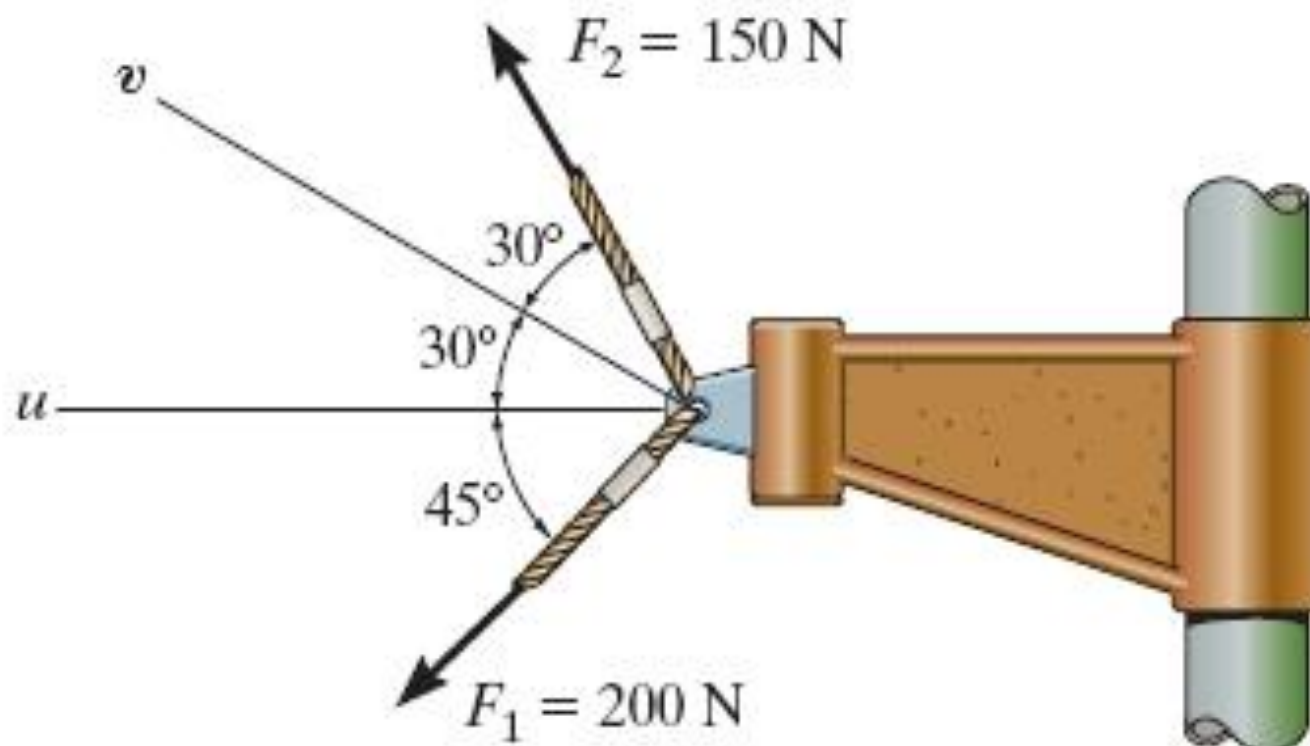
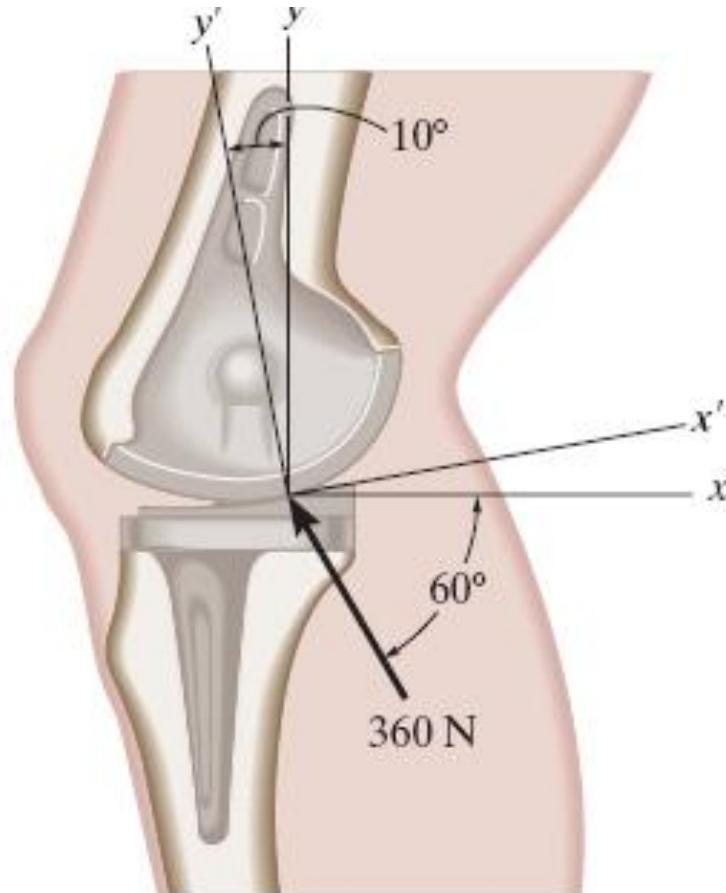


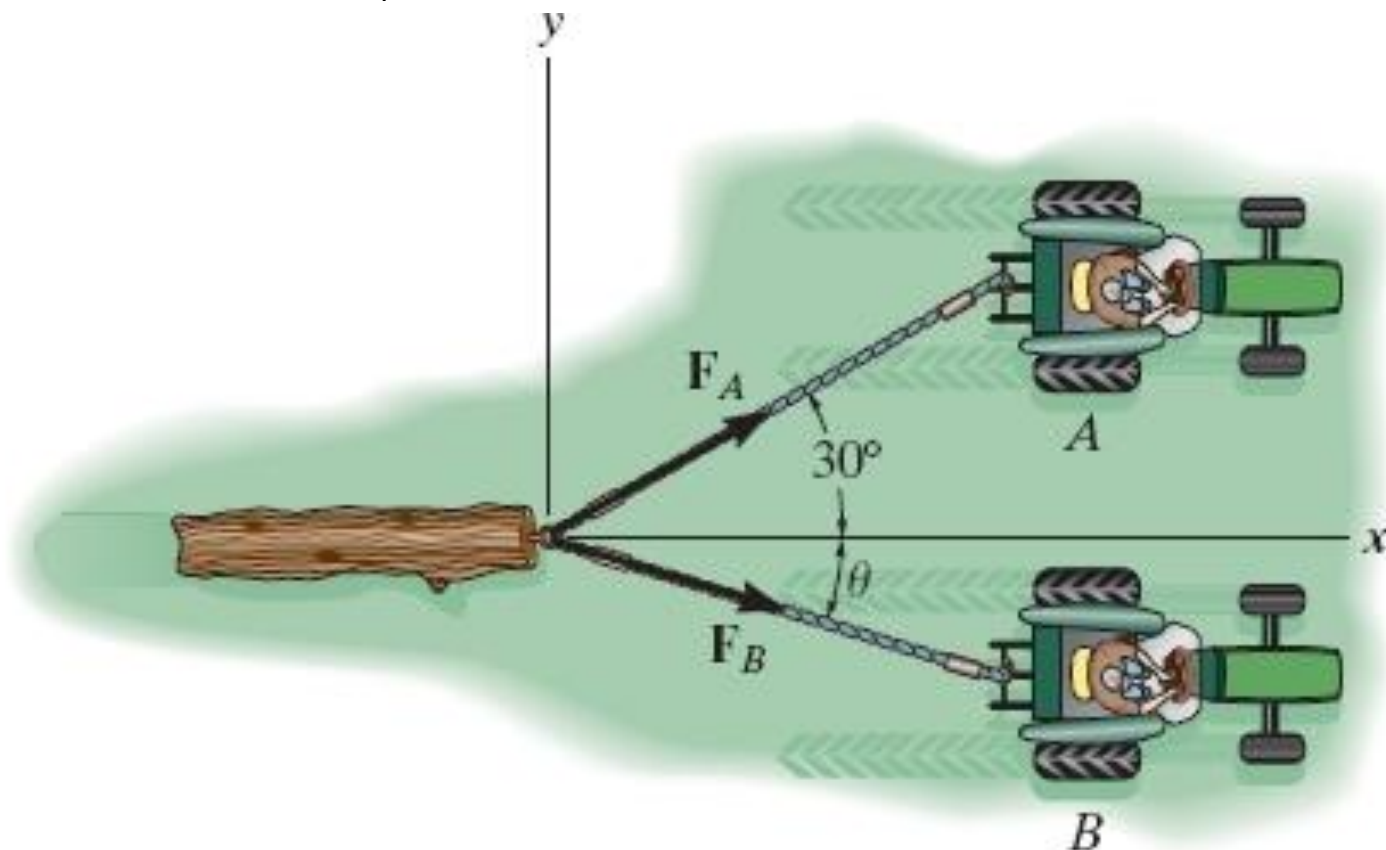
2-4. Determine the magnitude of the resultant force acting on the bracket and its direction measured counterclockwise from the positive  $u$  axis.



