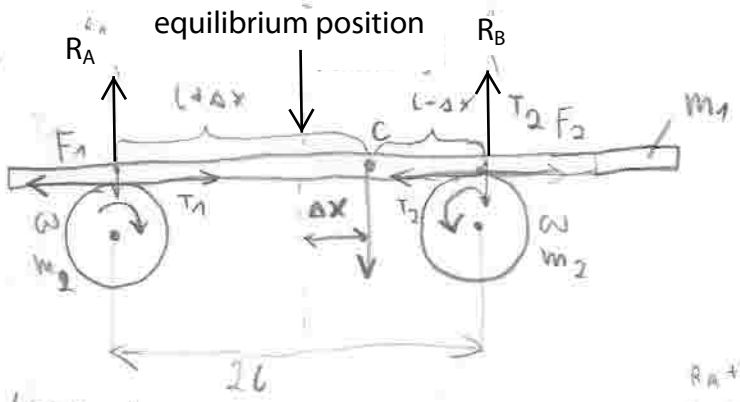
$F_{od} = \frac{m \cdot v^2}{r}$ $a_{od} = \omega^2 \cdot r$ $\vec{a}_{od} = -\omega^2 \cdot r$

$F_{od} = m \cdot \omega^2 \cdot r$

$I = \frac{1}{2} m_2 \cdot r^2$



$P_1 = m_1 \cdot g$

$T_1 = m_1 \cdot g \cdot \frac{l - \Delta x}{2l} \cdot f$

$T_2 = m_1 \cdot g \cdot \frac{l + \Delta x}{2l} \cdot f$

$\vec{F}_H = \vec{F}_1 + \vec{F}_2$

$F_H =$

$T_H = T_2 - T_1$

$T_H = m_1 \cdot g \cdot \frac{l + \Delta x}{2l} \cdot f - \left(m_1 \cdot g \cdot \frac{l - \Delta x}{2l} \right)$

$T_H = m_1 \cdot g \cdot f \cdot \left(\frac{l + \Delta x - l + \Delta x}{2l} \right)$

$T_H = m_1 \cdot g \cdot f \cdot \frac{2\Delta x}{2l}$

$T_H = m_1 \cdot g \cdot f \cdot \frac{\Delta x}{l}$

$\vec{F}_H = -k \cdot \vec{x}$

$T_H = \frac{m_1 g \cdot f}{l} \cdot \Delta x$

$F_H = -\frac{m_1 g \cdot f}{l} \Delta x$

$F_H = -k \cdot \Delta x$

$\frac{k}{m} = \omega^2$

$\frac{m_1 \cdot g \cdot f}{l} \cdot \frac{1}{m_1} = \omega^2$

$\omega^2 = \frac{g \cdot f}{l}$

$\boxed{T = 2\pi \cdot \sqrt{\frac{l}{g \cdot f}}}$

$R_A + R_B - P_1 = 0$

$P_1 \cdot (l + \Delta x) - R_B \cdot 2l = 0$

$R_B = P_1 \cdot \frac{(l + \Delta x)}{2l}$

$R_A + P_1 \cdot \frac{(l + \Delta x)}{2l} - P_1 = 0$

$R_A = P_1 \left(1 - \frac{l + \Delta x}{2l}\right)$

$R_A = P_1 \cdot \left(\frac{2l - (l + \Delta x)}{2l} \right)$

$R_A = P_1 \cdot \left(\frac{2l - l - \Delta x}{2l} \right)$

$R_A = P_1 \cdot \frac{l - \Delta x}{2l}$

Sprawdzenie

$m_1 \cdot g = m_1 g \cdot \frac{l - \Delta x}{2l} + m_1 g \cdot \frac{l + \Delta x}{2l}$

$1 = \frac{l - \Delta x}{2l} + \frac{l + \Delta x}{2l}$

$1 = \frac{l - \Delta x + l + \Delta x}{2l} = \frac{2l}{2l} = 1$

$\omega = 2\pi \cdot f$ $f = \frac{1}{T}$

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

$T^2 = \frac{4\pi^2}{\omega^2}$

04.11.2009