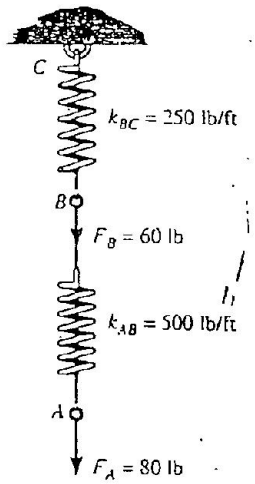
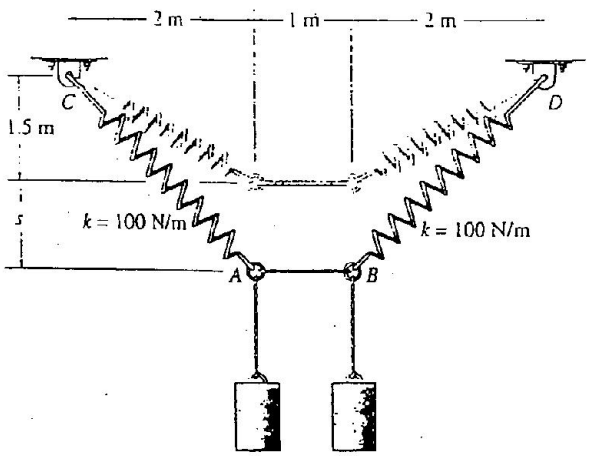
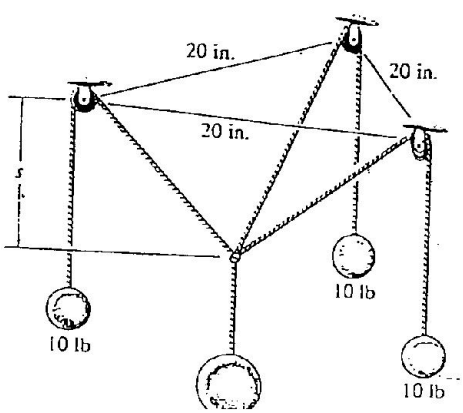
*3-12. Two different springs AB and BC are connecte together at B. If forces of 60 lb and 80 lb are applied t the rings at A and B, determine the vertical displacemer of point A.



*3-36. Determine the mass of each of the two cylinder if they cause a sag of $s = 0.5$ m when suspended from th rings at A and B. Note that $s = 0$ when the cylinders ar removed.

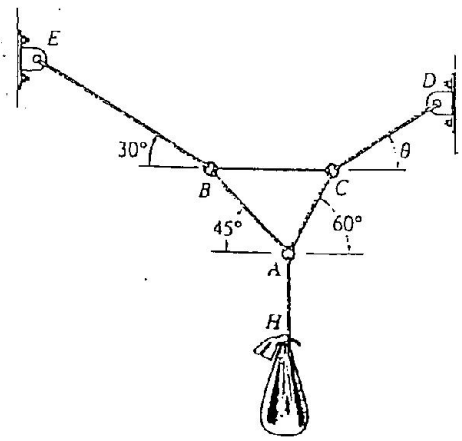


*3-64. Three 10-lb spheres and one 15-lb sphere are suspended from the pulley-and-cable system. If the pulleys are frictionless and the centers of all of them lie in the same horizontal plane, determine the sag s for equilibrium of the system.



*3-20. The sack has a weight of 15 lb and is supported by the six cords tied together as shown. Determine the tension in each cord and the angle θ for equilibrium. Cord BC is horizontal.

3-21. Each cord can sustain a maximum tension of 200 lb. Determine the largest weight of the sack that can be supported. Also, determine θ of cord DC for equilibrium.



*3-48. The shear leg derrick is used to haul the 200-kg net of fish onto the dock. Determine the compressive force along each of the legs AB and CB and the tension in the winch cable DB. Assume the force in each leg acts along its axis.