

25.)

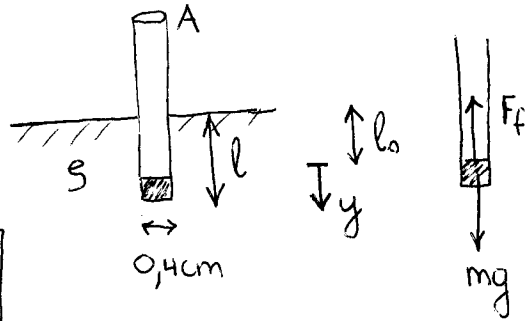
$$\rho = 0,8 \frac{\text{g}}{\text{cm}^3} \quad T = ?$$

$$m = 0,2 \text{ kg} \quad d = 0,4 \text{ cm}$$

$$\vec{a} = \frac{\vec{F}_e}{m}$$

$$F_f = m_f \cdot g$$

$$\omega = \frac{2\pi}{T}$$



$$F_f = m_f \cdot g = \rho A l_0 g \quad A = \left(\frac{d}{2}\right)^2 \pi$$

egyensúly ha $l = l_0$ $F_e = 0$ $\rho A l_0 g = mg$

$$ma = -\rho A l g + mg$$

$$ma = -\rho A l g + \rho A l_0 g = -\rho A g (l - l_0) \quad y = l - l_0$$

$$a = -\frac{\rho A g}{m} y$$

$$\ddot{y} + \underbrace{\frac{\rho A g}{m}}_{\omega^2} y = 0$$

$$\ddot{y} + \omega^2 y = 0 \quad \text{harmonikus rezgőmozgás}$$

$$\omega = \sqrt{\frac{\rho A g}{m}} = \frac{2\pi}{T}$$

$$T = 2\pi \sqrt{\frac{m}{\rho A g}}$$