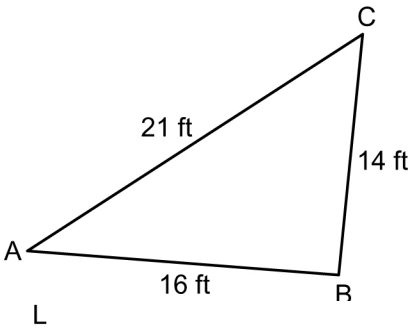
Name: _____ Date: _____

BLM 1–11

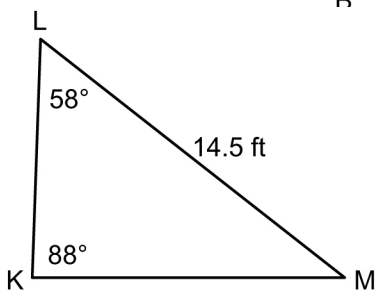
Section 1.5 Make Decisions Using Trigonometry

1. Choose the best formula to solve each triangle.

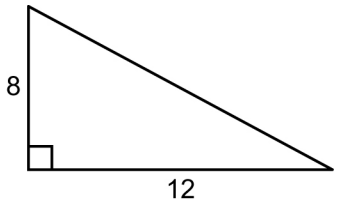
a)



b)



c)



2. A ferry is used to transport guests from the dock to two hotels across a large lake. The hotels are located 550 m apart. The first hotel is at a 49° angle between the dock and the second hotel. The second hotel is at a 56° angle between the dock and the first hotel. How far is each hotel from the dock?

3. Jayveer and Seema are standing 325 m apart, watching a hot air balloon above them. Jayveer measures the angle of elevation to the balloon to be 54°. Seema measures the angle of elevation to the balloon to be 38°.

a) How far is each person from the balloon, to the nearest metre?

b) What is the height of the balloon, to the nearest metre?

4. From one end of a bridge above a railroad track, the angle of depression to the tracks is 37°. If that point is 112 m from the track and the bridge is 122 m long, how far from the other end of the bridge is the track, to the nearest metre?

5. A funnel used to pour oil into an engine is in the shape of a cone. The sides of the cone are 15 cm long and the angle between the sides is 17.9°. What is the diameter of the cone?

6. Jesse is in a hot air balloon 6500 m above a lake. She measures the angle of depression to the far side of a lake to be 32° and the angle of depression to the near side of the lake to be 45°. Determine the distance across the lake.

7. A hydro pole on the side of a hill casts a 36 m long shadow up the hill. The hill has a 13° angle of elevation to the horizontal and the sun has an angle of elevation of 43°. How tall is the hydro pole?

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