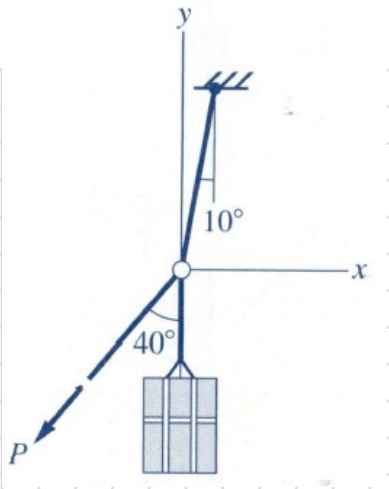
3-12

Determine the force P required to suspend the 200-lb crate in the position shown in Fig. P3-12. Solve the problem by using (a) the force triangle and (b) the equilibrium equations along the x and y axes.

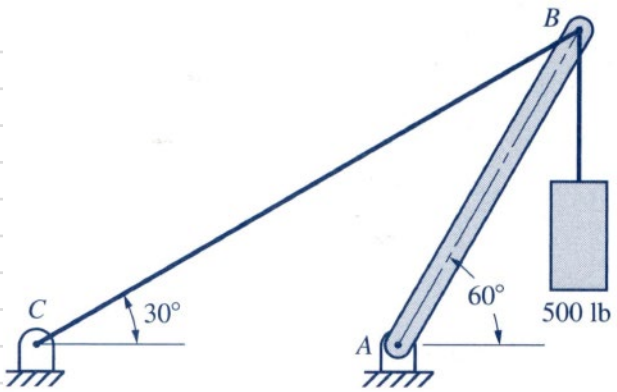
Solution.



3-20

Refer to Fig. P3-20. Determine the reaction at the hinge support at A due to a 500-lb load on the derrick.

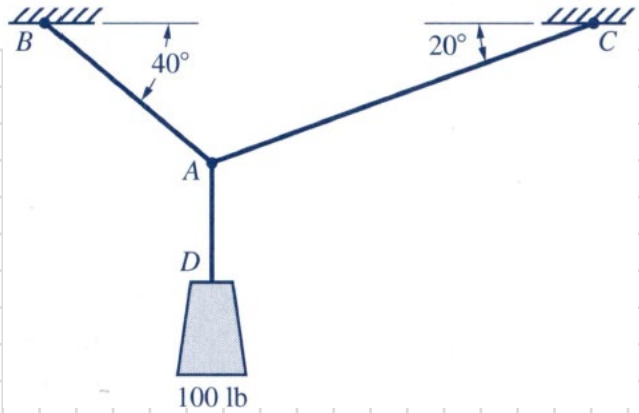
Solution.



3-24

A 100-lb block is suspended by cables AB and AC as shown in Fig. P3-24. Determine the tension in each cable.

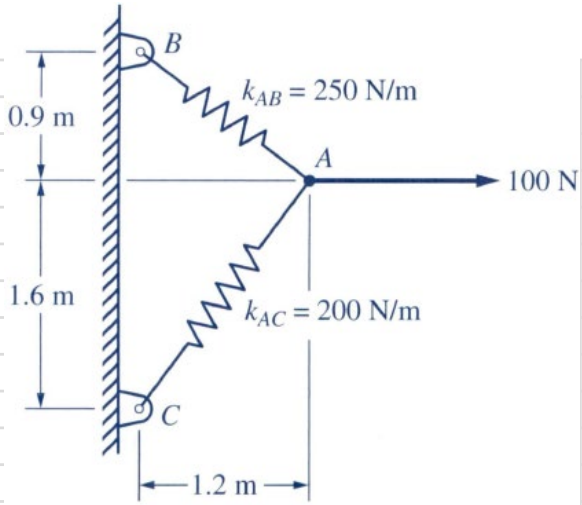
Solution.



3-29

Determine the amount of stretch in each spring caused by the 100-N force shown in Fig. P3-29.

Solution.



3-31

A 30-lb, 16-ft ladder leans against a smooth wall with its lower end resting on a rough ground. See Fig. P3-31. The angle between the ladder and the wall is 20°. Knowing that the ladder will not slip on its lower end, determine the reactions at both ends of the ladder by (a) the force triangle and (b) equilibrium equations.

Solution.