

Prob 46 p. 7-42

$$m_e = 9.1 \cdot 10^{-31} \text{ kg}$$

$$v_e = 2 \cdot 10^8 \text{ m/s}$$

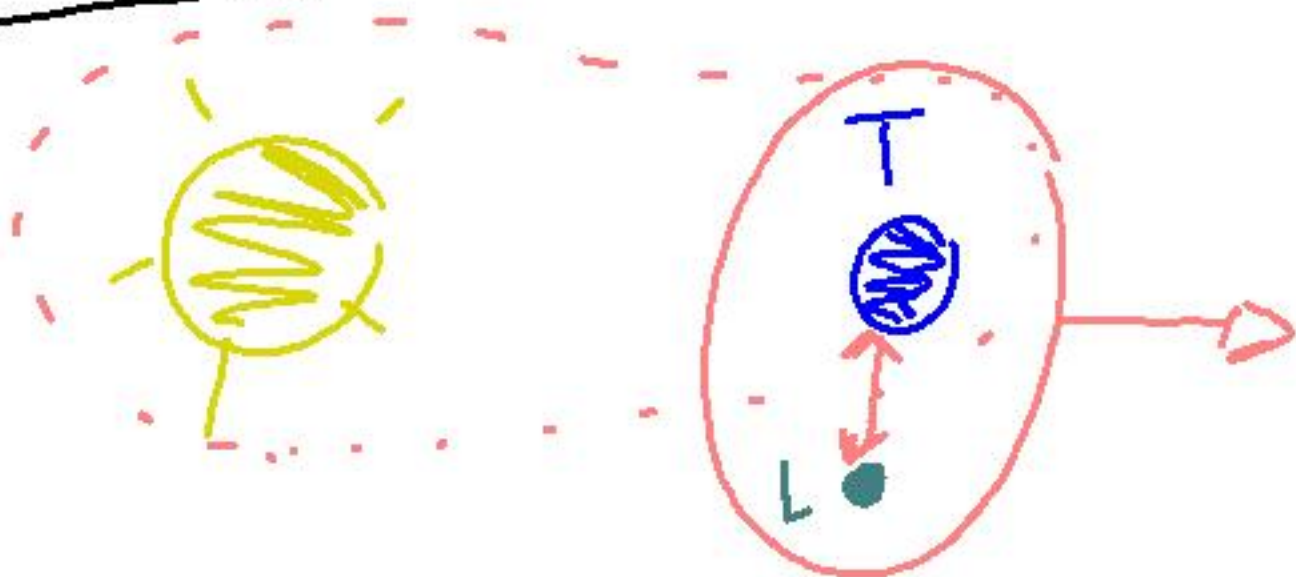
$$E_1 = \frac{1}{2} m v^2 =$$

$$= \frac{1}{2} \cdot 9.1 \cdot 10^{-31} \text{ kg} \cdot 4 \cdot 10^{16} \frac{\text{m}^2}{\text{s}^2}$$

