

## Module 6: Gravitational Force

Keywords: gravity, orbit, planet, big masses

Formulas:

$$F_g = G \frac{M \cdot m}{r^2}$$

$g = \frac{GM}{r^2}$  - to calculate gravity on other planets

Key points:

- Gravity is a property of mass
- Some orbits can be described by circular motion (Module 5)

General approach:

- Oftentimes, you will need to combine  $F = G \frac{Mm}{r^2}$  and  $F = ma = m \frac{v^2}{r} = m \frac{4\pi^2 r}{T^2}$
- Don't forget that  $r$  is distance between CM's