



Aufgabe 4:

Teil 1:

$$\sum F_{y} = 0: \quad A \sin \alpha = F_{G1} - N_1$$

$$\sum F_{x} = 0: \quad A \cos \alpha = R_1 = \mu_{01} N_1$$

$$\text{Division:} \quad \tan \alpha = \frac{F_{G1} - N_1}{\mu_{01} N_1}$$

$$N_1 (1 + \mu_{01} \tan \alpha) = F_{G1}$$

$$N_1 = \frac{F_{G1}}{(1 + \mu_{01} \tan \alpha)} \quad (1)$$

Teil 2:

$$\sum F_{y} = 0: \quad N_2 = N_1 + F_{G2} \quad (2)$$

$$\sum F_{x} = 0: \quad F = R_1 + R_2 = \mu_{01} N_1 + \mu_{02} N_2$$

$$\text{mit (2):} \quad F = \mu_{01} N_1 + \mu_{02} N_1 + \mu_{02} F_{G2}$$

mit (1):

$$F = (\mu_{01} + \mu_{02}) \frac{F_{G1}}{1 + \mu_{01} \tan \alpha} + \mu_{02} F_{G2}$$

$$F = 153,7 \text{ N}$$