Corresponding Parts of Congruent Triangles

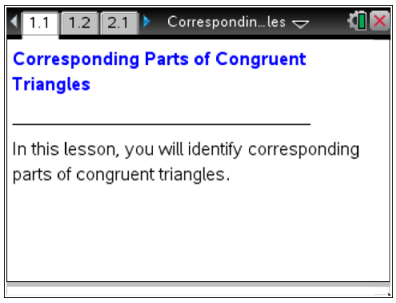
Student Activity

Name _____

Class _____

Open the TI-Nspire document
Corresponding_Parts_of_Congruent_Triangles.tns.

In this activity you will explore corresponding parts of congruent triangles and why they are important.



Move to page 1.2.

1. You have three angles and three segments. Move the angles and segments by grabbing the open and closed circles on each.
   a. What happens when you grab and move the open circle?

   b. What happens when you grab and move the closed circle?

2. Drag and rotate the segments and angles to create a triangle.
   a. Which parts did you use?

   b. Which parts were left unused? How do the unused parts relate to the triangle you created?

3. a. Use the up and down arrow at the bottom of the screen. Describe what happens.

   b. Move $\triangle ABC$ on top of the triangle you built. What relationship between the two triangles do you observe?

4. Describe how the six parts of the triangle you made relate to the parts of $\triangle ABC$.

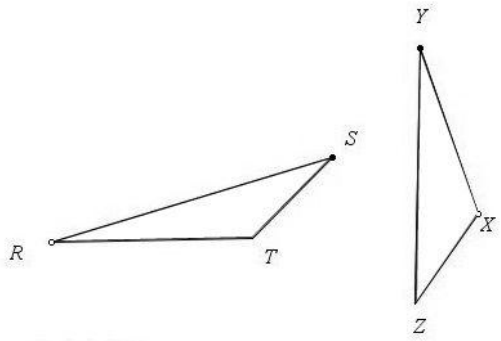
Move to page 2.1.

5. Grab the open circle and move the triangles.
   a. About which segment is $\triangle XYZ$ reflected when you use the up and down arrow?

   b. What is the relationship between the two triangles? How do you know?

   c. Identify the corresponding parts of the two triangles.

   d. Mark the triangles shown in the picture in some way to show which parts are congruent.



6. When two triangles are congruent the congruence statement is $\triangle ANR \cong \triangle DBC$ where $\angle A$ corresponds to $\angle D$, $\angle N$ corresponds to $\angle B$, and $\angle R$ corresponds to $\angle C$.
   a. Write a congruence statement for the two congruent triangles in question 5.

   b. Is this a valid statement for the two triangles? $\triangle XYZ \cong \triangle RST$. Explain why or why not.

7. Given: $\triangle SLY \cong \triangle FOX$.
   a. Identify all of the corresponding parts of the two triangles.

   b. Write all other possible congruence statements for these triangles.

8. You have identified corresponding parts of congruent triangles. How would you explain the importance of corresponding parts of congruent triangles to someone who has missed the class?