

Name: \_\_\_\_\_ Date: \_\_\_\_\_

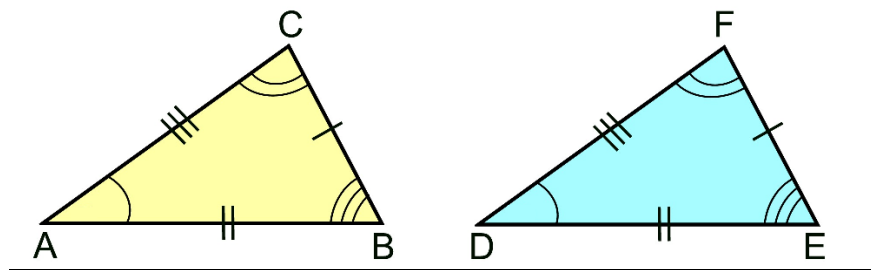
## Corresponding Parts of Congruent Triangles are Congruent

- When two triangles are \_\_\_\_\_, all corresponding parts\* of the two triangles are also \_\_\_\_\_.

\*Corresponding parts include the \_\_\_\_\_ and \_\_\_\_\_ from one triangle (the pre-image) to the next (the image).

- A \_\_\_\_\_ matches the \_\_\_\_\_ parts in the two figures by naming them in a \_\_\_\_\_ order.

### Example:



## Steps for Writing Your Congruence Statements for Triangles

**1:** Write a \_\_\_\_\_ for the two triangles, making sure to match up the \_\_\_\_\_.

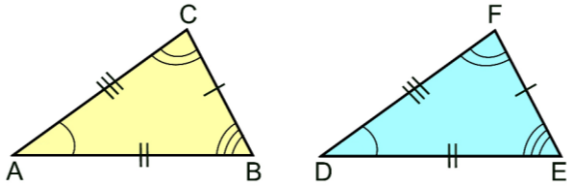
**2:** Use the \_\_\_\_\_ you just wrote to list the pairs of congruent \_\_\_\_\_.

**3:** Use the same \_\_\_\_\_ from step 1 to list the pairs of congruent \_\_\_\_\_.

\* \_\_\_\_\_

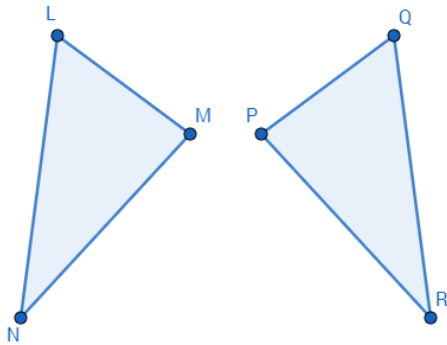
Sometimes you will need to use 3 letters to name an angle if two angles have the same vertex!

**Example one:** Use the following triangles to write a congruence statement and name the congruent parts.



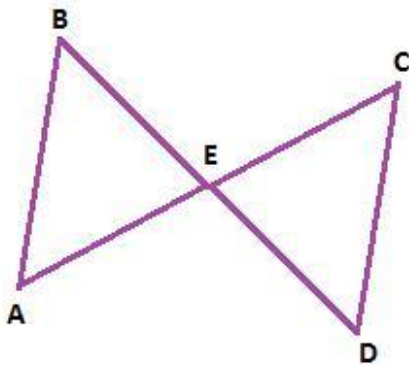
Congruence Statement: _____	
<u>Angles</u>	<u>Sides</u>

**Example two:** Use the angles and sides to mark the given triangle and write a congruence statement for the two triangles.



Congruence Statement: _____	
<u>Angles</u>	<u>Sides</u>
$\angle L \cong \angle Q$	$\overline{LM} \cong \overline{QP}$
$\angle M \cong \angle P$	$\overline{MN} \cong \overline{PR}$
$\angle N \cong \angle R$	$\overline{NL} \cong \overline{RQ}$

**Example three:** Use the congruence statement to list all congruent sides and angles. Mark the given triangles as well.



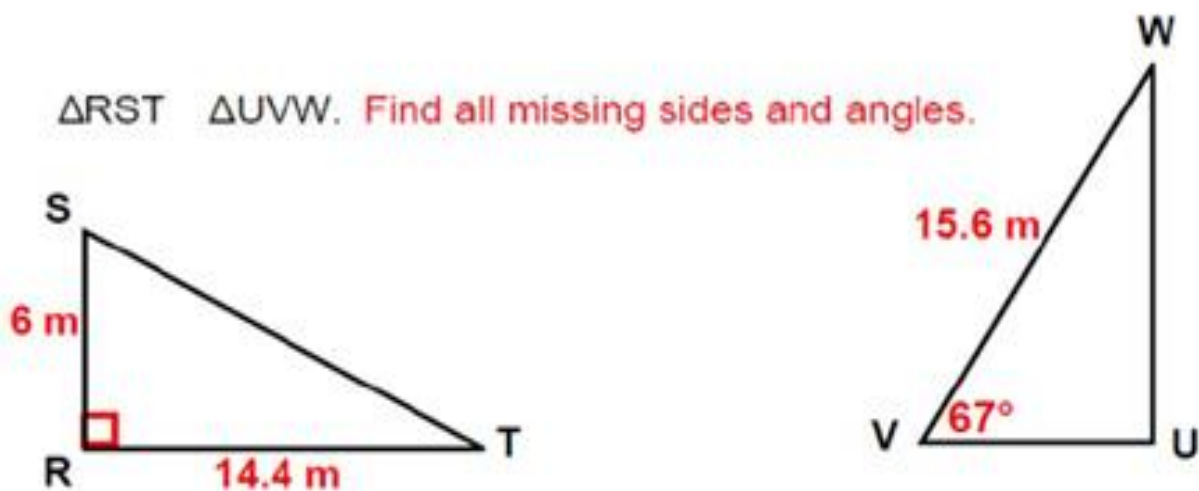
Congruence Statement: $\triangle ABE \cong \triangle CDE$	
<u>Angles</u>	<u>Sides</u>

## Corresponding Parts of Congruent Triangles are Congruent Theorem

### (CPCTC)

- **CPCTC Theorem:** If two triangles are \_\_\_\_\_, then corresponding \_\_\_\_\_ are \_\_\_\_\_ and corresponding \_\_\_\_\_ are congruent.
- **CONVERSE:** IF six pairs of corresponding \_\_\_\_\_ and corresponding \_\_\_\_\_ are congruent, THEN you can conclude that the two \_\_\_\_\_ are congruent.

### Example:



Example: For which values of  $x$  are the triangles congruent?

11.  $\triangle ABD \cong \triangle CDB$ . Find  $x$ .

