

Name: _____ # _____

Geometry: Period _____

Ms. Pierre

Date: _____

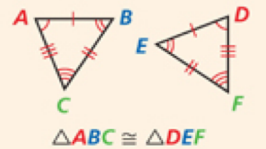
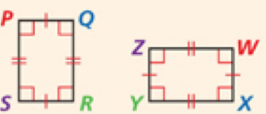
Congruence

Today's Objective

SWBAT use properties of congruent triangles.

Geometric figures are congruent if they are the same size and shape. _____ and _____ are in the same position in polygons with an equal number of sides. Two polygons are _____ if and only if their corresponding sides and angles are congruent.

Properties of Congruent Polygons

DIAGRAM	CORRESPONDING ANGLES	CORRESPONDING SIDES
 $\triangle ABC \cong \triangle DEF$	$\angle A \cong \angle D$ $\angle B \cong \angle E$ $\angle C \cong \angle F$	
 polygon $PQRS \cong$ polygon $WXYZ$	$\angle P \cong \angle W$ $\angle Q \cong \angle X$ $\angle R \cong \angle Y$ $\angle S \cong \angle Z$	

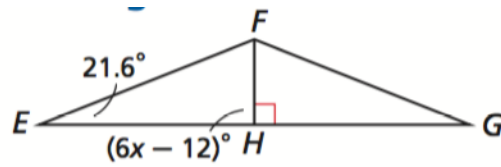
Example 1

Given $\triangle RST \cong \triangle LMN$. Identify the congruent corresponding parts.

- $\overline{RS} \cong$ _____
- $\overline{LN} \cong$ _____
- $\angle S \cong$ _____
- $\overline{TS} \cong$ _____
- $\angle L \cong$ _____
- $\angle N \cong$ _____

Example 2

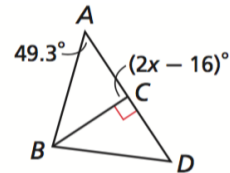
1. Given $\triangle EFH \cong \triangle GFH$



a. Find the value of x .

b. $m\angle GFH$

2. Given $\triangle ABC \cong \triangle DBC$



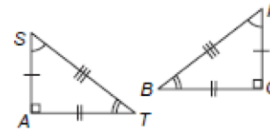
a. Find the value of x .

b. $m\angle DBC$

Example 3

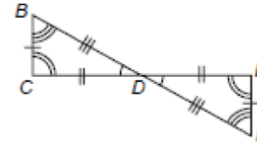
Complete each correspondence statement.

1.



$\triangle SAT \cong \triangle$ _____

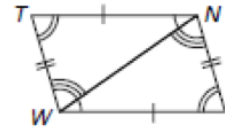
2.



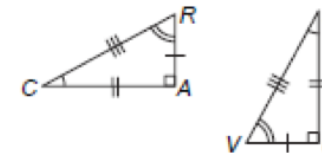
$\triangle BCD \cong \triangle$ _____

Write a congruence statement for each pair of congruent triangles.

3.



4.



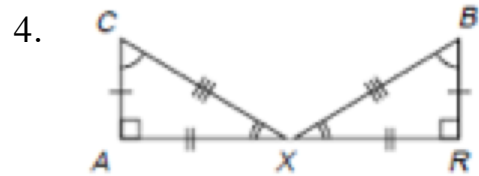


Guided Practice

Given $\triangle RST \cong \triangle ABC$. Complete each congruence statement.

1. $\angle C \cong$ _____ 2. $\angle R \cong$ _____ 3. $\overline{AC} \cong$ _____

Complete the congruence statement.



$\triangle CAX \cong \triangle$ _____

5. Given $\triangle ABC \cong \triangle DEF$, $AB = 15$, $BC = 20$, $AC = 25$, and $FE = 3x - 7$, find x . (Hint: Draw and label a picture.)



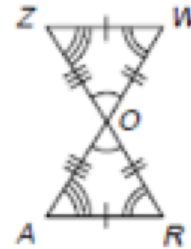
Independent Practice

Given $\triangle RST \cong \triangle ABC$. Complete each congruence statement.

1. $\overline{ST} \cong$ _____ 2. $\overline{RS} \cong$ _____ 3. $\angle B \cong$ _____

Complete the congruence statement.

4.



$\triangle ZWO \cong \triangle$ _____

5. Given $\triangle ABC \cong \triangle DEF$, $DE = 10$, $EF = 13$, $DF = 16$, and $AC = 4x -$ find x . (Hint: Draw and label a picture.)



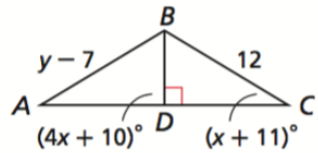
Homework

Given Polygon $CDEF \cong$ polygon $KLMN$. Identify the congruent corresponding parts.

1. $\overline{DE} \cong$ _____ 2. $\overline{KN} \cong$ _____

3. $\angle F \cong$ _____ 4. $\angle L \cong$ _____

5. Given $\triangle ABD \cong \triangle CBD$, find each value.



a. $m\angle C$

b. y

