

$$\begin{aligned} \frac{1}{4} \quad F &= \sqrt{120^2 + 160^2 + 80^2} = 215 \text{ lb} \\ \cos \theta_x &= \frac{F_x}{F} = \frac{120}{215} = 0.557, \quad \underline{\theta_x = 56.1^\circ} \\ \cos \theta_y &= \frac{F_y}{F} = \frac{-160}{215} = -0.743, \quad \underline{\theta_y = 138.0^\circ} \\ \cos \theta_z &= \frac{F_z}{F} = \frac{80}{215} = 0.371, \quad \underline{\theta_z = 68.2^\circ} \end{aligned}$$

WILEY