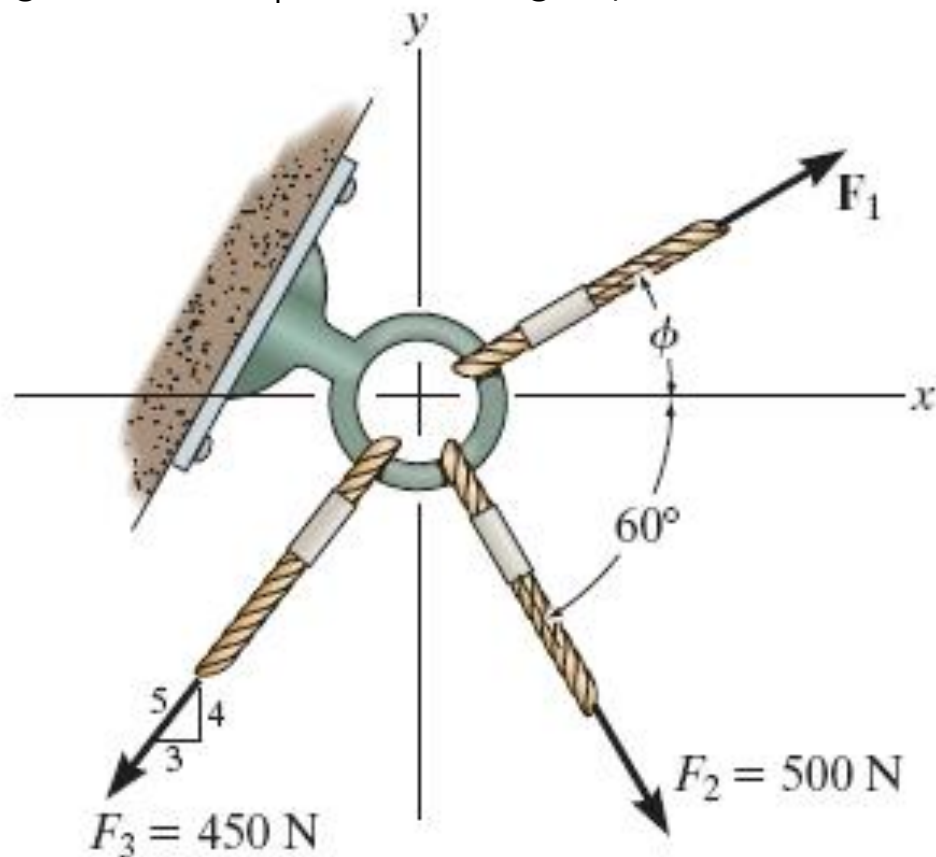
2-12. The device is used for surgical replacement of the knee joint. If the force acting along the leg is 360 N, determine its components along the  $x$  and  $y'$  axes.



