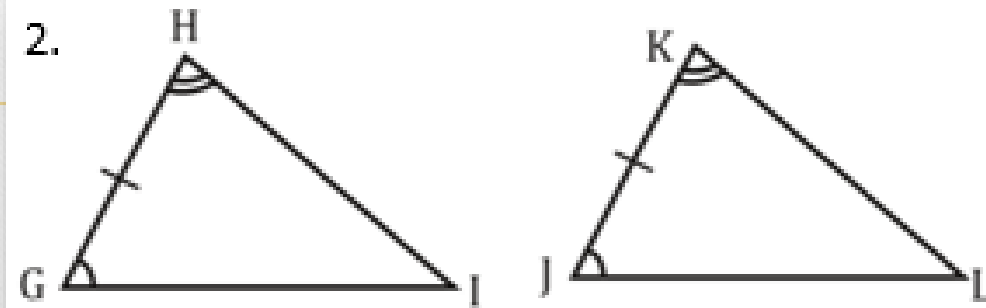
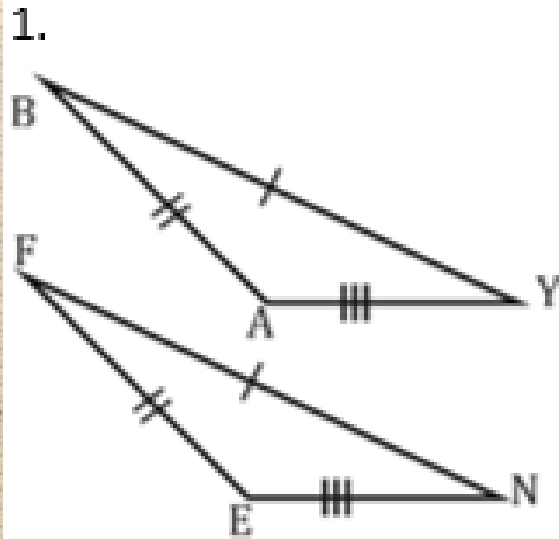


List the congruent parts of the triangles.
State the theorem you can use to state
the triangles are congruent.



3.) Find the inverse of $f(x) = \log_7(2x + 3)$

Objectives

Use triangle congruency theorems to determine parts of triangles are congruent.
CPCTC!

Determine if two triangles are similar using the general properties of similarity and the specific properties of similar triangles.

Homework

Triangle packet, sections III and IV, V all problems.

ALL Make Up Tests for the Log and Exponents Unit must be completed by Monday November 17th .

No exceptions.

ALL Retakes for the Log and Exponents Unit must be completed by Friday November 21st.

No exceptions.

On a sticky note, write the day you will be taking the test.

You **MUST** bring your test corrections with you to be eligible for a retake.

Homework questions?

In groups of no more than four you can check your homework against the answer key.

Send one person from you group to get key.

If your group gets stumped, write the problem number on the board and we will review it as a group.

**I JUST USED SAS TO
PROVE**



2 TRIANGLES CONGRUENT

memegenerator.net

CPCTC

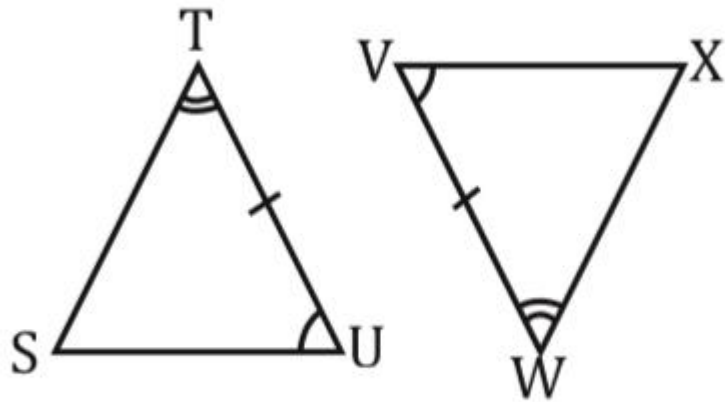
Corresponding **P**arts of **C**ongruent **T**riangles are **C**ongruent.

The next step in proofs

Once you prove a triangle is congruent to another triangle, you can state that any pair of corresponding parts are equal!

