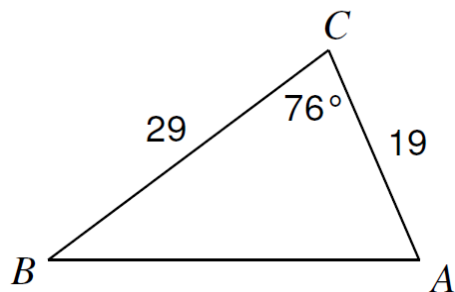


Triangle Trigonometry – Law of Cosines

Before Starting – Think About This! Let's look at the following problem:



What “type” of triangle is given? SSA AAS ASA SAS SSS

Question: Can you find side c using the Law of Sines?

Answer: _____

Explanation: _____ → _____

Law of Cosines “Formulas” → 1.) _____
 2.) _____
 3.) _____

- Only use the Law of Cosines to solve a triangle if given the following:

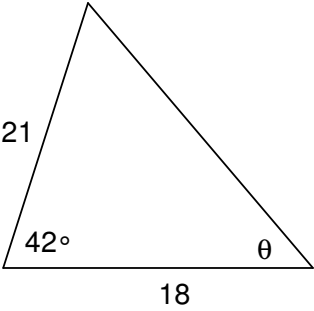
Given Triangle # 1	Given Triangle # 2	Important when Solving w/ LOC
<p>Triangle ABC with vertex C at the bottom left. Side AC is 6, side CB is 11, and angle C is 110°. Side AB is the missing side opposite angle C.</p> <p>Type of Triangle: _____</p>	<p>Triangle ABC with vertex B at the top. Side AB is 13, side BC is 14, and side AC is 15.</p> <p>Type of Triangle: _____</p>	<ul style="list-style-type: none"> Given SAS triangle → FIRST find... the missing side of given angle Given SSS triangle → FIRST find... the largest angle which will be across from longest side Once used the Law of Cosines – May use Law of Sines because will be able to set up a proportion

Example 1: Use the Law of Cosines to find the missing angle or side. Round to tenth place.

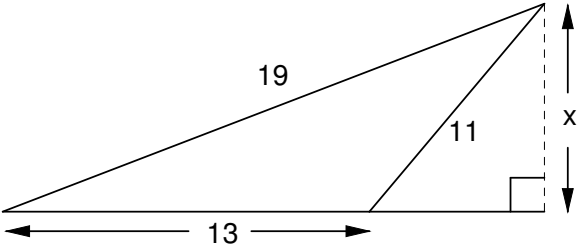
<p>a.) Find side a.</p> <p>Triangle ABC with vertex C at the top. Side BC is 9, side AC is 11, and angle A is 76°. Side AB is the missing side opposite angle C.</p>	<p>b.) Find angle C.</p> <p>Triangle ABC with vertex C at the top left. Side BC is 14, side AB is 18, and side AC is 28. Angle C is the angle at vertex C.</p>
--	--

Example 2: Complete each problem. Round to tenth place.

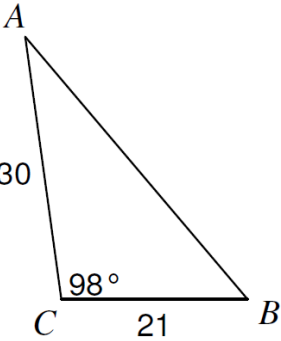
a.) Find angle θ .



b.) Find side x .



c.) Solve triangle ABC:



d.) Solve triangle ABC:

