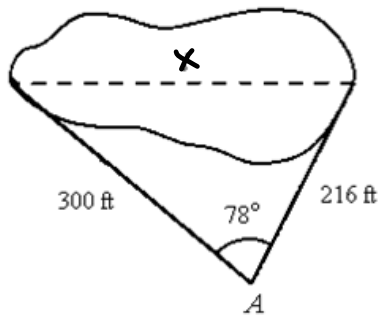


Laws of Sines & Cosines Applications

Example 1

A trigonometry class wants to determine the length of a pond near the school. From a point, A, they measure the distance to each end of the pond and the angle between these two sides. What is the approximate length of the pond?



$$x^2 = 300^2 + 216^2 - 2(300)(216)\cos 78^\circ$$

$$x^2 = 109710.6449$$

$$x = 331.2 \text{ ft.}$$

SAS \rightarrow LOC

Example 2

A boat is sailing due west parallel to the shoreline at a speed of 10 miles per hour. At a given time the bearing from the lighthouse is $S 70^\circ E$, and 15 minutes later the bearing is $S 63^\circ E$. Find the distance from the boat to the shoreline if the lighthouse is at the shoreline.

