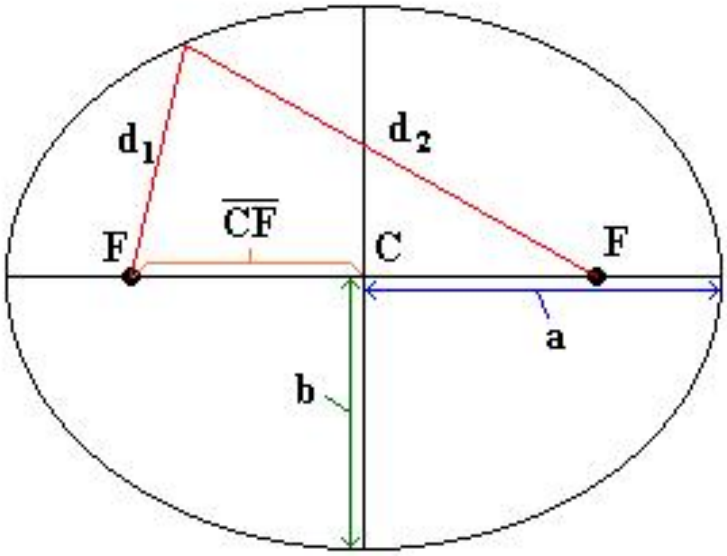
Properties of an Ellipse



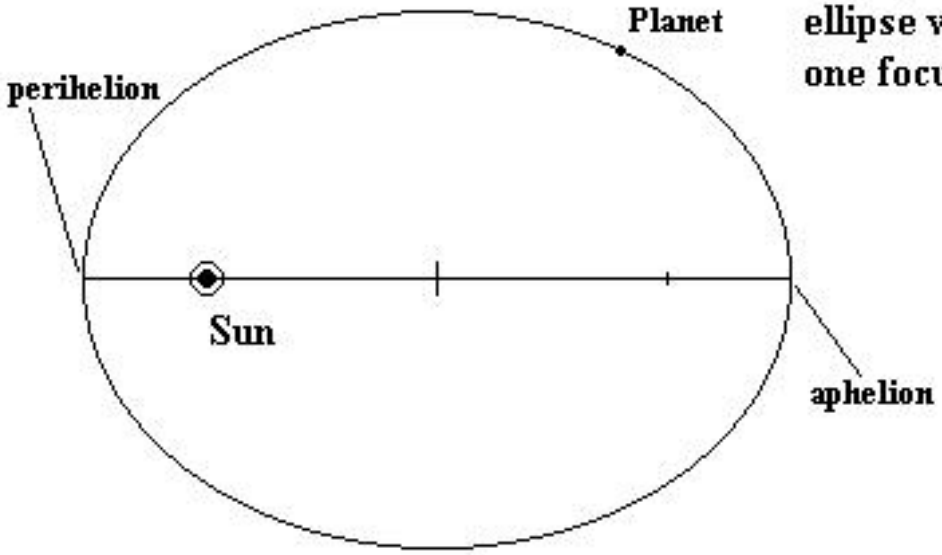
a = semimajor axis
b = seminor axis
e = eccentricity
$e = \overline{CF}/a$
F = focal point
C = center

All points on the ellipse have the following property:
$d_1 + d_2 = \text{const.}$
(const. = 2a)

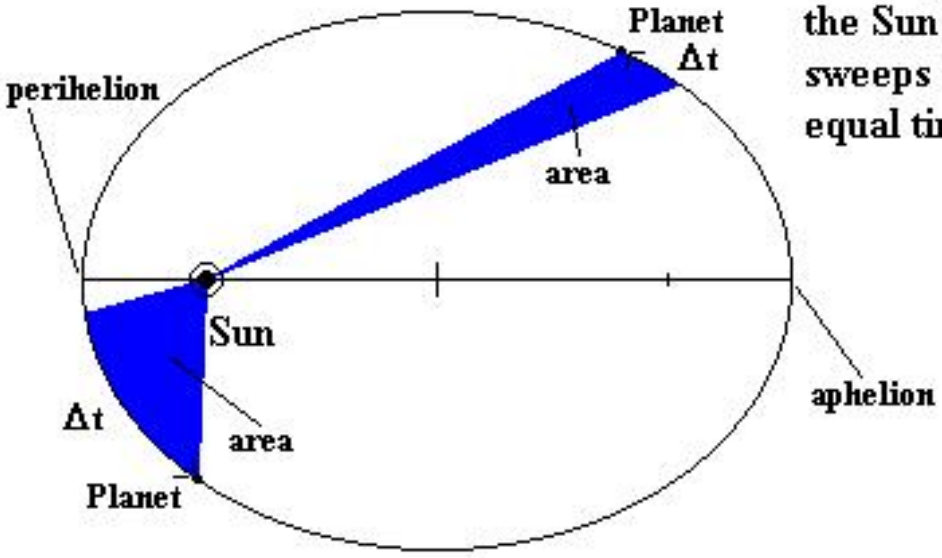
For the specific ellipse in this diagram:
a = 132 pixels, b = 100 pixels, $\overline{CF}$ = 86 pixels, e = 0.65, const. = 264 pixels

