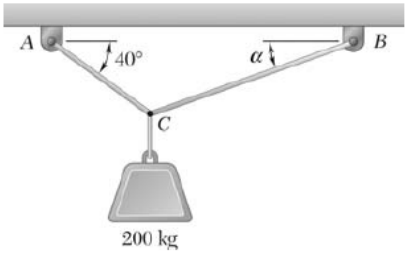
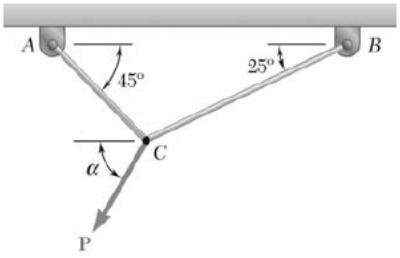


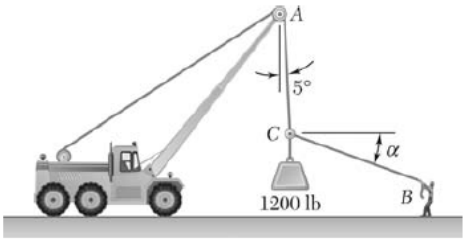
PROBLEM 2.43

Two cables are tied together at C and are loaded as shown. Knowing that $\alpha = 20°$, determine the tension (*a*) in cable AC, (*b*) in cable BC.



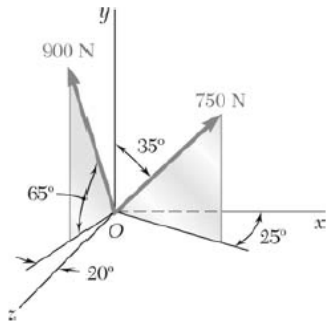
PROBLEM 2.45

Two cables are tied together at C and are loaded as shown. Knowing that $\mathbf{P} = 500$ N and $\alpha = 60°$, determine the tension in (a) in cable AC, (b) in cable BC.



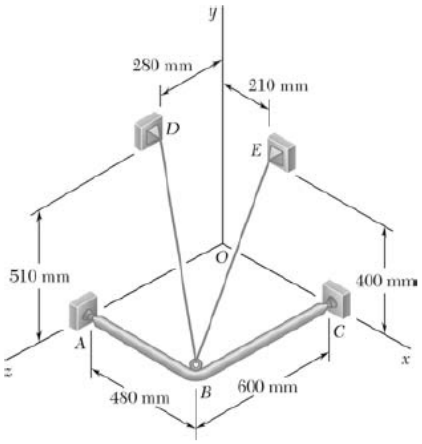
PROBLEM 2.47

Knowing that $\alpha = 20°$, determine the tension (*a*) in cable *AC*, (*b*) in rope *BC*.



PROBLEM 2.71

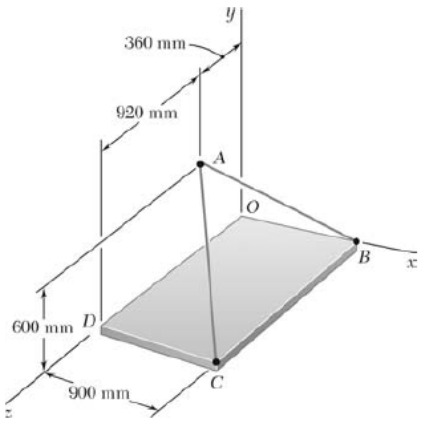
Determine (*a*) the *x*, *y*, and *z* components of the 750-N force, (*b*) the angles θ_x, θ_y, and θ_z that the force forms with the coordinate axes.



PROBLEM 2.88

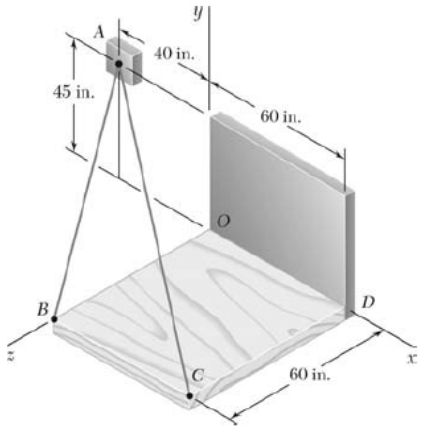
For the frame and cable of Problem 2.87, determine the components of the force exerted by the cable on the support at *E*.

