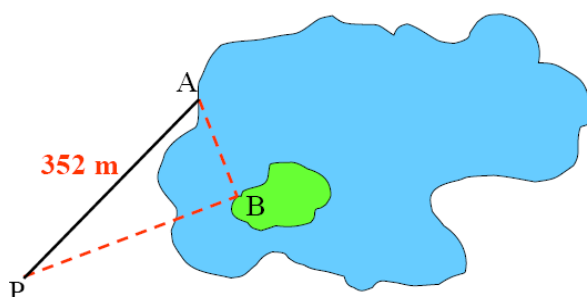


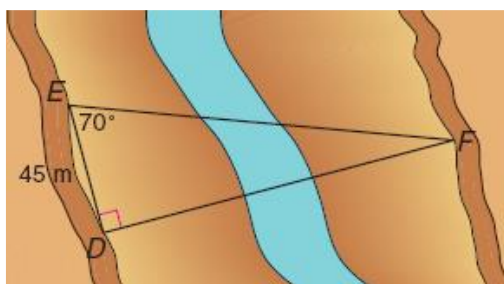
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Applications and Models

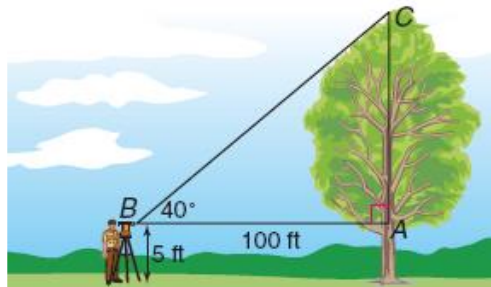
- 1) A person standing 30 ft from a flagpole can see the top of the pole at a 35° angle of elevation.
 - 1) Draw a diagram.
 - 2) The person's eye level is 5 ft from the ground. Find the height of the flagpole to the nearest foot.
- 2) To find the distance from point A on the shore to point B on an island in the lake, surveyors located point P with $m\angle PAB = 65^\circ$ and $m\angle APB = 25^\circ$. By measurement $PA = 352$ m. Find AB.



- 3) A road 1.6 km long rises 400 m. What is the angle of elevation of the road?
- 4) A surveyor standing at the edge of a canyon made the measurements shown. Find the distance across the canyon from D to F.



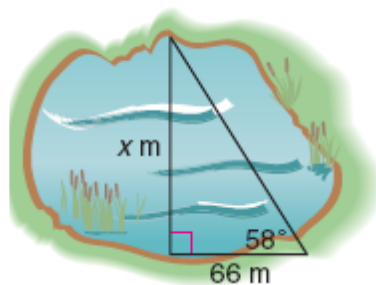
- 5) A ranger standing 100 feet from a tree sights the top of the tree at a 40° angle of elevation. Find the height of the tree.



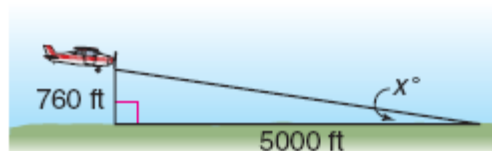
- 6) The access ramp to a parking lot has a rise of 10 feet and a run of 48 feet. To the nearest degree, find the angle between the ramp and the run.

- 7) Find the value of the missing measure

1)



2)



- 8) The distance from a boat to a bridge is 200 meters. A person aboard measures the angle of elevation to the bridge as 12° . To the nearest tenth, how far above the water is the bridge?