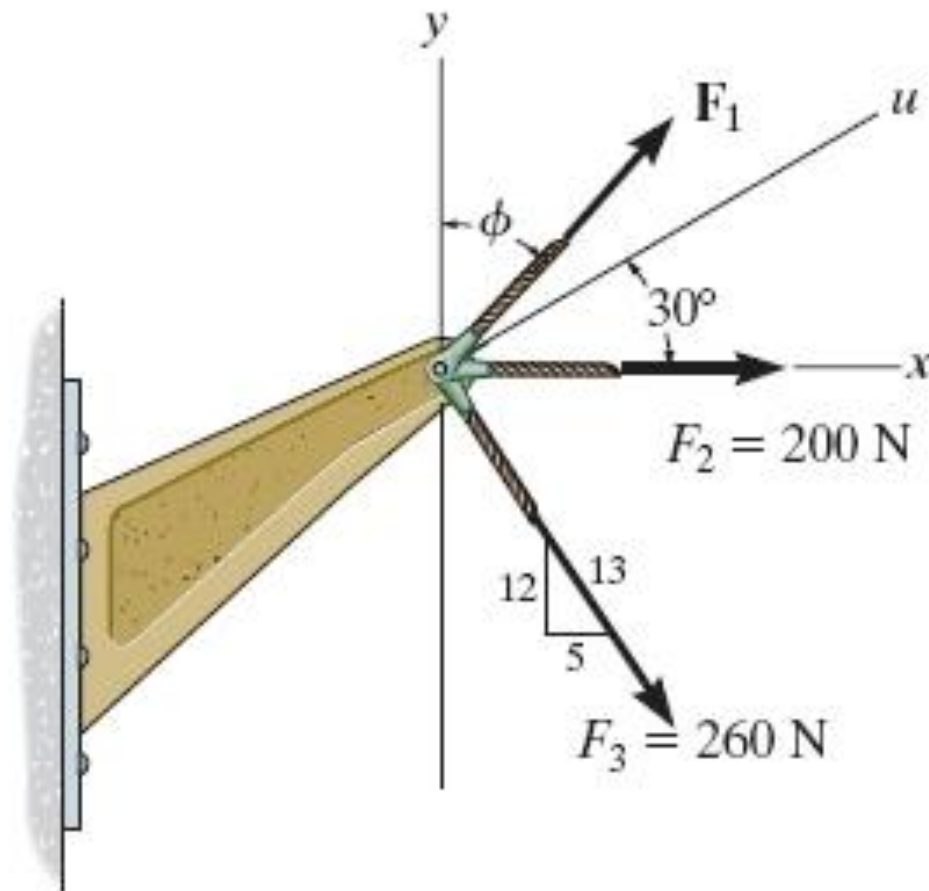
2-26. The log is towed by two tractors A and B. Determine the magnitudes of the two towing forces  $F_A$  and  $F_B$  if it is required that the resultant force have a magnitude  $F_r = 10 \text{ kN}$  and be directed along x axis. Set  $\theta = 15^\circ$ .



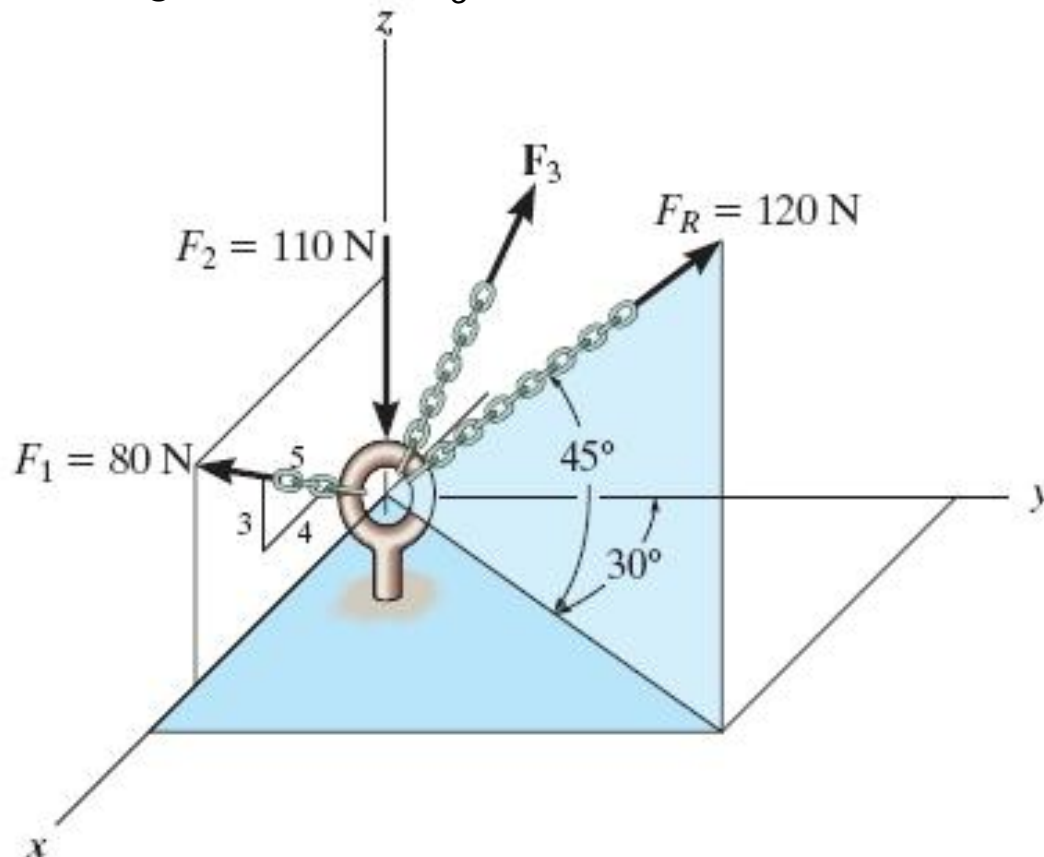
