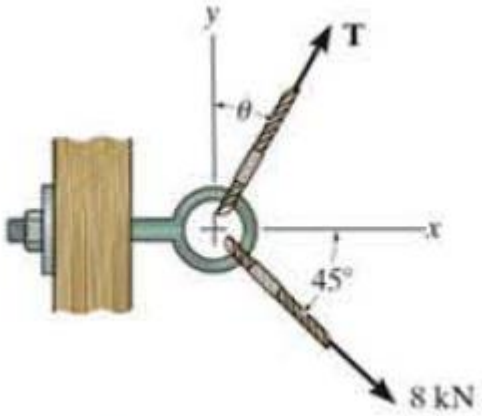
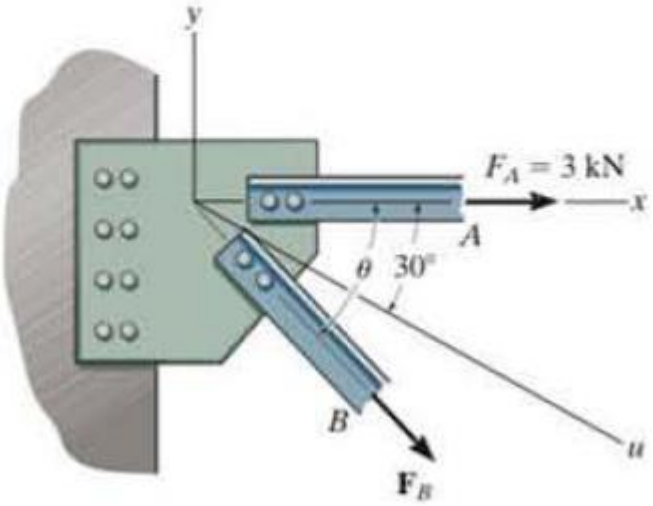
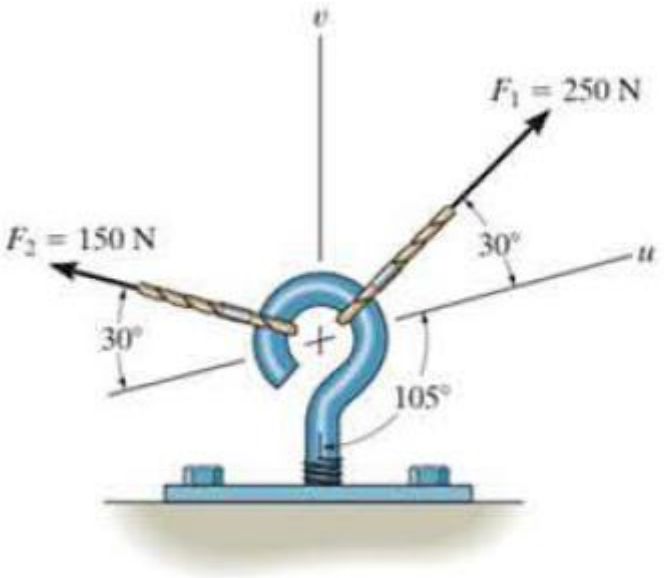
2–2. If $\theta = 60°$ and $T = 5$ kN, determine the magnitude of the resultant force acting on the eyebolt and its direction (is.



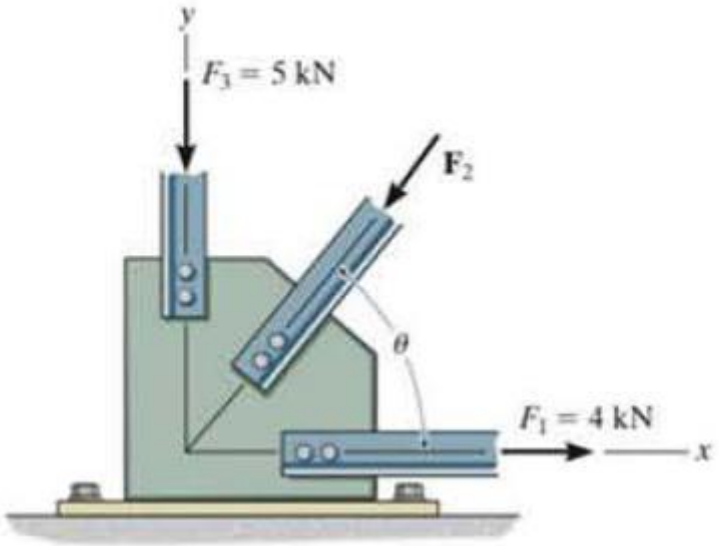
*2–8. If the resultant force is required to act along the positive u axis and have a magnitude of 5 kN, determine the required magnitude of $\mathbf{F}_B$ and its direction θ.



