Warm-up:

1. Put your phones in the pouches/away

2. Take out your HW and HW calendar

3. Complete your Warm-Up

> #1 Prove: -5 = x

Given: $x - 10 = 2x - 5$
Prove: $x = -5$ i.e. $-5 = x$

Statements	Reasons
1. $x-10=2x-5$	1. Given
2. $-10 = x - 5$	2. Subtraction Property of Equality
3. $-5=x$	3. Addition Prop. of Eq.

Given: $m\angle JAL = m\angle BAP$
Prove: $\angle JAL \cong \angle BAP$

Statements	Reasons
1. $m\angle JAL = m\angle BAP$	1. Given
2. $\angle JAL \cong \angle BAP$	2. Definition of congruency

Given: $\angle AJB$ is a right angle
Prove: $m\angle AJB = 90$

Statements	Reasons
1. $\angle AJB$ is a right angle	1. Given
2. $m\angle AJB=90$	2. Def. of right angle

ANNOUNCEMENTS:

- **PLEASE** start/finish Unit 1B and 2A on DeltaMath!! This is an easy way to earn 15 points to EVERY test **below a 75**!

HW Answers

What am I learning today?

Learning Objective 2B.2

How to prove two triangles are congruent

What will I do to show that I have learned it?

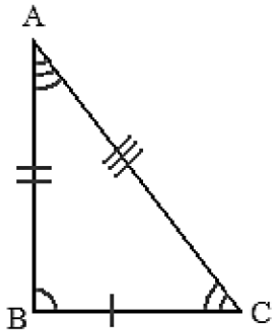
I can...Use congruency statements and marks to match corresponding sides and angles in congruent triangles.

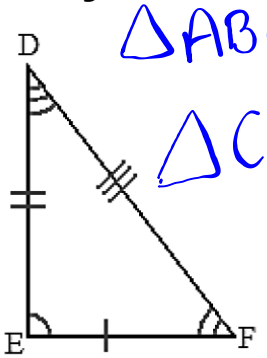
Congruent Triangles - Two triangles that ALL 3 **sides** and **angles** are CONGRUENT!

Corresponding Parts - Parts of congruent triangles that "**MATCH**"

Must follow the SAME **ORDER**

How can we write three different congruency statements?

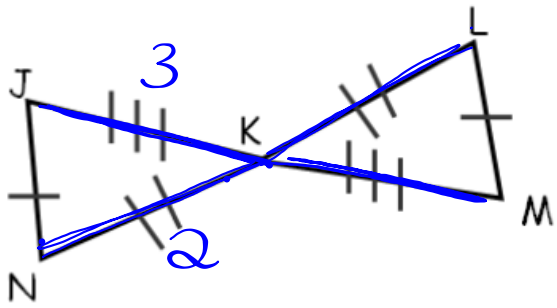




$\Delta ABC \cong \Delta DEF$

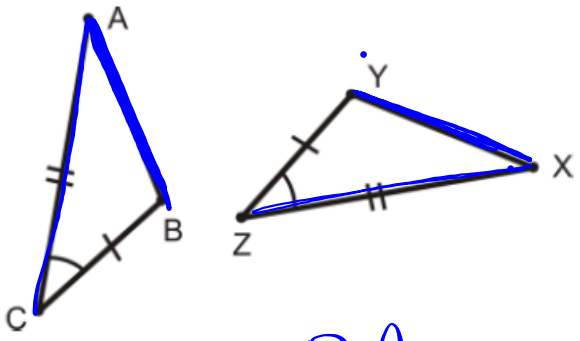
$\Delta CAB \cong \Delta FDE$

Complete the congruence statement



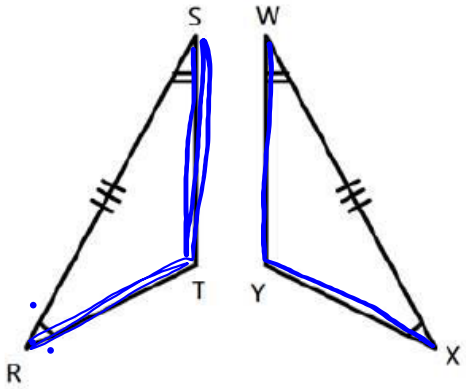
$\Delta NKJ \cong \Delta LKM$

Complete the congruence statement



$\Delta YXZ \cong \Delta$ BAC

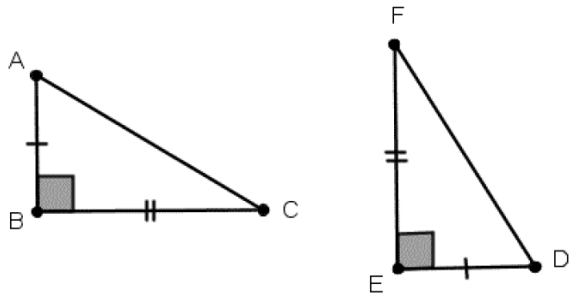
Complete the congruence statement



$\Delta RTS \cong \Delta$ XYW

Corresponding Parts with Diagrams

If $\Delta ABC \cong \Delta DEF$ then...



