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x_0 x_1 x_2 x_3 x_4 x_5 x_6 x_7 x_8 x_9 x_{10}

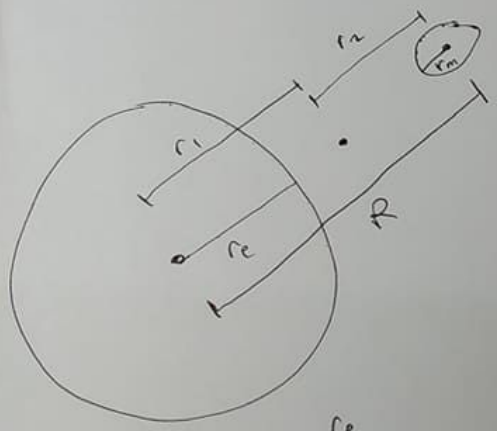
1 4 2 4 2 4 2 4 2 4 1

$$E = \frac{1}{2}mv^2 - \frac{GMm}{r_1} + G,$$

$$t - t_0 = \int_{x_0}^{x} \frac{\pm dx'}{\left[\frac{2}{m}[E - U(x)]\right]^{1/2}}$$

$$E = \frac{1}{2}mv_0^2 + \frac{GM_{\ldots}m}{r_e} = \text{constant}$$

$$U(x) = -\frac{GM_{earth}m}{r_1} - \frac{GM_{moon}m}{r_2}$$



let $R = r_1 + r_2 = \text{constant}$

$R - r_m - r_e$

$$\Rightarrow t = \int_{r_e} \frac{dr_1}{\sqrt{\left(v_0^2 + \frac{2GM_e}{r_e}\right) - 2\left(-\frac{GM_e}{r_1} + \frac{GM_m}{R - r_1}\right)}}$$

~~$r_1 = (R - r_m - r_e)$~~

~~$R = r_1 + r_m + r_e$~~