

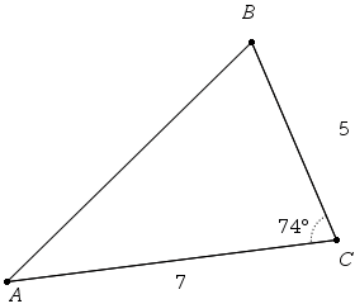
Goal: Determine which law applies to the given triangle
(law of sines or law of cosine)
Goal: Solve the triangle for the missing measurements using law of sines and cosines
Goal: Determine IF a single triangle exists, NO triangle exists, or if TWO triangles exist

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

$$\cos A = \frac{b^2 + c^2 - a^2}{2bc}$$



Solve the given triangle SHOW YOUR WORK
Work for AB

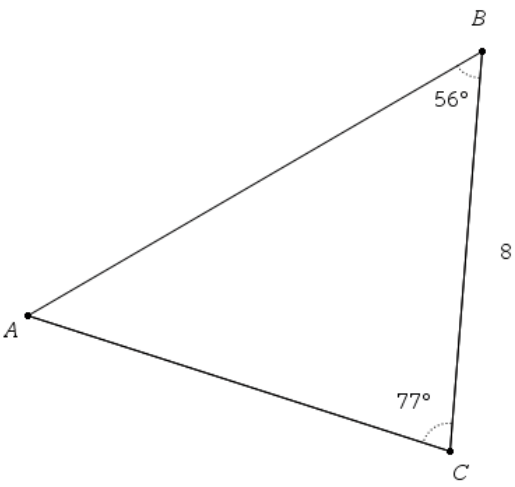
Work for Angle A

Work for Angle B

Triangle 1 has side lengths 4, 7, 10	Triangle 2 has side lengths 5, 6, 11	Triangle 3 has side lengths 4, 8, 13
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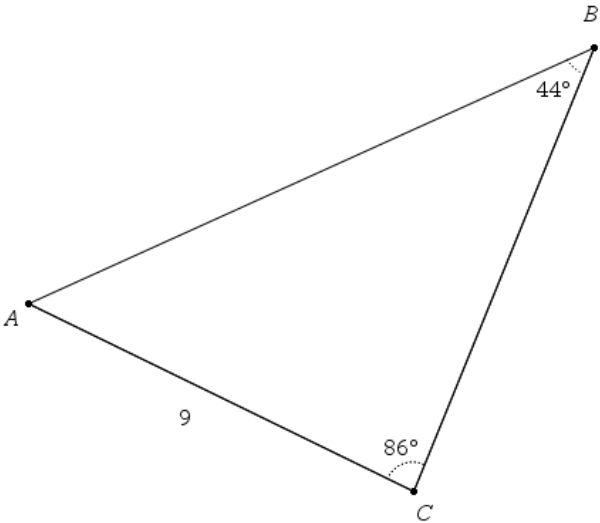
Use law of cosines to show why TWO of the above triangles DO NOT EXIST

Determine the missing angles for the ONLY triangle that exists above

 <p>A triangle with vertices A, B, and C. Angle B is 56°, angle C is 77°, and side BC is 8.</p>	<p>Solve the given triangle SHOW YOUR WORK</p> <p>Work for Angle A</p> <p>Work for AB</p> <p>Work for AC</p>
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NO SOLUTION Example for SSA You are given $a = 15$, $b = 25$, and angle $A = 85^\circ$. Your teacher tells you this is impossible!

Use the law of sines to confirm this (Hint draw a triangle!)

	<p>Solve the given triangle SHOW YOUR WORK</p> <p>Work for Angle A</p> <p>Work for AB</p> <p>Work for BC</p>
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TWO SOLUTION Example for SSA You are given $a = 12$, $b = 31$, and angle $A = 20.5^\circ$.

Your teacher tells you this is AMBIGUOUS (this means there are 2 solutions)

Use the law of sines to solve the OBVIOUS triangle (Hint draw a triangle!)