For example

Given: $\angle U \cong \angle V$, $\angle T \cong \angle W$, and $\overline{TU} \cong \overline{VW}$

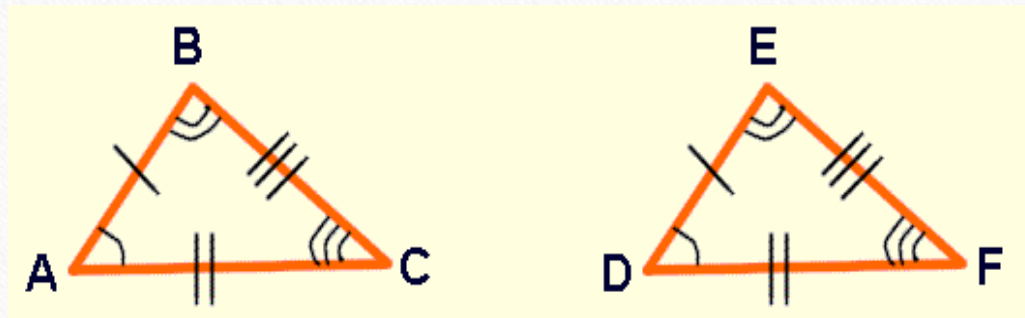


Prove: $\angle S \cong \angle X$

Your Claim	Why you can make your claim
$\angle U \cong \angle V$,	Given
$\angle T \cong \angle W$,	Given
$\overline{TU} \cong \overline{VW}$	Given
$\triangle STU \cong \triangle XWV$	ASA
$\angle S \cong \angle X$	CPCTC

Proving Triangles are Congruent

Two triangles are congruent if all three of their angles are of equal measure and each of their corresponding sides have equal length.



Congruency
Theorems

SSS

SAS

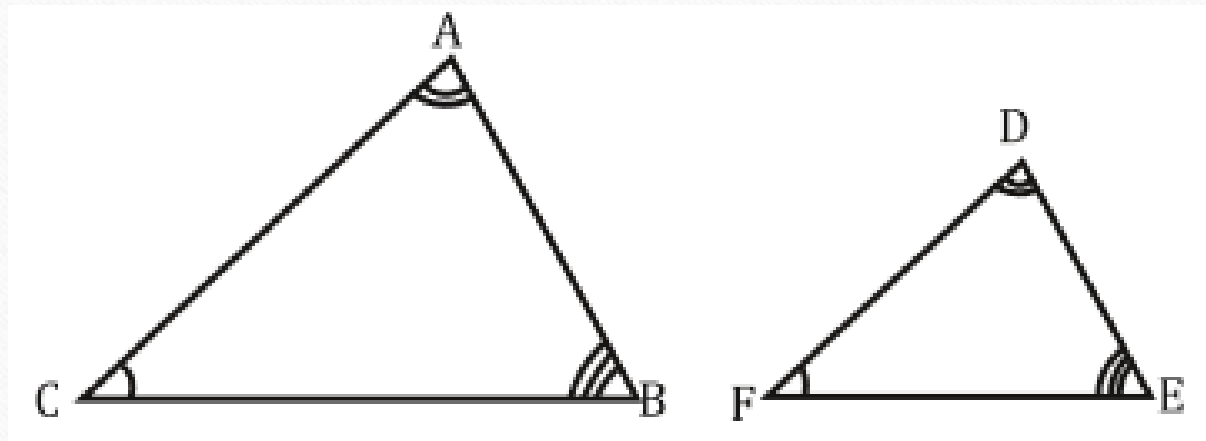
AAS

ASA

HL

Proving Triangles are Similar

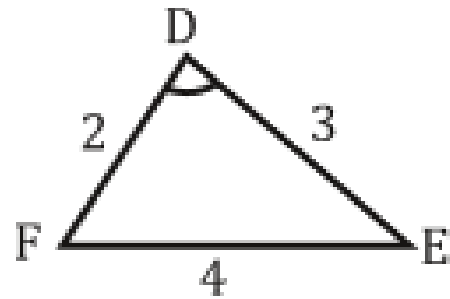
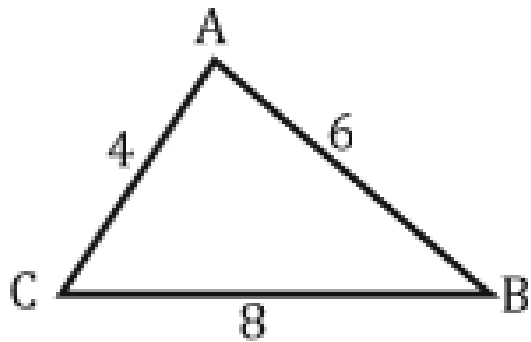
Two triangles are SIMILAR if all three of their **angles** are of **equal** measure and each of their corresponding **sides** are **proportional**.



