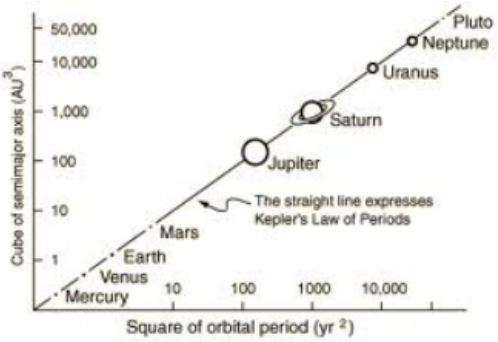
Spread out for HW Quiz

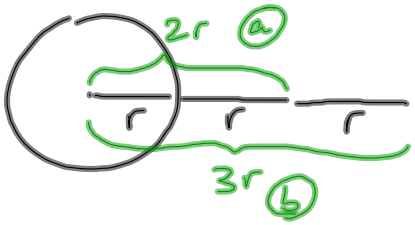
Qs on MP?

HW Quiz @ ~12:40



Jan 12-11:56 AM

12.31



$$\frac{mv^2}{r} = G\frac{mm_\oplus}{r^2}$$

$$v^2 = \frac{Gm_\oplus}{r}$$

$$\frac{4\pi^2r^2}{T^2} = \frac{Gm_\oplus}{r}$$

$$T^2 = \frac{4\pi^2r^3}{Gm_\oplus}$$

$$T = \sqrt{\frac{4\pi^2r^3}{Gm_\oplus}}$$

$$T = 2\pi\sqrt{\frac{r^3}{Gm_\oplus}}$$

Jan 12-12:07 PM

12.37 GIVEN: $m = 7.7\,kg$

$h = 0,\ 350\,km$

FIND: U_g

$$U_g = -G\frac{m_\oplus m}{r}$$

$h = 0 \Rightarrow r = r_\oplus$

$h = 350\,km \Rightarrow r = r_\oplus + 350000\,m$

$U_g = mgh$

↳ GETS SMALLER AS YOU GET FARTHER FROM EARTH

Jan 12-12:20 PM

12.39 GIVEN: m_{sat}

m_ℓ

$m_\oplus$

FIND: k_{min} to "escape"

$$K = U_g$$

$$= -G\frac{m_\oplus m}{r} \rightarrow ? \Rightarrow r_\oplus$$

Jan 12-12:30 PM