

6. Tund: Kodused ülesanded

$$\begin{array}{l} \underline{6-3} \quad h = 600 \text{ km} \\ R = 6.4 \text{ Mm} \\ \hline V, T \end{array}$$

$$NII S \quad \Sigma F = ma \quad F = G \frac{Mm}{(R+h)^2}$$

$$a = \frac{v^2}{R+h}$$

$$G \frac{Mm}{(R+h)^2} = \frac{m v^2}{R+h} \Rightarrow v^2 = \frac{GM}{R+h}$$

G ja M väärtused võib sisse panna ja v on kääre
aeg teeme teisitimoodi.

$$mg = G \frac{Mm}{R^2} \Rightarrow GM = gR^2$$

$$v^2 = \frac{gR^2}{R+h} \Rightarrow v = \sqrt{\frac{gR^2}{R+h}} = \underline{\underline{7.58 \text{ km/s}}}$$

$$T = \frac{s}{v} = \frac{2\pi(R+h)}{v} = \underline{\underline{96.8 \text{ min}}}$$

$$\begin{array}{l} \underline{6-8} \quad \rho_{\text{H}_2\text{O}} = 1000 \text{ kg/m}^3 \\ \quad \quad \rho_{\text{petr}} = 800 \text{ kg/m}^3 \\ \quad \quad \quad \quad L_1/L_2 \end{array} \quad \Bigg|$$

$$\boxed{m_{\text{H}_2\text{O}} \cdot L_1 = m_{\text{petr}} \cdot L_2} \Rightarrow$$

$$4V \rho_{\text{H}_2\text{O}} L_1 = 5V \cdot \rho_{\text{petr}} \cdot L_2$$

$$\rho = \frac{m}{V} \Rightarrow m = \rho V$$

$$\frac{L_1}{L_2} = \frac{5V \cdot \rho_{\text{petr}}}{4V \rho_{\text{H}_2\text{O}}} = \frac{5 \rho_{\text{petr}}}{4 \rho_{\text{H}_2\text{O}}} = 1$$

Teranti pear long, toetama kalapenlitik.