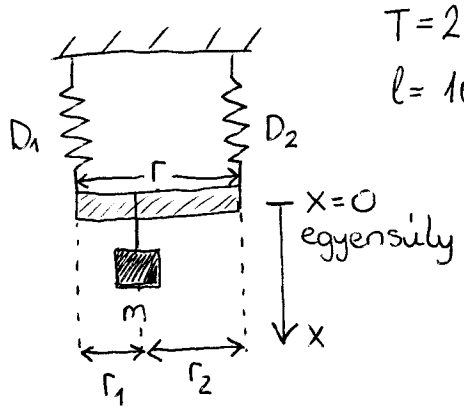
26.)



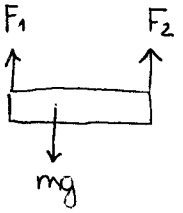
$T = 2s$

$l = 10cm$

$D_1 = ?$

$D_2 = ?$

$\omega = \frac{2\pi}{T}$ $\quad F_r = -Dx$ $\quad \vec{a} = \frac{\vec{F}_e}{m}$



$F_1 = D_1 \Delta l$

$F_2 = D_2 \Delta l$

$x = 0$ egyensúlynál: $F_e = 0$

$mg = (D_1 + D_2)\Delta l_1$

$$ma = mg - (D_1 + D_2)\Delta l$$

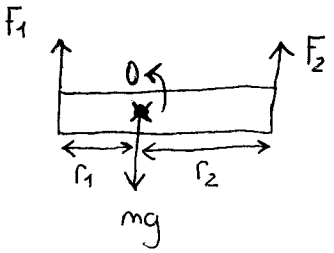
$$ma = (D_1 + D_2)\Delta l_1 - (D_1 + D_2)\Delta l = -(D_1 + D_2)\underbrace{(\Delta l - \Delta l_1)}_{x} = -(D_1 + D_2)x$$

$$m\ddot{x} + (D_1 + D_2)x = 0$$

$$\ddot{x} + \frac{D_1 + D_2}{m}x = 0 \qquad \omega = \sqrt{\frac{D_1 + D_2}{m}} = \frac{2\pi}{T}$$

$$\bullet \quad D_1 + D_2 = \frac{4\pi^2 m}{T^2}$$

Forgatónyomaték: $\tilde{\tau}_e = 0$



$$F_1 r_1 = F_2 r_2$$

$$D_1 x r_1 = D_2 r_2 x$$

$$\frac{D_1}{D_2} = \frac{r_2}{r_1}$$

$$\bullet \quad D_1 = \frac{r_2}{r_1} D_2 \qquad \frac{r_2}{r_1} D_2 + D_2 = \frac{4\pi^2 m}{T^2}$$

$$D_2\left(\frac{r_2}{r_1} + 1\right) = \frac{4\pi^2 m}{T^2}$$