



Block:

$$\left\{ \begin{aligned} \sum F_x = 0: & -mg \sin 20^\circ + N_2 - \mu_1 N_1 = 0 \end{aligned} \right. \quad (1)$$

$$\left\{ \begin{aligned} \sum F_y = 0: & -mg \cos 20^\circ + N_1 - \mu_2 N_2 = 0 \end{aligned} \right. \quad (2)$$

Wedge:

$$\left\{ \begin{aligned} \sum F_x = 0: & N_3 \cos 5^\circ - \mu_2 N_3 \sin 5^\circ - N_2 = 0 \end{aligned} \right. \quad (3)$$

$$\left\{ \begin{aligned} \sum F_y = 0: & N_3 \sin 5^\circ + \mu_2 N_3 \cos 5^\circ + \mu_2 N_2 - P = 0 \end{aligned} \right. \quad (4)$$

Solution :

$$\begin{cases} N_1 = 396 \text{ N} & N_2 = 368 \text{ N} \\ N_3 = 383 \text{ N} & \underline{P = 333 \text{ N}} \end{cases}$$