Potentially useful information

$P^2 = \frac{4\pi}{G(m_1+m_2)} a^3$ $\quad v^2 = Gm(2r^{-1} - a^{-1})$ $\quad v_{thermal} = (3kT/m)^{1/2}$ $\quad \lambda_{max} T = 0.29$ cm K

$r = a(1-e^2)/(1+e\cos\theta)$ $\quad q = a(1-e)$ $\quad Q = a(1+e)$ $\quad b^2 = a^2(1-e^2)$ $\quad | P_1^{-1} - P_2^{-1} | = S^{-1}$

$L = 4\pi R^2 \sigma T^4$ $\quad T(d) = T_{reference} (1-A)^{1/4} (1\text{ AU}/d)^{1/2} (R_*/R_{sun})^{1/2} (T_*/T_{sun})$ where $T_{reference}$ = 394 K or 279 K

$ST = HA + RA$ $\quad t = HA_{sun} + 12^h$

$E = h\nu$ $\quad F_{grav} = Gm_1m_2/r^2$

Moon phases include: 1st quarter, 3rd quarter, full, new, waxing gibbous, waning gibbous, waning crescent, waxing crescent

Constants & other information

$m_p = 1.67\ 10^{-27}$ kg
g=9.80 m/s^2
$h = 6.626\ 10^{-34}$ J s
$\sigma = 5.67\ 10^{-8}$ W m^{-2} K^{-4}
$T_{sun} = 5780$ K
$L_{sun} = 3.83\ 10^{26}$ W
1 parsec = $3.086\ 10^{16}$ m
Laramie coordinates: 41.3°N, 105.6°W

Time Zone	Zone Meridian	Standard Time minus UT
Eastern	75°W	-5 hr
Central	90°W	-6 hr
Mountain	105°W	-7 hr
Pacific	120°W	-8 hr