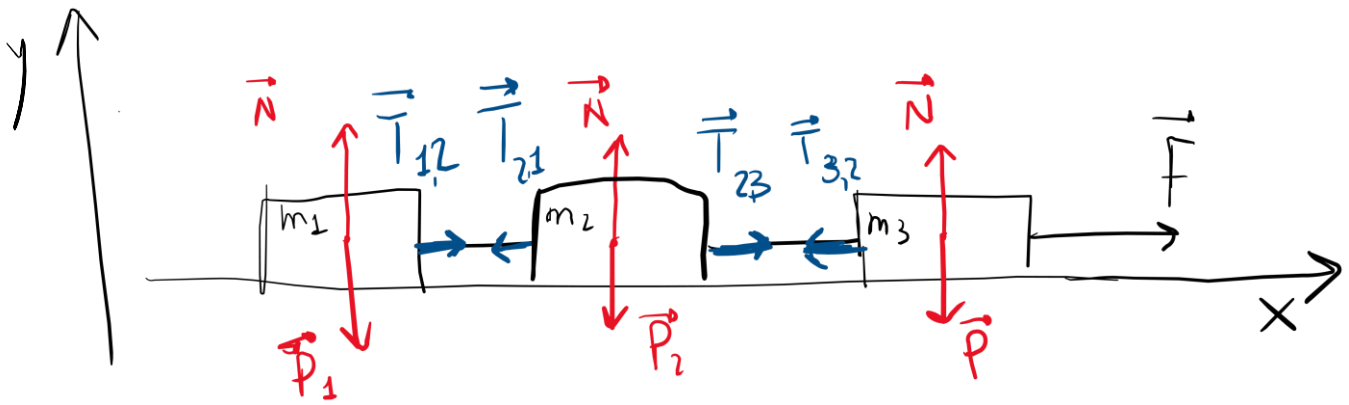


$m_1 = 1\,kg$ $\quad \vec{F} = 15\,N$

$m_2 = 2\,kg$ $\quad \vec{a} = ?$

$m_3 = 2\,kg$ $\quad \vec{T} = ?$

$\mu = 0$

(y) $\vec{N}_1 + \vec{P}_1 = m_1 \cancel{\vec{a}_y} = 0$

$\vec{N}_2 + \vec{P}_2 = m_2 \cdot \cancel{\vec{a}_y} = 0$

$\vec{N}_3 + \vec{P}_3 = m_3 \cdot \vec{a}_y = 0$

(x) $T_{1,2} = m_1 a_x$ CORPO 1

$-T_{2,1} + T_{2,3} = m_2 a_x$ CORPO 2

$-T_{3,2} + F = m_3 a_x$ CORPO 3

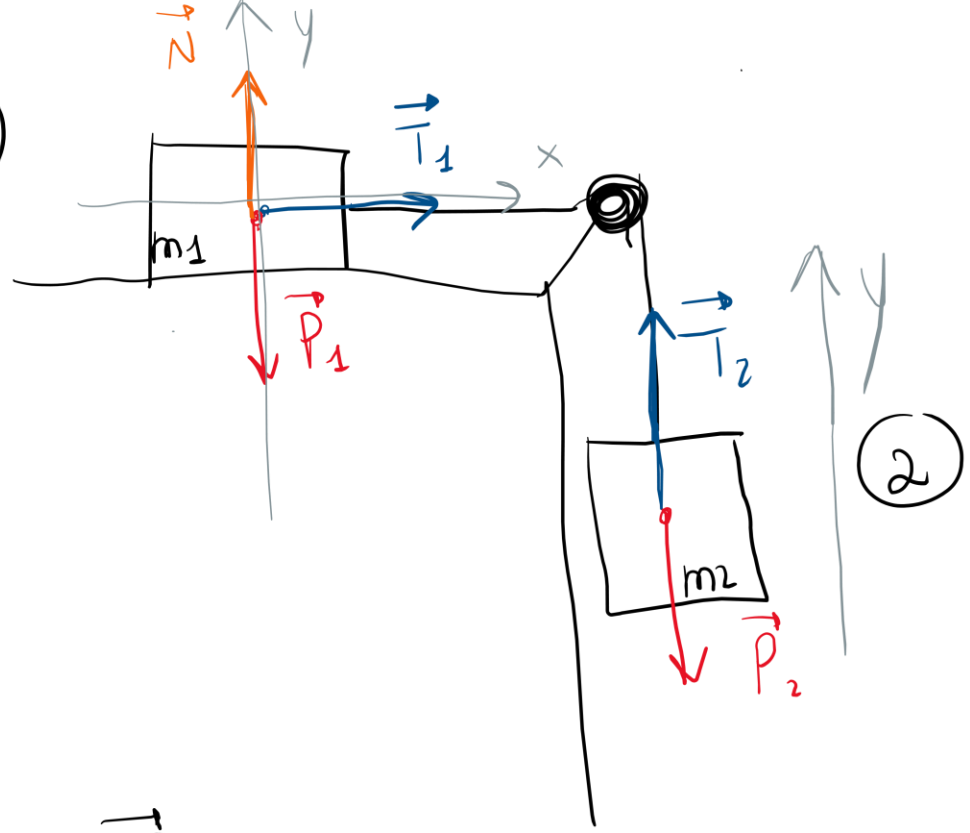
$\cancel{T_{1,2}} - \cancel{T_{2,1}} + \cancel{T_{2,3}} - \cancel{T_{3,2}} + F = (m_1 + m_2 + m_3) a_x$

$a_x = \dfrac{F}{m_1 + m_2 + m_3} = \dfrac{15}{1+2+2} = 3\,m/s^2$

$T_{1,2} = m_1 \cdot a_x = 1 \cdot 3 = 3\,N \quad (= T_{2,1})$

$T_{2,3} = m_2 \cdot a_x + T_{2,1} = 2 \cdot 3 + 3 = 9\,N$

$T_{2,3} = T_{3,2} = 9\,N$



$m_1 = 4\,kg$

$m_2 = 6\,kg$

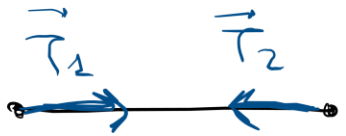
