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$$\begin{cases} \sum F_x = 0 : \mu_k N - mg \sin \theta = 0 \\ \sum F_y = 0 : N - mg \cos \theta = 0 \end{cases}$$

$$\Rightarrow N = mg \cos \theta$$

$$\text{and } \mu_k mg \cos \theta = mg \sin \theta$$

$$\Rightarrow \tan \theta = \mu_k, \quad \theta = \tan^{-1}(\mu_k) = \tan^{-1}(0.09)$$

$$= \underline{5.14^\circ}$$

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