67. With SI units understood, the net force on the box is

$$\vec{F}_{\text{net}} = (3.0 + 14\cos 30^\circ - 11)\,\hat{\text{i}} + (14\sin 30^\circ + 5.0 - 17)\,\hat{\text{j}}$$

which yields $\vec{F}_{\text{net}} = 4.1\,\hat{\text{i}} - 5.0\,\hat{\text{j}}$ in Newtons.

(a) Newton's second law applied to the $m = 4.0$ kg box leads to

$$\vec{a} = \frac{\vec{F}_{\text{net}}}{m} = 1.0\,\hat{\text{i}} - 1.3\,\hat{\text{j}}\ \text{m/s}^2\ .$$

(b) The magnitude of $\vec{a}$ is $\sqrt{1.0^2 + (-1.3)^2} = 1.6$ m/s^2. Its angle is $\tan^{-1}(-1.3/1.0) = -50^\circ$ (that is, 50° measured clockwise from the rightward axis).