$\mu = 0$

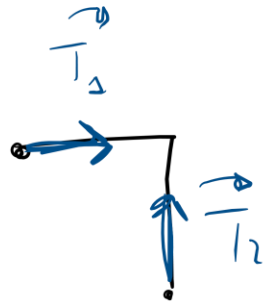
$\begin{cases} \vec{a} = ? \\ T = ? \end{cases}$

$a_1 = a_2 \qquad \vec{a}_1 = \vec{a}_2$

$T_1 = T_2$

$\vec{T}_1 \neq \vec{T}_2$





① $\sum \vec{F} = m_1 \vec{a}$

$\begin{cases} (x): \vec{T}_1 = m_1 \vec{a}_x \\ (y): \vec{P} + \vec{N} = m \cdot \vec{a}_y = 0 \end{cases}$ $\quad \begin{cases} T_1 = 4\,kg \cdot a_x \\ N - P = 0 \end{cases}$

$N = P = m_1 g = 4 \cdot 10 = 40\,N$

② $\sum \vec{F} = m_2 \cdot \vec{a}$ $\qquad \vec{T}_2 + \vec{P}_2 = m \cdot \vec{a}_y \rightarrow T_2 - P_2 = m \cdot a_y$ $\qquad T_2 = P_2 - m_2 a_y = (m_2 \cdot g) - (m_2 \cdot a_y)$

$T_2 = (6 \cdot 10) - 6 \cdot a_y = 60 - 6a_y$

$$T_1 = T_2$$

$$4a = 60 - 6a$$

$$4a + 6a = 60$$

$$10 \cdot a = 60$$

$$a = \frac{60}{10} = 6\ m/s^2$$

$$T_1 = 4 \cdot a = 4 \cdot 6 = 24\ N$$

$$T_2 = 60 - 6a = 60 - 6 \cdot 6 = 24\ N$$