1. $BC \cong$ EF
2. $\angle A \cong$ $\angle D$
3. $ED \cong$ AB
4. $\angle D \cong$ $\angle A$

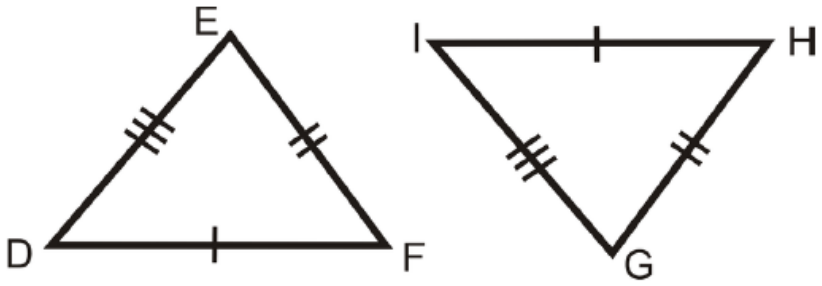
Corresponding Parts with No Diagrams

If $\Delta CAT \cong \Delta DOG$ then...

1. $AC \cong$ OD
2. $\angle T \cong$ $\angle G$
3. $GO \cong$ TA
4. $\angle ATC \cong$ $\angle OGD$

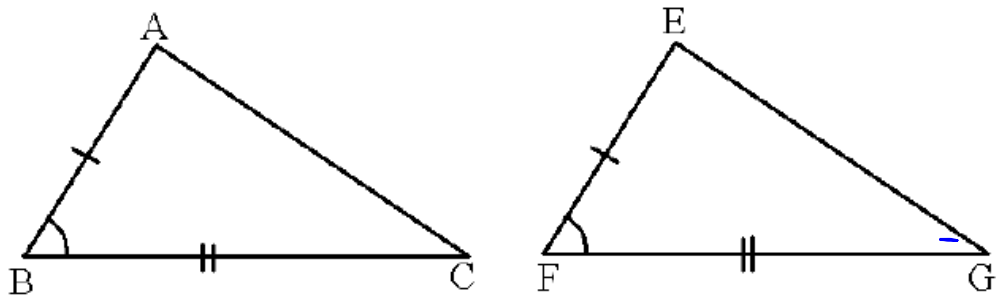
YOU CANNOT SKIP A SIDE **AND** AN ANGLE AT THE SAME TIME!

Side-Side-Side (SSS)



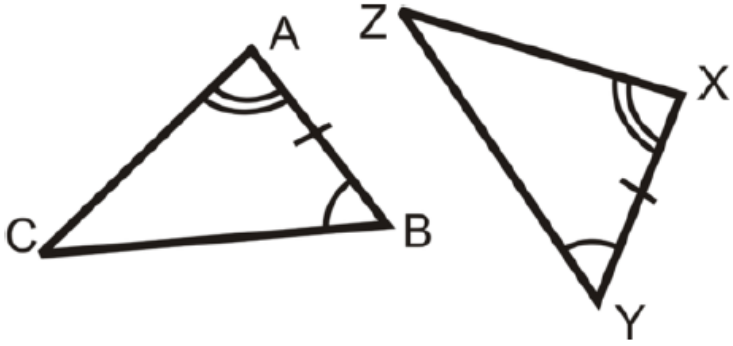
YOU CANNOT SKIP A SIDE **AND** AN ANGLE AT THE SAME TIME!

Side-Angle-Side (SAS)



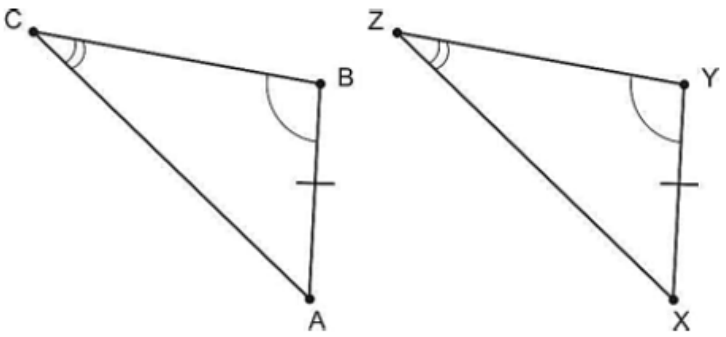
YOU CANNOT SKIP A SIDE **AND** AN ANGLE AT THE SAME TIME!

