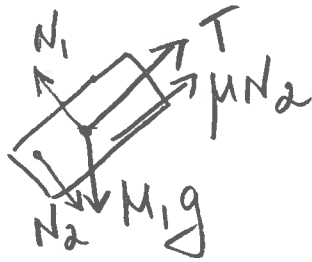
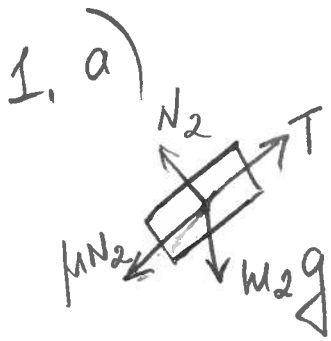


# Test 2 2006 (Answers)



b) 
$$\frac{(M_1 - m_2)g \sin \theta - 2\mu m_2 g \cos \theta}{M_1 + m_2}$$

c) 
$$\mu_{\min} = \frac{M_1 - m_2}{2m_2} \tan \theta$$

2. a) 
$$U(x) = \frac{kx^2}{2} + \frac{dx^4}{4} + C$$

b) 
$$\frac{kx_s^2}{2} + \frac{dx_s^4}{4} = \frac{mv_0^2}{2}$$

3. 1) 
$$h = \frac{kA^2}{2mg}$$

2) 
$$\mu = \frac{\frac{kA^2}{2} - mgh'}{mgh' \cot \theta}$$