The Law of Sines

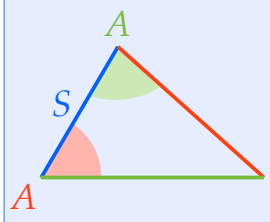
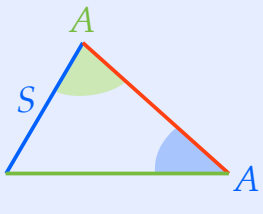
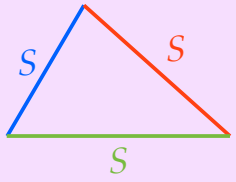
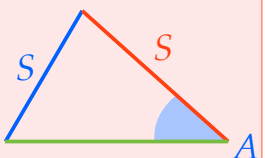
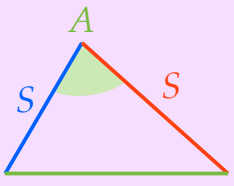
Name _____

Date _____ Period _____

To solve a triangle:

Determine the length of all three sides and the measure of all three angles.

Need to know the measure of one side and...

two angles		two sides	one side and one angle	
The Law of Sines		The Law of Cosines	The Ambiguous Case	The Law of Cosines
				
ASA	SAA	SSS	SSA	SAS

Given ASA or SAA

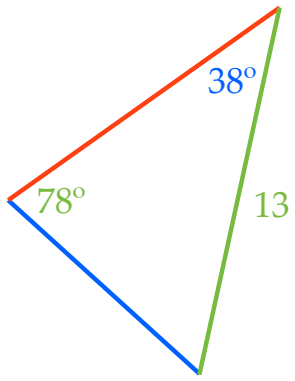
The Law of Sines states

for a triangle with side lengths a, b, and c and corresponding opposite angles α, β, and γ

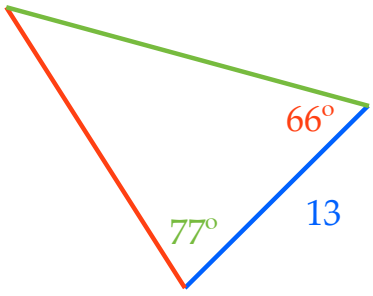
$$\frac{\sin\alpha}{a} = \frac{\sin\beta}{b} = \frac{\sin\gamma}{c}$$

$$\frac{\text{sine of an angle}}{\text{opposite side}} = \frac{\text{sine of an angle}}{\text{opposite side}} = \frac{\text{sine of an angle}}{\text{opposite side}}$$

Use the Law of Sines to solve the following triangle.



Use the Law of Sines to solve the following triangle. $\frac{\sin \alpha}{a} = \frac{\sin \beta}{b} = \frac{\sin \gamma}{c}$



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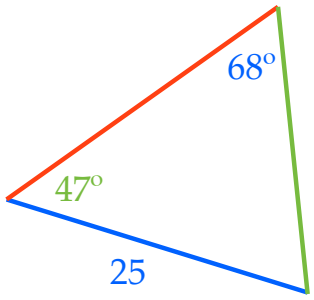

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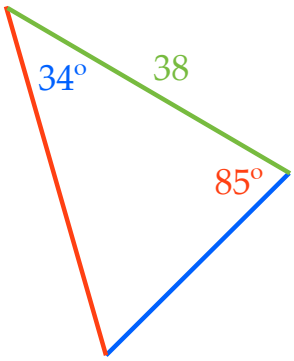

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$$\frac{\text{sine of an angle}}{\text{opposite side}} = \frac{\text{sine of an angle}}{\text{opposite side}} = \frac{\text{sine of an angle}}{\text{opposite side}}$$

Use for Cases ASA or SAA
(given two angles)