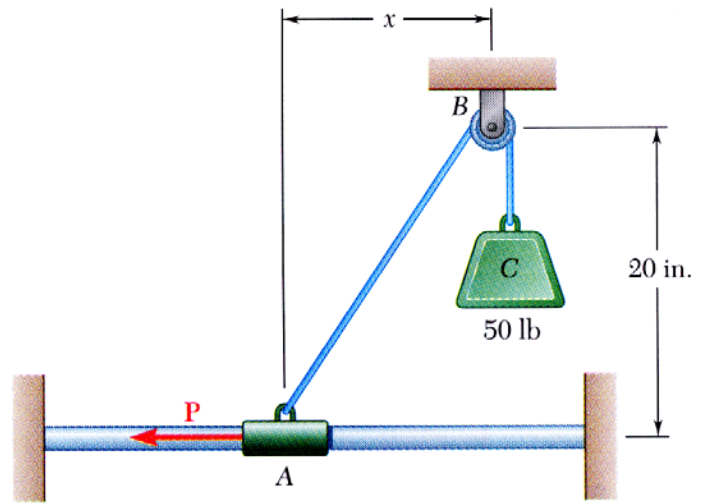1.   Collar A is connected to a 50-lb load and can slide on a smooth horizontal rod. Determine the magnitude of the force **P** required to maintain the equilibrium of the collar when $x = 15$ in. **Also** determine the magnitude of the normal force between the collar and the rod when $x = 15$ in..

2.   A container of weight $W = 1165$ N is supported by three cables. Determine the magnitude of the tension is each cable.
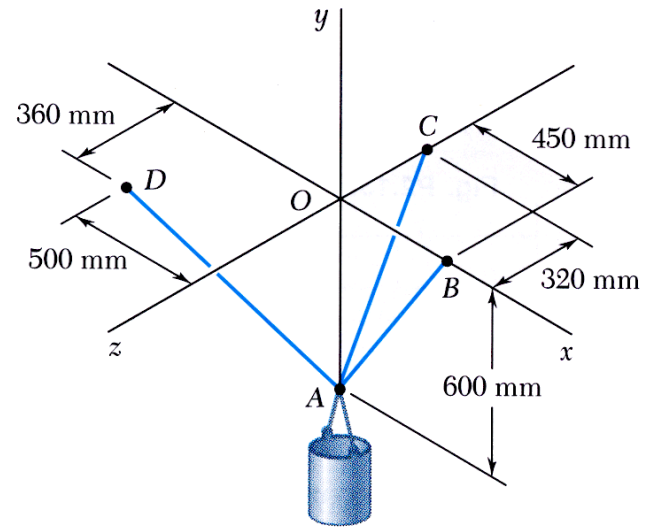
3.   To keep a door closed, a wooden stick is wedged between the floor and the doorknob at
      B. The stick exerts at *B* a 175-N force directed along line *AB*. Replace that force with an
      equivalent resultant force and couple moment acting at *C*.

      Be sure to take note of all dimensions.
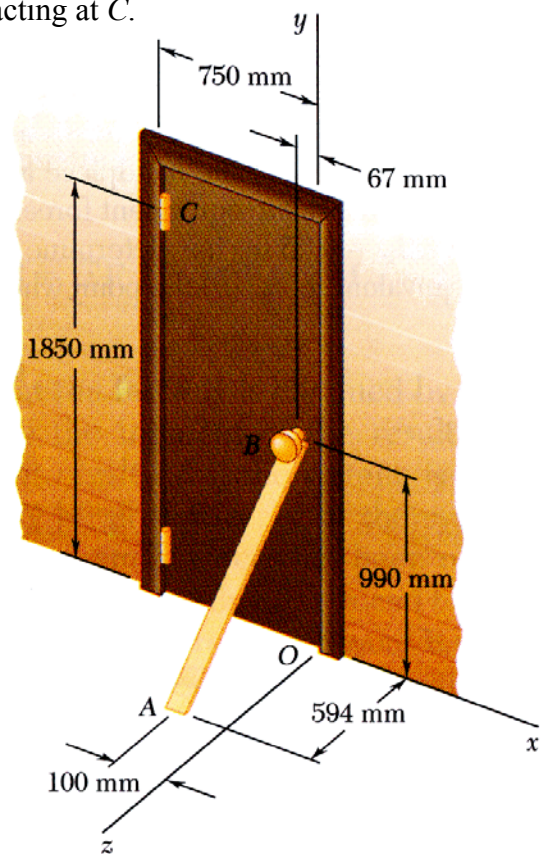
4. Replace the distributed loadings by an equivalent resultant force and couple moment acting at point B.

50 lb/ft

50 lb/ft

B

4 ft

6 ft

100 lb/ft

60°

A