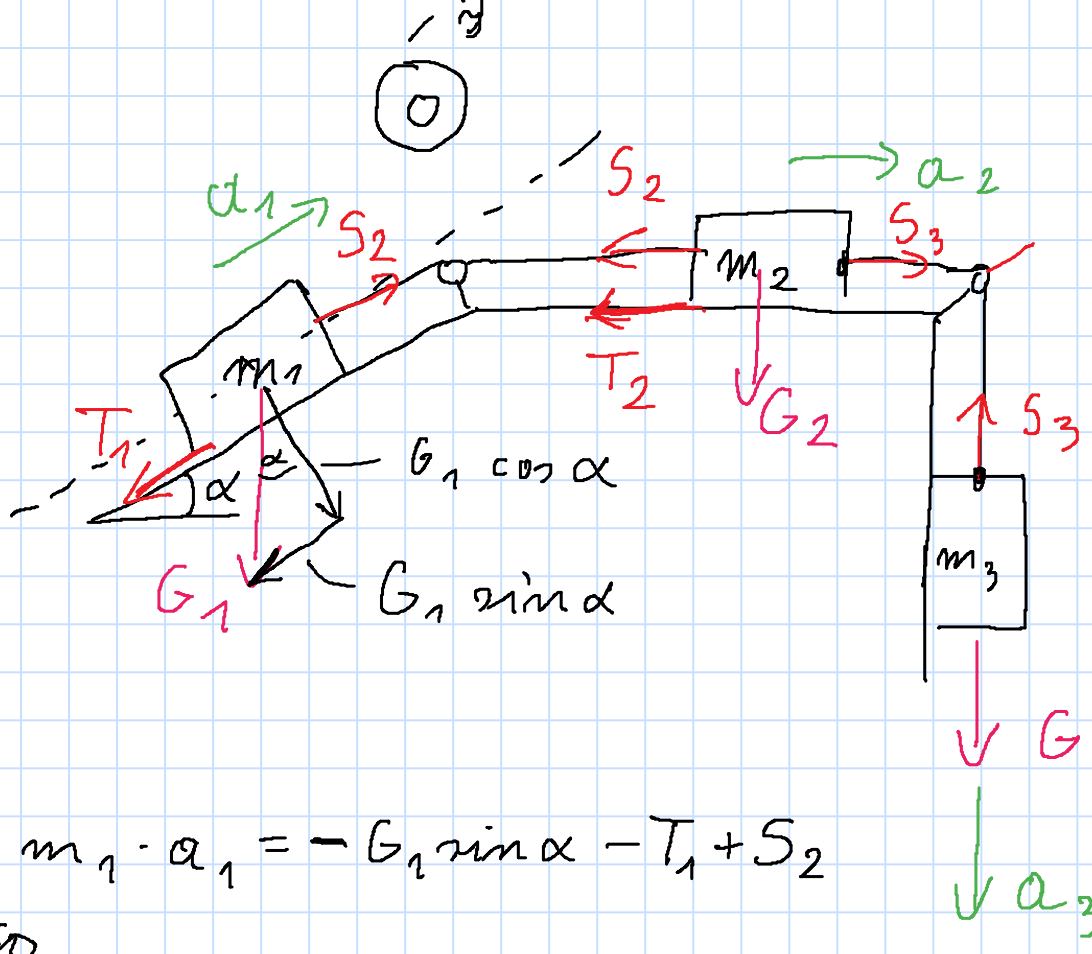

Dane

m_1, m_2, m_3

f, α

Szukane

S_1, S_2

$m_1 \cdot a_1 = -G_1 \sin\alpha - T_1 + S_2$ $\qquad T_1 = f \cdot G_1 \cos\alpha$

(1) $m_1 \cdot a_1 = -G_1 \sin\alpha - f G_1 \cos\alpha + S_2$

$m_2 \cdot a_2 = -T_2 - S_2 + S_3$ $\qquad T_2 = f \cdot G_2$

(2) $m_2 \cdot a_2 = -f G_2 - S_2 + S_3$

(3) $m_3 \cdot a_3 = G_3 - S_3$

$a_1 = a_2 = a_3 = a$

(4) (5)

$m_1 a = -G_1 \sin\alpha - f G_1 \cos\alpha + S_2$

$m_2 a = -f G_2 - S_2 + S_3$

$m_3 a = G_3 - S_3$

$$a = \frac{G_3 - S_3}{m_3}$$

$$m_1 \frac{G_3 - S_3}{m_3} = -G_1 \sin\alpha - f G_1 \cos\alpha + S_2$$

$$m_2 \frac{G_3 - S_3}{m_3} = -f G_2 - S_2 + S_3$$

↓ S_2

$$S_2 = -f G_2 - \frac{m_2}{m_3} G_3 + S_3 \left(\frac{m_2}{m_3} + 1\right)$$

$$m_1 \frac{G_3 - S_3}{m_3} = G_1 \sin\alpha - f G_1 \cos\alpha - f G_2 - \frac{m_2}{m_3} G_3 + \left(\frac{m_2}{m_3} + 1\right) \cdot S_3$$

$$= \frac{m_1}{m_3} G_3 - \frac{m_1}{m_3} S_3$$

↓

S_3