2-34. If the magnitude of the resultant force acting on the eyebolt is 600 N and its direction is measured clockwise from the positive x axis is  $\theta = 30^\circ$ , determine the magnitude of  $\mathbf{F}_1$  and the angle  $\phi$ .



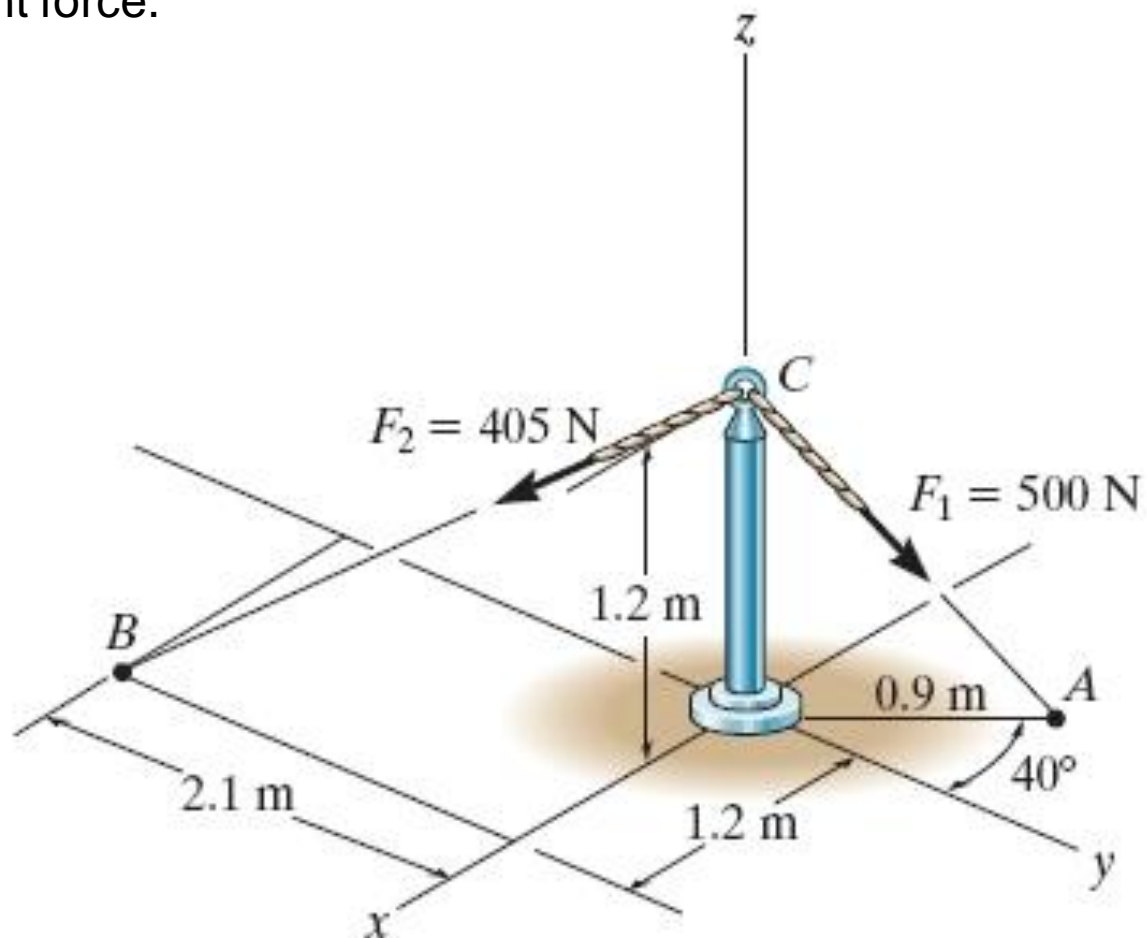
2-53. If the resultant force acting on the bracket is required to be a minimum determine the magnitudes of  $\mathbf{F}_1$  and the resultant force. Set  $\phi = 30^\circ$ .



