1-29
Use the equation in Problem 1-28 to find the distance traveled by a body falling with an initial downward velocity of 25.0 ft/s for 15.0 s.

Solution.

1-31
The force F in a linear spring is given by F = kx, where k is the spring constant (force per unit length of spring deflection) and x is the spring deflection. Find the force in a spring with a spring constant of 100 lb/ft and a deflection of 3.00 in.

Solution.

1-34

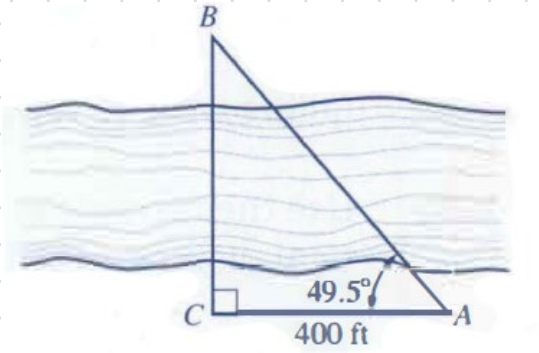
An object falling from rest through a height h reaches a velocity $v = \sqrt{2gh}$, where g is the gravitational acceleration. If a rock falls from a cliff 125 ft above the ground, what is its velocity when it hits the ground?

Solution.

1-39

Determine the distance between two points BC across the river shown in Fig. P1-39 if the angle at C is laid out at an angle of 90°, the distance CA is laid out 400 ft away, and angle A is measured to be 49.5°.

Solution.



In Problems 1-43 to 1-47, find the unknown elements of an oblique triangle if three elements are given. See Fig. 1-7 for the notations used.

1-44 a= 3.5 ft, B = 32°, C = 105°

Solution.

In Problems 1-50 to 1-54, solve the given system of linear equations by addition or subtraction

1-52

$T \sin 10° - P \sin 40° = 0$

$T \cos 10° - P \cos 40° = 200 \text{ lb}$

Solution.