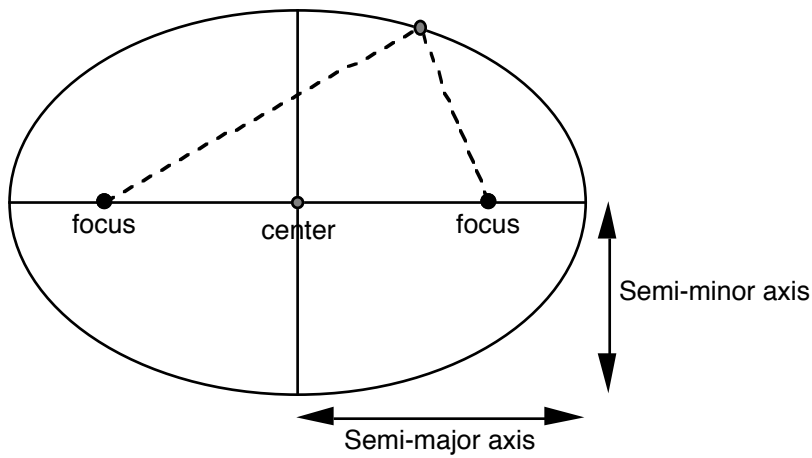


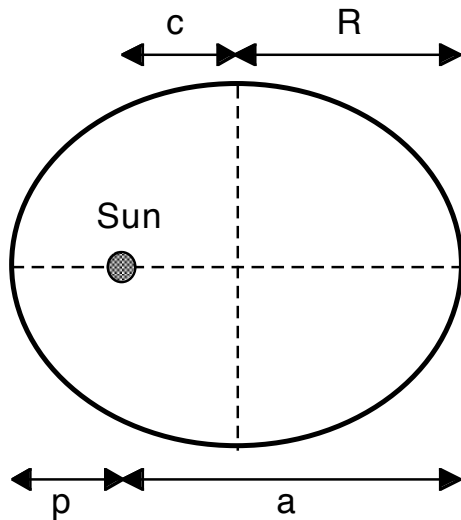
Ellipses

General Definition of Ellipse

An ellipse is a stretched out circle. A functional description of an ellipse is the set of points such that the sum of the distances from each point to each focus is a constant.



Astronomical Definitions for Orbits



c = distance from center to focus
 R = semi-major axis
 p = perihelion
 a = aphelion

Perihelion is the closest an object gets to the sun.
 Aphelion is the furthest point from the sun.

The eccentricity of an ellipse is defined as: $e = \frac{c}{R}$

Perihelion: $p = R - c$

Aphelion: $a = R + c$