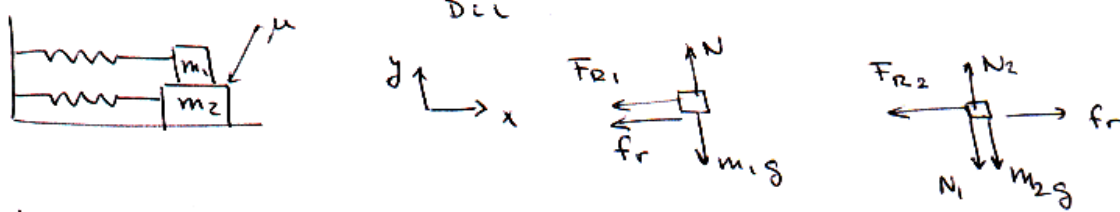


SOLUCIÓN EJERCICIO 9



m1

$$x) -f_r - k_1 \Delta = -m_1 a_1 \quad (1)$$

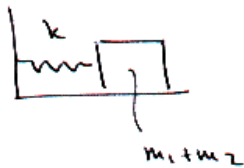
$$y) N_1 - m_1 g = 0 \Rightarrow N_1 = m_1 g$$

m2

$$x) f_r - k_2 \Delta = -m_2 a_2 \quad (2)$$

$$y) N_2 - N_1 - m_2 g = 0 \Rightarrow N_2 = (m_1 + m_2) g$$

LOS BLOQUES NO DESLIZAN $\Rightarrow a_1 = a_2 = a$



$$-k \Delta = -(m_1 + m_2) a$$

$$a = \frac{k \Delta}{m_1 + m_2} = \frac{k_1 + k_2}{m_1 + m_2} \Delta$$

ENTONCES DE (1)

$$f_r = m_1 a - k_1 \Delta = \frac{m_1}{m_1 + m_2} (k_1 + k_2) \Delta - k_1 \Delta$$

$$f_r = \frac{\Delta}{m_1 + m_2} [m_1 k_1 + m_1 k_2 - k_1 m_1 - k_1 m_2] \leq \mu m_1 g$$

$$\Delta \leq \frac{\mu m_1 (m_1 + m_2) g}{m_1 k_2 - k_1 m_2}$$