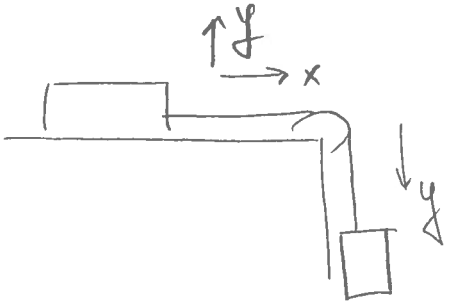
Answers Exam 1 2019

1. $t^* = \left(\frac{3D}{C_1} + 1\right)^{1/3}$

2. $\begin{cases} x(t^*) = \frac{C_1 t^{*3}}{6} - W \cos\theta\, t^* = L \\ y(t^*) = \frac{C_2 t^{*3}}{6} - W \sin\theta\, t^* = 0 \end{cases}$

3. 

$$a_x = \frac{P\cos\theta - \mu(m_1 g + P\sin\theta) + m_2 g}{m_1 + m_2}$$

4. $N_1 = m_1 g$

$N_2 = N_1 + m_2 g = (m_1 + m_2) g$

$F_{fr} = \frac{m_2}{m_1 + m_2} \beta t$

$t^* = \frac{m_1 + m_2}{m_2} \frac{\mu m_1 g}{\beta}$