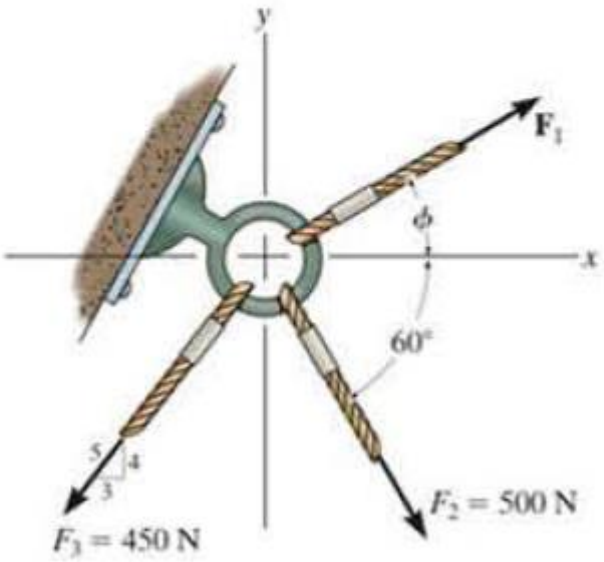
•2–17. Resolve $\mathbf{F}_2$ into components along the u and v axes and determine the magnitudes of these components.



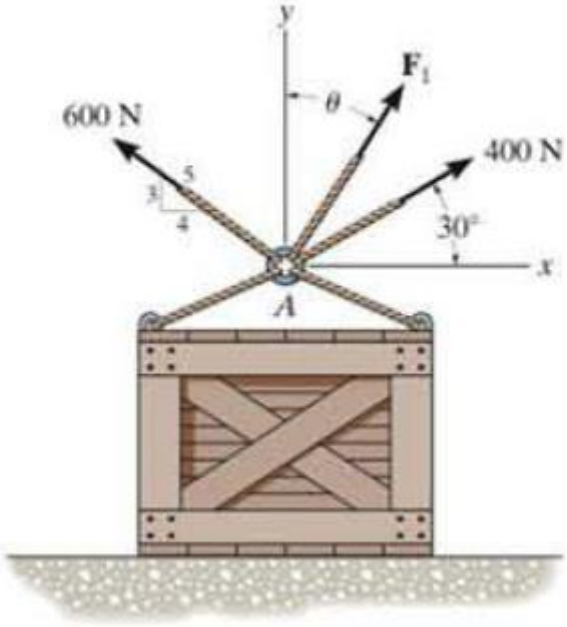
*2–24. If the resultant force $\mathbf{F}_R$ is directed along a line measured 75° clockwise from the positive x axis and the magnitude of $\mathbf{F}_2$ is to be a minimum, determine the magnitudes of $\mathbf{F}_R$ and $\mathbf{F}_2$ and the angle $\theta \leq 90°$.



2–34. If the magnitude of the resultant force acting on the eyebolt is 600 N and its direction measured clockwise from the positive x axis is $\theta = 30°$, determine the magnitude of $\mathbf{F}_1$ and the angle ϕ.



***2–40.** Determine the magnitude and direction measured counterclockwise from the positive x axis of the resultant force of the three forces acting on the ring A. Take $F_1 = 500$ N and $\theta = 20°$.



2–46. The three concurrent forces acting on the screw eye produce a resultant force $\mathbf{F}_R = 0$. If $F_2 = \frac{2}{3} F_1$ and $\mathbf{F}_1$ is to be 90° from $\mathbf{F}_2$ as shown, determine the required magnitude of $\mathbf{F}_3$ expressed in terms of F_1 and the angle θ.