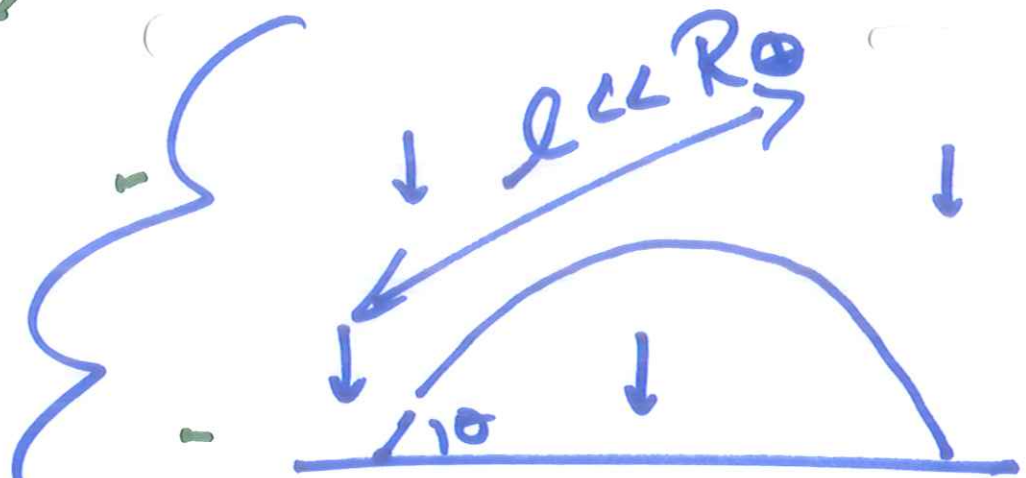
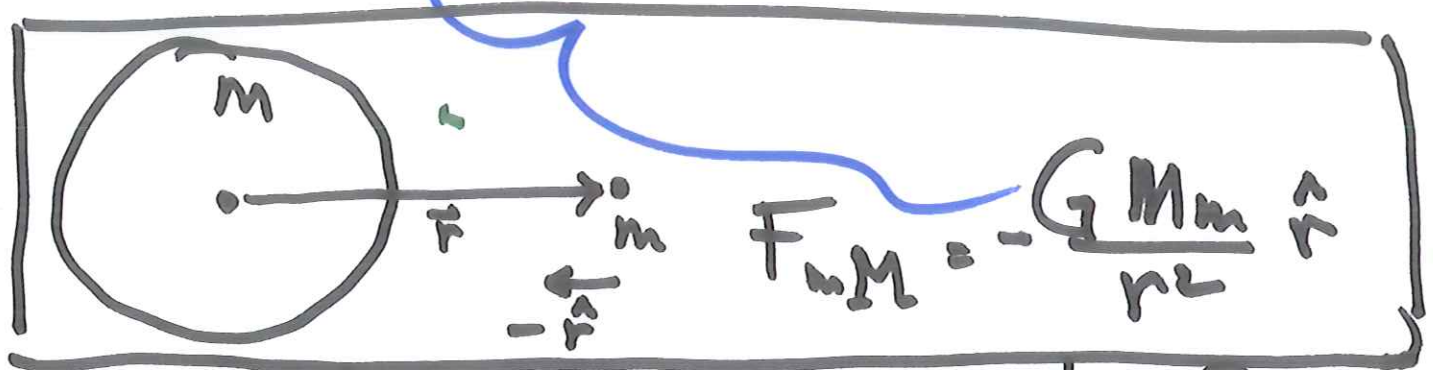
$\odot mR^2$

- (Exam 5 scope)

$\equiv mR^2$

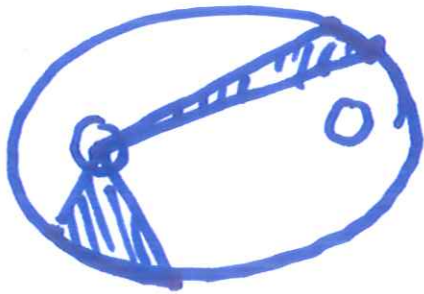


what is h ?
given m, v, θ



"K's" laws: Orbits are conic sections

- ellipses, parabolas, hyperbolas
- center of mass @ focus.



$$\downarrow g \equiv \frac{F_g}{m} = \frac{GM_{\oplus} \cancel{m}}{\cancel{m} R_{\oplus}^2} = \frac{GM_{\oplus}}{R_{\oplus}^2} \equiv g$$

↗ inertial mass
↖ gravitational charge

gravity is the weakest force Fotvos

