

$P_1, P_3 = 10\text{kN}, P_2 = 5\text{kN}, M_1 = 3\text{kNm}$

$M_2 = 6\text{kNm}$

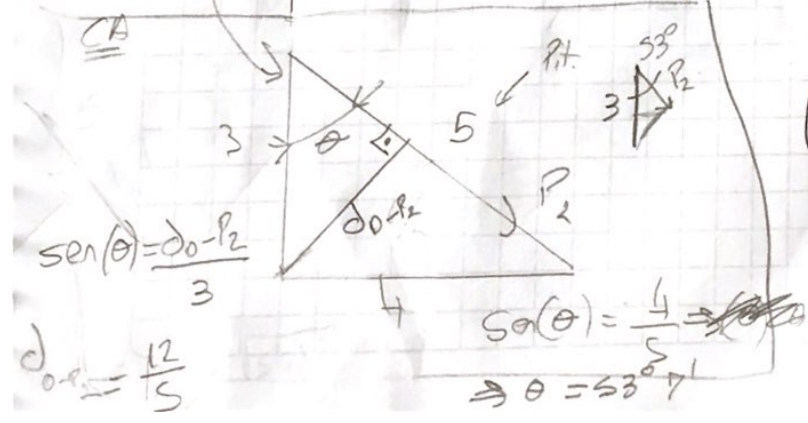
(a)  $\vec{R} = \vec{P}_1 + \vec{P}_2 + \vec{P}_3$

$\vec{R} = 10\text{kN}\vec{i} + 5\text{kN}\sin(33^\circ)\vec{i} - 5\text{kN}\cos(33^\circ)\vec{j} - 10\text{kN}\vec{j}$

$\Rightarrow \vec{R} = (14\vec{i} - 13\vec{j})\text{kN}$

(b)  $\sum M_T^0 = P_1 \cdot 4\text{m} - P_2 \cdot \frac{12}{5} - P_3 \cdot 4\text{m} - M_2 - M_1$

$\Rightarrow \sum M_T^0 = -10\text{kNm}$



③ Equilibrio sist.  $\Leftrightarrow \begin{cases} \sum \vec{F} = 0 \\ \sum M = 0 \end{cases}$

①  $\sum F_x = F_a + 10\text{kN} + S \sin(53^\circ) + F_b \cos(53^\circ) = 0$

②  $\sum F_y = F_b \sin(53^\circ) - S \cos(53^\circ) - 10\text{kN} + F_c = 0$

③  $\sum M^o = -S \cdot F_a - 4P_1 - M_1 - M_2 - P_2 \cdot \frac{12}{5} - 4P_3 + 4F_c = 0$