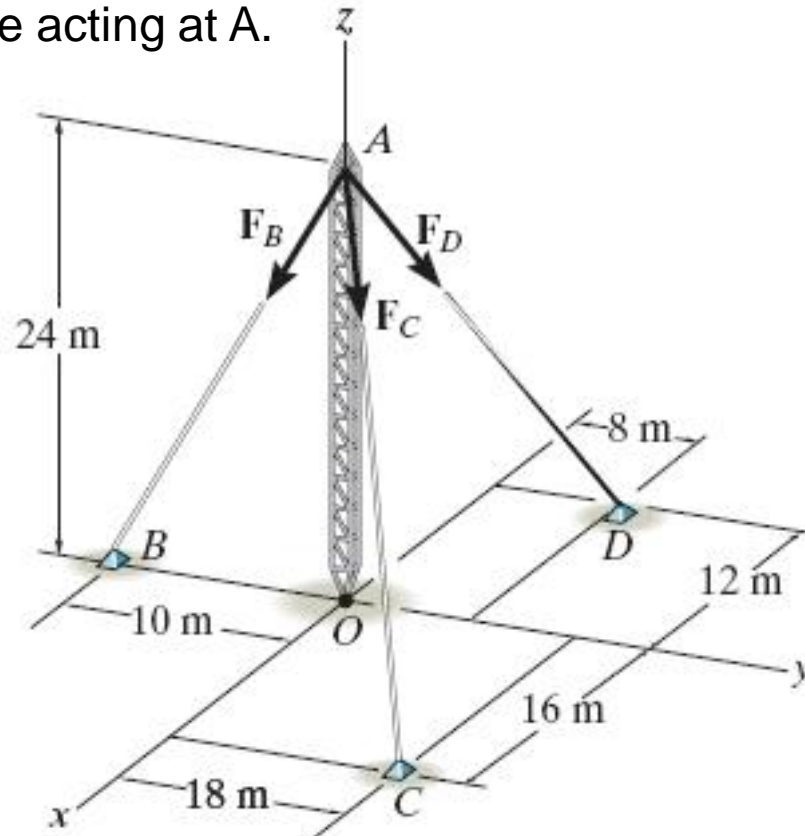
2-83. Three forces act on the ring. If the resultant force  $\mathbf{F}_R$  has a magnitude 120 N along the direction shown, determine the magnitude and coordinate direction angles of force  $\mathbf{F}_3$ .



2-92. Determine the magnitude and coordinate direction angles of the resultant force.

