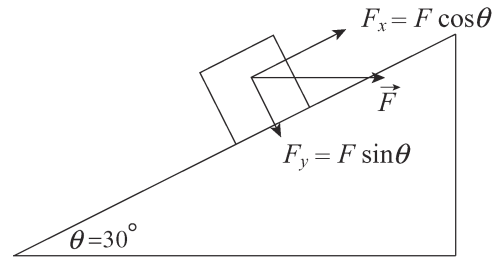


32. We resolve this horizontal force into appropriate components.

(a) Newton's second law applied to the x -axis produces

$$F \cos \theta - mg \sin \theta = ma.$$

For $a = 0$, this yields $F = 566 \text{ N}$.



(b) Applying Newton's second law to the y axis (where there is no acceleration), we have

$$F_N - F \sin \theta - mg \cos \theta = 0$$

which yields the normal force $F_N = 1.13 \times 10^3 \text{ N}$.