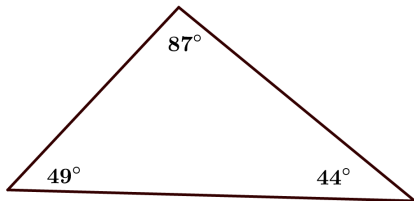


Math 155 - Trigonometry Intro

Definition: Trigonometry is the study of triangles.

Recall: 1. A triangle is a shape with 3 angles and 3 sides.

2. The measures of the 3 angles add up to 180°

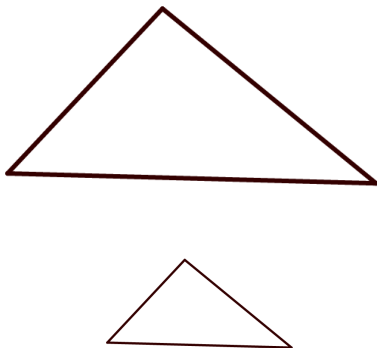


A triangle with angles 87, 49, and 44

$$87^\circ + 49^\circ + 44^\circ = 180^\circ$$

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3. **Definition:** Two triangles are called *similar* to each other if one can be scaled (enlarged or reduced) to get the other.



4. Two triangles are similar if they have the same 3 angles.

Note: If triangles share 2 angles, the 3rd must be the same because they add up to 180

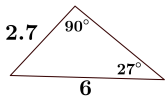
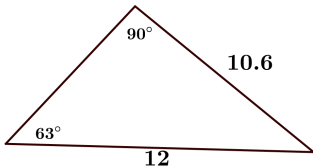
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Example: If we know that two angles on a triangle are 90° and 32° then what is the measure of the 3rd angle?

Example: Suppose that there are 2 triangles. Two of the angles of the first triangle are 90° and 54° . Two of the angles of the second triangle are 90° and 36° . Are the two triangles similar?

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Example: Find the missing angles and sides of the triangles below.



Observation: The properties about triangles allow us to find missing measurements without having to measure them.