Angle-Side-Angle (ASA)

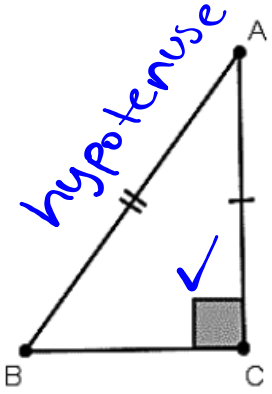


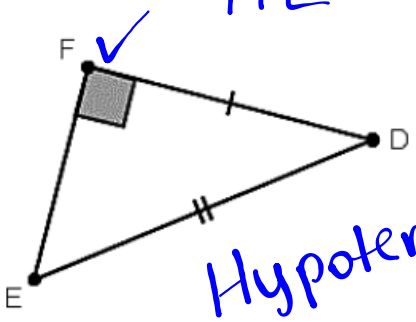
YOU CANNOT SKIP A SIDE **AND** AN ANGLE AT THE SAME TIME!

Angle-Angle-Side (AAS)

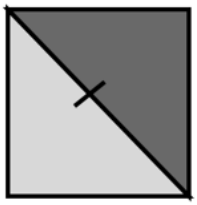


YOU CANNOT SKIP A SIDE **AND** AN ANGLE AT THE SAME TIME!





~~AAS~~

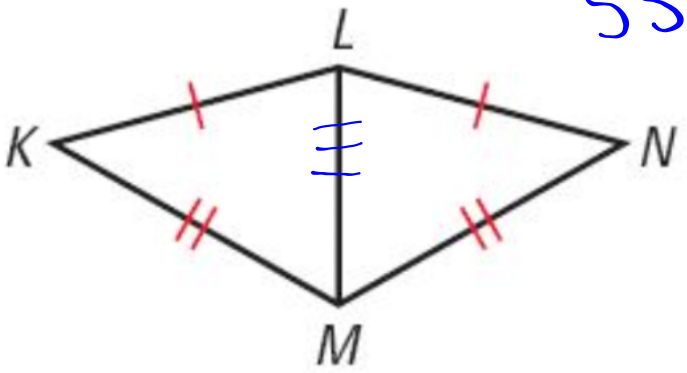


Share a side

Reason: Reflexive Property

How are these triangles congruent?

SSS

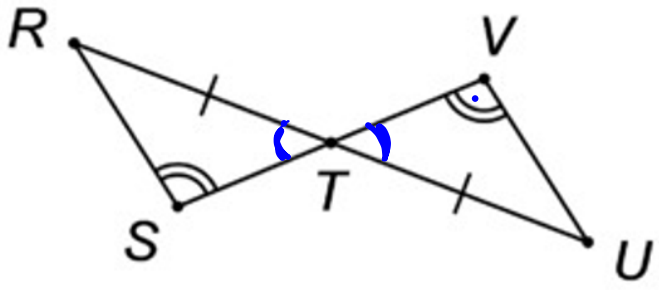


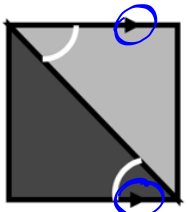
Vertical Angles

Reason: Vertical Angles are congruent

How are these triangles congruent?

AAS



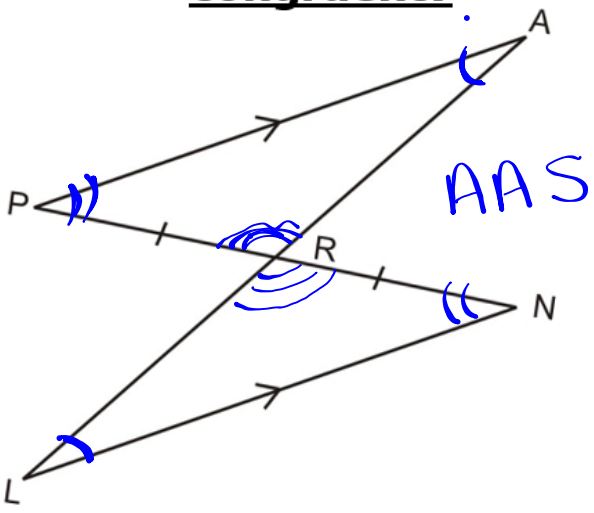


Alternate Interior Angles

Reason: Alt. Int. angles are congruent

parallel lines

How are these triangles congruent?



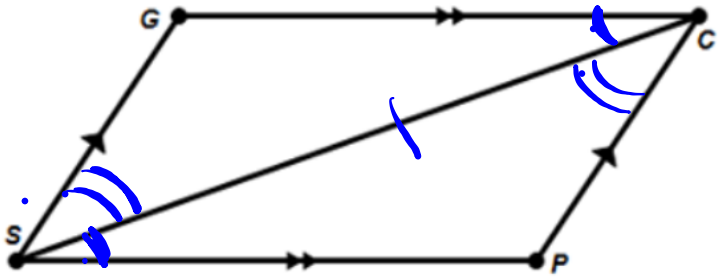
AAS

Alternate Interior Angles

Reason: Alt. Int. angles are congruent

How are these triangles congruent?