Kepler's 1st Law

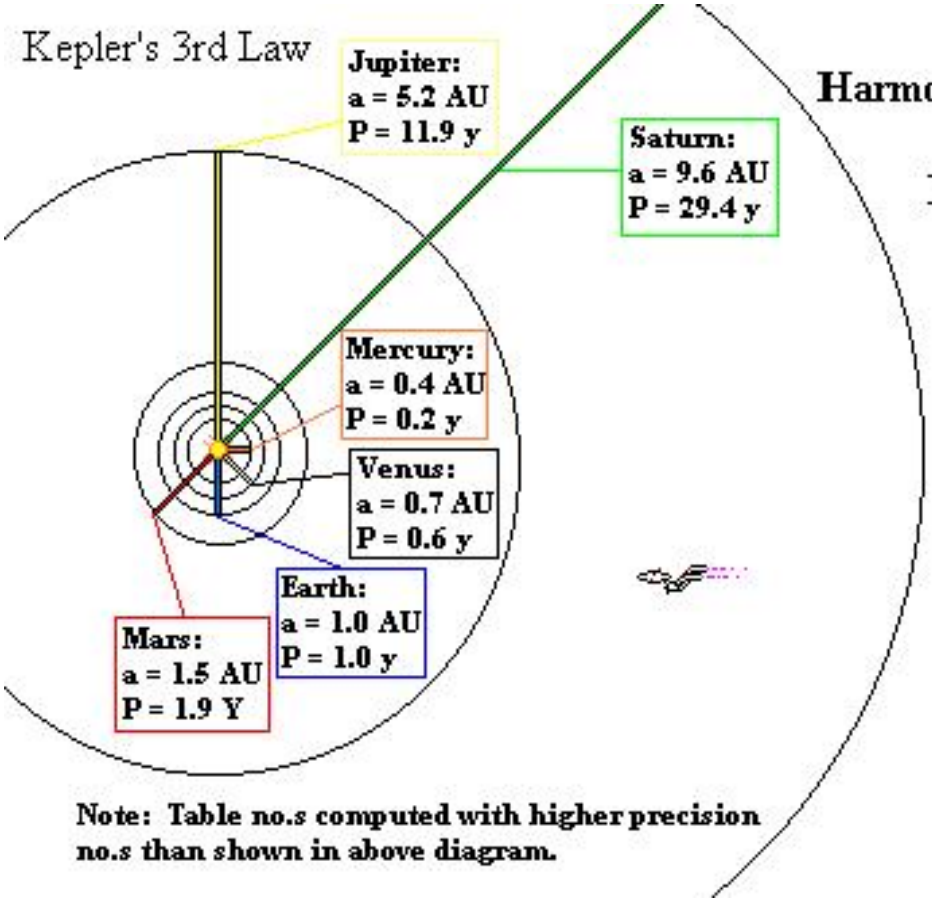
Law of Ellipses:
Each planet moves in an ellipse with the Sun at one focus.



Kepler's 2nd Law



Law of Areas:
An imaginary line between the Sun and the planet sweeps over equal areas in equal time intervals.



Note: Table no.s computed with higher precision no.s than shown in above diagram.

Harmonic Law:

$P^2 = a^3$

P in years, a in AU

Planet	P^2	a^3
Mercury	0.06	0.06
Venus	0.38	0.38
Earth	1.00	1.00
Mars	3.54	3.54
Jupiter	141	141
Saturn	866	872