$$= 1.8 \cdot 10^{-14} \text{ J}$$

$$m = \frac{1 \text{ J}}{E} \cdot 0.5 \cdot 10^4$$

Prob. 22

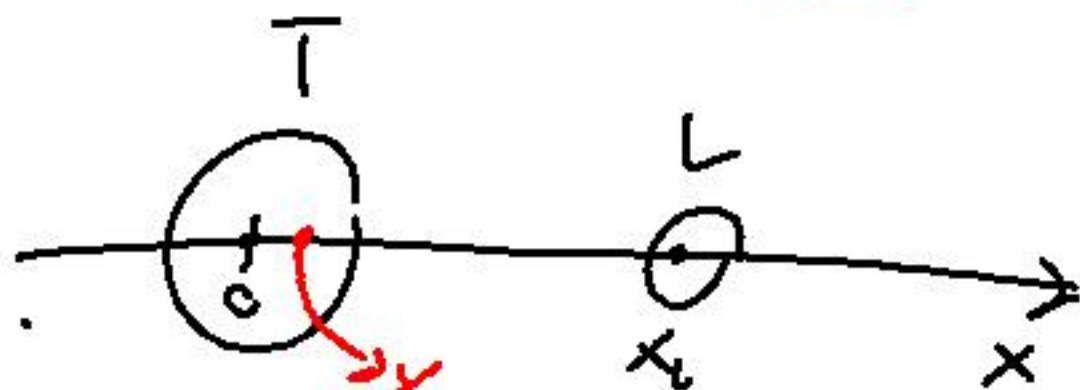


$$T + L \rightarrow M = m_T + m_L$$



$$m_T \gg m_L$$

$$\hookrightarrow x_G \sim x_T$$

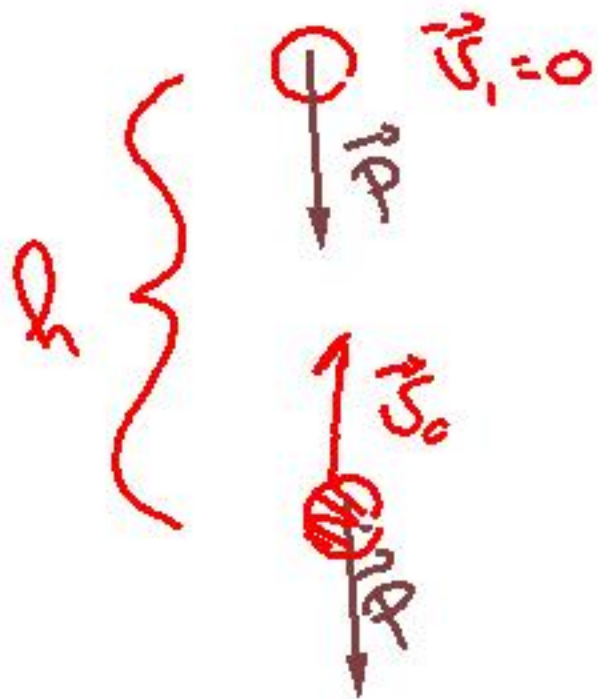


$$x_L = 3.8 \cdot 10^5 \text{ km}$$

$$x_G = \frac{x_T \cdot m_T + x_L \cdot m_L}{m_T + m_L} =$$

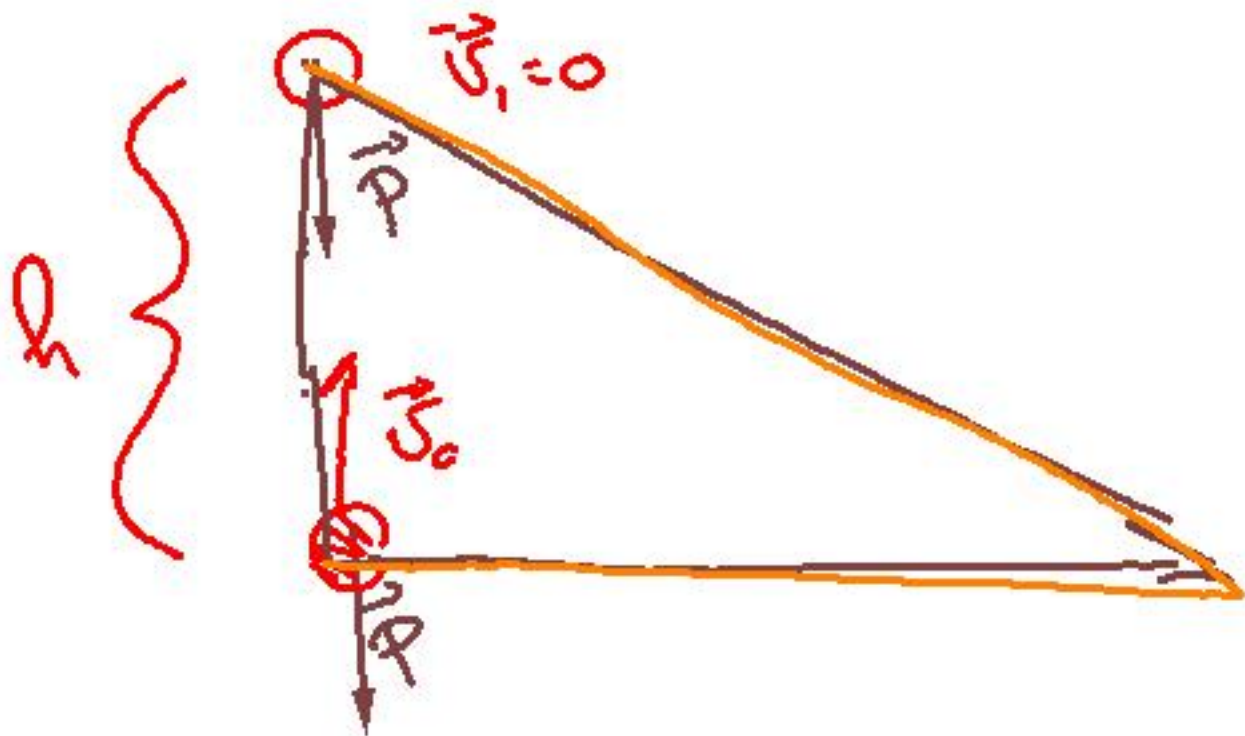
$$= \frac{x_L \cdot m_L}{m_T + m_L} = 4.6 \cdot 10^3 \text{ km}$$

$$\Delta T = L$$



$$\Delta T = -\frac{1}{2} m v_0^2$$

$$L_p = \vec{F} \cdot \vec{S} = -mgh$$



$$\Delta T = -\frac{1}{2} m v_0^2$$

$$L_p = \vec{F} \cdot \vec{S} = -mgh$$

$$L_p = ?$$

