Objective 1: Use the Law of Cosines to Solve Oblique Triangles.

The Law of Sines
If $A$, $B$, and $C$ are the measures of the angles of a triangle, and $a$, $b$, and $c$ are the lengths of the sides opposite these angles, then

$$a^2 = b^2 + c^2 - 2bc \cos A,$$
$$b^2 = a^2 + c^2 - 2ac \cos B,$$
$$c^2 = a^2 + b^2 - 2ab \cos C.$$

Work Video Exercise 1 with me.
1. Solve the triangle. Round lengths of sides to the nearest tenth and angle measures to the nearest degree.

![Triangle with sides $a = 6$, $b = 8$, and $c = 8$.]

Work Video Exercise 2 with me.
2. Find the distance across the lake from $A$ to $C$, to the nearest yard, using the measurements shown in the figure.

![Triangle with sides 140 yd, 160 yd, and 80° angle.]