We have three **Similarity Theorems** we can use to prove triangles are similar.

SSS – Side Side Side

If all three sides of two triangles have the same **RATIO** then the triangles are similar.



$$\frac{DF}{AC} = \frac{2}{4} = \frac{1}{2}$$

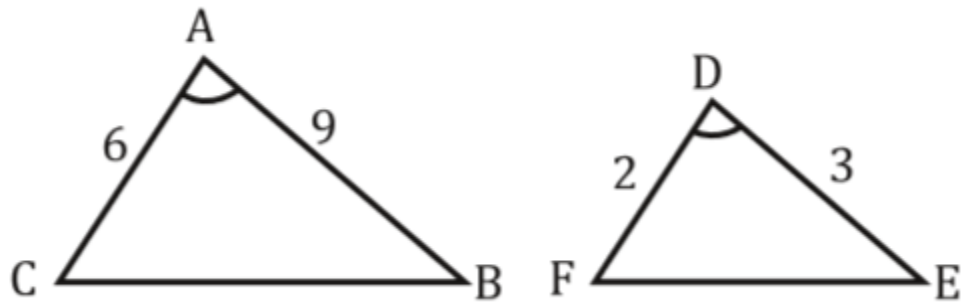
$$\frac{DE}{AB} = \frac{3}{6} = \frac{1}{2}$$

$$\frac{EF}{BC} = \frac{4}{8} = \frac{1}{2}$$

$$\text{So... } \frac{DF}{AC} = \frac{DE}{AB} = \frac{EF}{BC}$$

So... $\triangle ABC \sim \triangle DEF$ by
SSS

SAS – Side Angle Side



If two side of two triangles have the same **RATIO** and the angle between the sides is congruent then the triangles are similar.

$$\frac{DF}{AC} = \frac{2}{6} = \frac{1}{3}$$

$$\frac{DE}{AB} = \frac{3}{9} = \frac{1}{3}$$

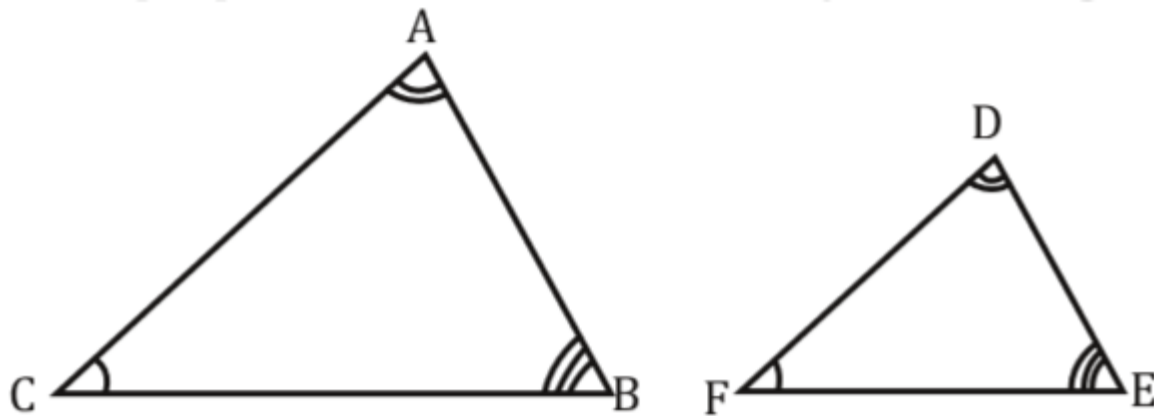
$$\text{So... } \frac{DF}{AC} = \frac{DE}{AB}$$

$$\text{and... } \angle A \cong \angle D$$

So... $\triangle ABC \sim \triangle DEF$ by SAS

AAA – Angle Angle Angle

If three angles of two triangles are congruent then the triangles are similar.



$$\begin{aligned}\angle C &\cong \angle F \\ \angle A &\cong \angle D \\ \angle B &\cong \angle E\end{aligned}$$

$\triangle ABC \sim \triangle DEF$ by AAA
or...
 $\triangle ABC \sim \triangle DEF$ by AA

Your **Similarity** Theorems

SSS – Side Side Side

SAS – Side Angle Side

AAA – Angle Angle Angle

How are these different from the **Congruency** Theorems?

We look at the **RATIO** of side lengths.

Perfect practice makes perfect!

Work you your triangles packet. It is due tomorrow.

If you finish it before you leave, you can accumulate credits for a 2 point addition to your unit test grade.

You'll need 5 credits for 2 points.