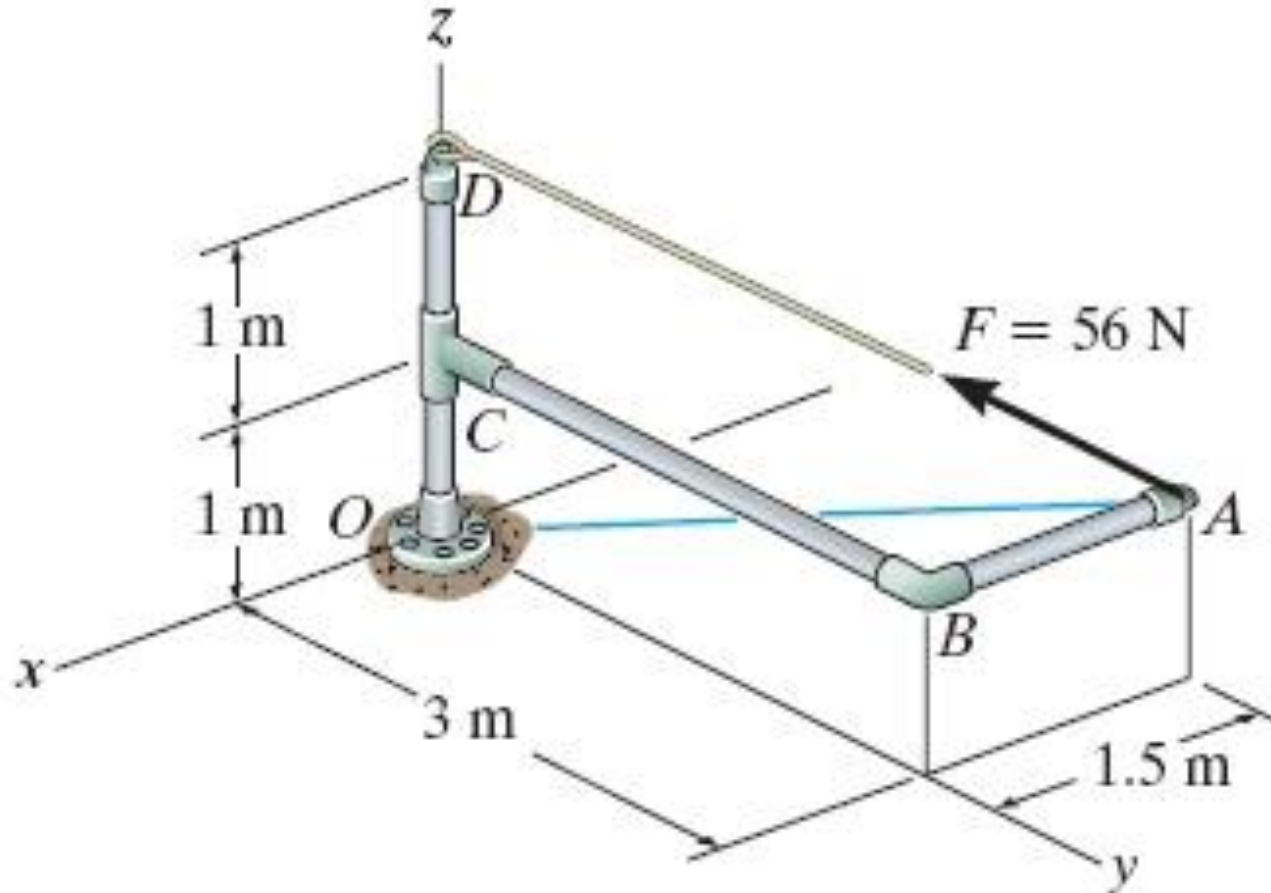


2-104. The antenna tower is supported by three cables. If the forces of these cables acting on the antenna tower are  $F_B = 520 \text{ N}$ ,  $F_C = 680 \text{ N}$ , and  $F_D = 560 \text{ N}$ , determine the magnitude and coordinate direction angles of the resultant force acting at A.





2-113. Determine the magnitudes of components of force  $F = 56 \text{ N}$  acting along and perpendicular to line  $AO$ .



2-129 Determine the angle,  $\theta$ , between cables AB and AC.

2-130 If  $\mathbf{F}$  has a magnitude 250 N, determine the magnitude of its projected components acting along x axis and along cable AC.

