**Method 3 - Examples from text**

**2–15.** Express the force as a Cartesian vector.

\[ F = 500 \text{ N} \]

**2–63.** The force \( F \) acts on the bracket within the octant shown. If \( F = 400 \text{ N} \), \( \beta = 60^\circ \), and \( \gamma = 45^\circ \), determine the \( x \), \( y \), \( z \) components of \( F \).

\[ F_x = 300 \text{ N} \text{ and } F_z = 600 \text{ N} \text{, respectively, and } \beta = 60^\circ, \text{ determine the magnitude of } F \text{ and its } y \text{ component. Also, find the coordinate direction angles } \alpha \text{ and } \gamma. \]
2–81. The pole is subjected to the force \( \mathbf{F} \), which has components acting along the \( x, y, z \) axes as shown. If the magnitude of \( \mathbf{F} \) is 3 kN, \( \beta = 30^\circ \), and \( \gamma = 75^\circ \), determine the magnitudes of its three components.

2–82. The pole is subjected to the force \( \mathbf{F} \) which has components \( F_x = 1.5 \text{ kN} \) and \( F_z = 1.25 \text{ kN} \). If \( \beta = 75^\circ \), determine the magnitudes of \( \mathbf{F} \) and \( F_y \).