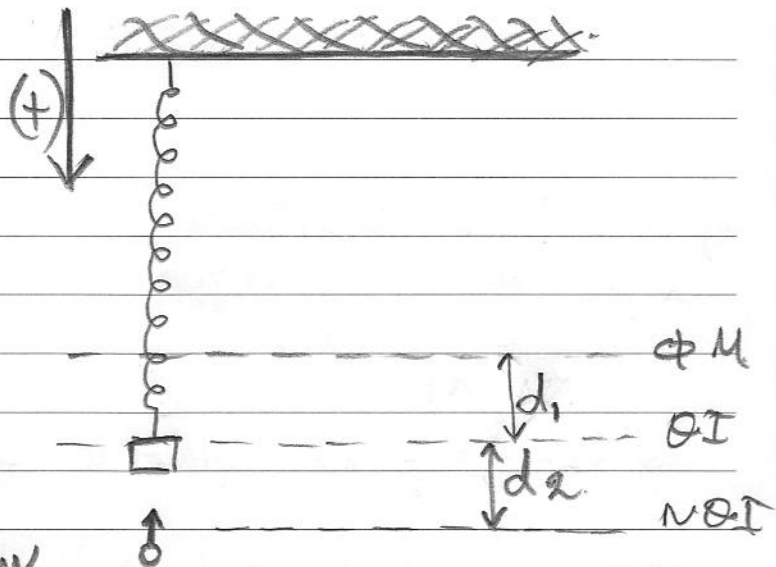


$\Delta U_{\text{бн}}$
 a) $\Sigma T \eta \theta I: \Sigma F = 0 \Rightarrow$
 $k d_1 = m_1 g \Rightarrow d_1 = 0,3 \text{ m}$

б) $\Delta \Delta O: P_{\text{бн}}^{\text{нрв}} = P_{\text{бн}}^{\text{нлв}} \Rightarrow$

$-m_2 v_2 = (m_1 + m_2) v_0 \Rightarrow$

$v_2 = -2\sqrt{3} \text{ m/s} \Rightarrow v_2 = 2\sqrt{3} \text{ m/s}$



г) $\Sigma T \eta \text{ NBI}: \Sigma F = 0 \Rightarrow (m_1 + m_2) g - F_{\text{с}} = 0 \Rightarrow$

$k(d_1 + d_2) = (m_1 + m_2) g \Rightarrow d_2 = 0,1 \text{ m}$

$\Delta \Delta E T: E = k + U \Rightarrow \frac{1}{2} k A^2 = \frac{1}{2} (m_1 + m_2) v_0^2 + \frac{1}{2} k d_2^2 \Rightarrow$

$A = 0,2 \text{ m}$

д) $\Sigma \text{блв } x = A \mu (\omega t + \varphi_0) \Rightarrow -d_2 = A \mu \varphi_0 \Rightarrow$

$\mu \varphi_0 = -\frac{1}{2} < \begin{cases} \varphi_0 = 2k\pi + \frac{7\pi}{6} \\ \varphi_0 = 2k\pi + \pi - \frac{7\pi}{6} \end{cases} \left\{ \begin{array}{l} \xrightarrow{k=0} \varphi_0 = \frac{7\pi}{6} \\ \varphi_0 = -\frac{\pi}{6} \text{ прием} \end{array} \right.$

$\text{двоа } 0 \leq \varphi_0 < 2\pi$

$\text{гн } \varphi_0 = \frac{7\pi}{6} \text{ гнвд } v < 0 \text{ гдд } \text{дсдн } \text{дубн}$

$v = \omega A \cos(\omega t + \varphi_0)$
 $D = (m_1 + m_2) \omega^2 \Rightarrow \omega = 5 \frac{\text{rad}}{\text{s}}$

$v = 60 \text{ v} \left(5t + \frac{7\pi}{6} \right)$