PROBLEM 2.87 A frame *ABC* is supported in part by cable *DBE* that passes through a frictionless ring at *B*. Knowing that the tension in the cable is 385 N, determine the components of the force exerted by the cable on the support at *D*.



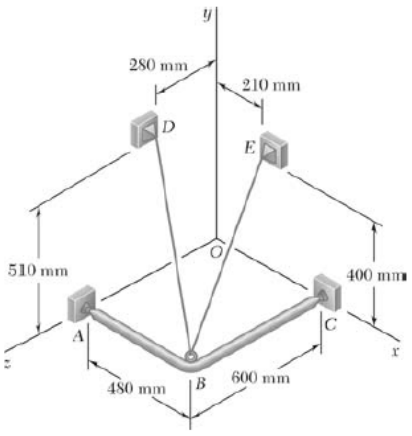
PROBLEM 2.89

Knowing that the tension in cable AB is 1425 N, determine the components of the force exerted on the plate at B.



PROBLEM 2.93

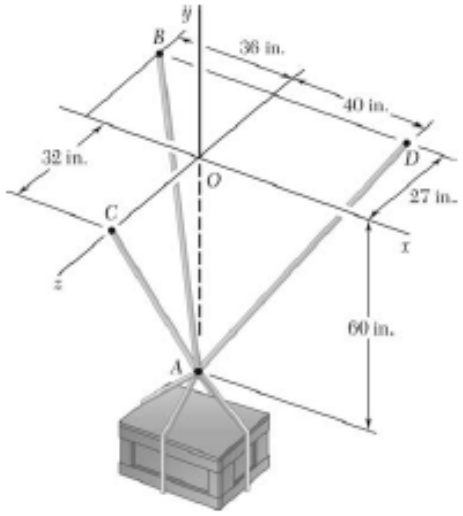
Knowing that the tension is 425 lb in cable AB and 510 lb in cable AC, determine the magnitude and direction of the resultant of the forces exerted at A by the two cables.



PROBLEM 2.95

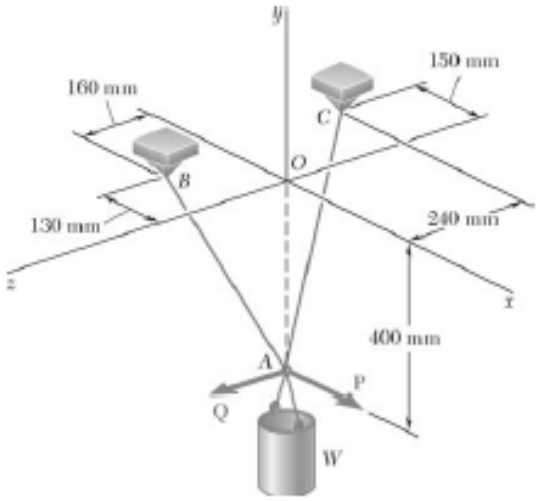
For the frame of Problem 2.87, determine the magnitude and direction of the resultant of the forces exerted by the cable at *B* knowing that the tension in the cable is 385 N.

PROBLEM 2.87 A frame *ABC* is supported in part by cable *DBE* that passes through a frictionless ring at *B*. Knowing that the tension in the cable is 385 N, determine the components of the force exerted by the cable on the support at *D*.



PROBLEM 2.103

A crate is supported by three cables as shown. Determine the weight of the crate knowing that the tension in cable *AB* is 750 lb.



PROBLEM 2.121

A container of weight W is suspended from ring A. Cable BAC passes through the ring and is attached to fixed supports at B and C. Two forces $\mathbf{P} = P\mathbf{i}$ and $\mathbf{Q} = Q\mathbf{k}$ are applied to the ring to maintain the container in the position shown. Knowing that $W = 376$ N, determine P and Q. (*Hint:* The tension is the same in both portions of cable BAC.)