Physics 160 Reading Assignment for April 19 Sections 13.1 to 13.4

Please notice that this file is two pages long.

13.1 - Newton's Law of Gravitation

- Newton's law of gravitation - gives the magnitude of the gravitational force between two objects that are "far apart" from each other.
- Gravity is an inverse square law.

13.2 - Weight

- This section explains how what we've been using since chapter 4 for weight relates to Newton's broader theory of gravity.

13.3 - Gravitational Potential Energy

- And now we find out how we modify the gravitational potential energy equation!
- The gravitational potential energy differs in two respects from the force equation - it's a scalar, and it goes as $1/r$ and not $1/r^2$.
- Escape Speed - Minimum speed needed to escape a planet's gravity. (Ignores air resistance.)

13.4 - Motion of Satellites

- Satellites require gravity to remain in orbit.
- The equations for the speed and period of satellites are kind of famous. You should probably learn them.