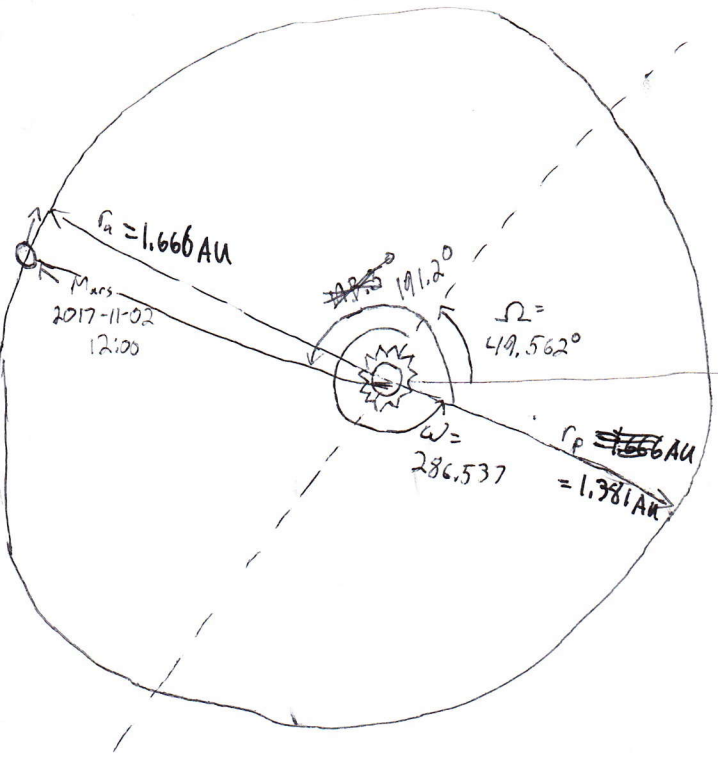
Problem 9



$i = 1.85°$ to ecliptic

J2000 @ 2000-01-01_T12:00

$M_{J2000} = 19.3564°$

Elapsed Julian time = 6515 days

$P = 686.971$ days

2017-11-02-T12:00

$M_E = 3433.5°$ (total travelled angle)

$M = 193.5°$

$t_p = 369.2$ days

$E = 192.32°$

$f = 191.2°$

$$e = \frac{r_a - r_p}{r_a + r_p} = 0.0935$$

$r_a, r_p, M_{J200}, \Omega, \omega, i$ from Wikipedia