# Corresponding Parts of Similar Triangles

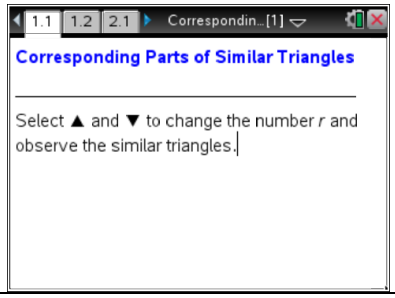
**Student Activity**

**Name** _____

**Date** _____

**Open the TI-Nspire document**
***Corresponding_Parts_of_Similar_Triangles.tns*.**

This activity asks you to change the scale factor (*r*) between similar triangles and move one of the similar triangles to find corresponding parts and establish relationships between them.




## *Move to page 1.2.*

1. The triangles pictured are similar. Select Δ and ∇ in the bottom left corner of the screen.
   a. What happens to Δ*DET* as the scale factor *r* changes?

   b. What happens to $\overline{AY}$ and $\overline{DE}$ as *r* changes?

2. Use Δ and ∇ to change *r*.
   a. What is the relationship between the two triangles when *r* = 1?

   b. What is the relationship between the two triangles when 0 < *r* < 1?

   c. What is the relationship between the two triangles when *r* > 1?

## *Move to page 2.1.*

3. a. Move point *S* around the circle. What happens to Δ*DET*?

   b. Move point *C*. What happens to Δ*DET*?

4. Move $\Delta DET$ by dragging points $S$ and $C$. Position $\Delta DET$ on top of the other triangle so that a pair of corresponding angles match up (are coincidental).

   a. List the three pairs of corresponding angles.

   b. List the three pairs of corresponding sides.

   c. Write a similarity statement for the two triangles and justify your answer.

***Move to page 3.1.***

5. Change the value of $r$ and drag copies of $\Delta AMY$. How many copies of $\overline{AY}$ would it take to cover $\overline{DE}$ when

   a. $r = 3$?

   b. $r = 0.5$?

   c. $r = 1.5$?

6. If $\overline{AY}$ is 2 units, $\overline{AM}$ is 4.25 units, and $\overline{YM}$ is 3.25 units, what are the measures of $\overline{ET}$, $\overline{DE}$, and $\overline{DT}$ when

   a. $r = 1$?

   b. $r = 0.75$?

   c. $r = 4$?