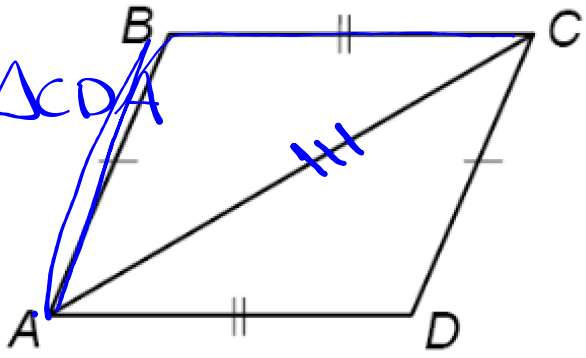
ASA



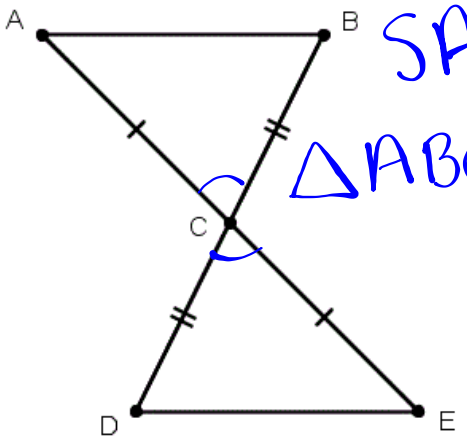
Are these triangles congruent?
If so, write a congruence statement.

SSS

$\triangle ABC \cong \triangle CDA$



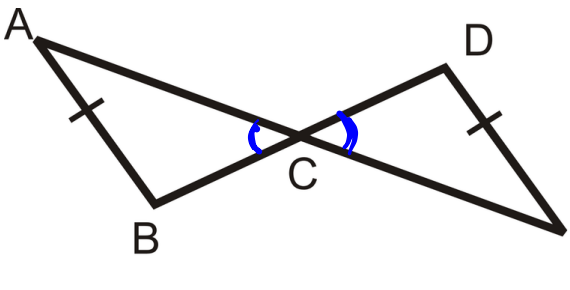
Are these triangles congruent?
If so, write a congruence statement.



SAS

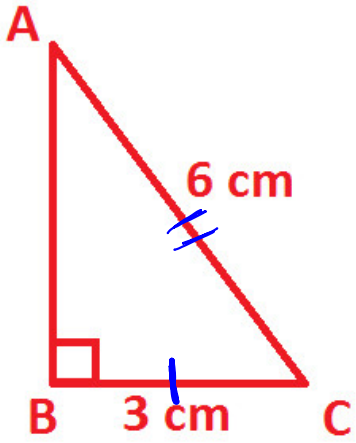
$\triangle ABC \cong \triangle EDC$

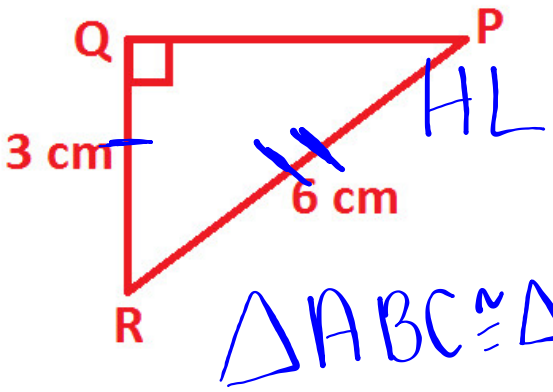
Are these triangles congruent?
If so, write a congruence statement.



No!

Are these triangles congruent?
If so, write a congruence statement.

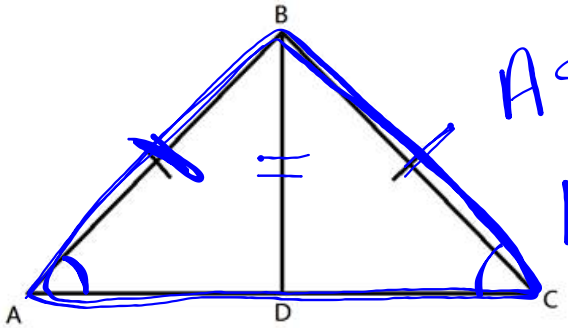




HL

$\triangle ABC \cong \triangle PQR$

Are these triangles congruent?
If so, write a congruence statement.



ASS

NO!

Classwork:

Complete the classwork about congruent triangles.

HW: On top of the bin.