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

GeoGebra Lesson: Similar Triangles

1. Click on the toggle arrow next to **GRAPHICS** and then the **GRIDLINES** icon.



1. Click on the  icon and select **POLYGON**.
	1. Use the cursor that appears to plot the following points in order: (6,5), (7,7), (3,6), and (6,5) to complete the triangle.
2. Click the icon to input a slider and click the point (9,10) to place the slider there.
	1. Rename the slider “scale”.
	2. Change the interval from 0 to 5 and the increment to 0.25.
3. Click the  icon, then the triangle on the graph, then the icon. Choose **DILATE FROM POINT**.
	1. Place the point at (3,11). A prompt will appear. Type in “scale” as the factor.



1. Move the slider around. What happens? What does it mean to scale?



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1. Set the slider to 0.5. Find the measures of the corresponding sides of each triangle.

measure a = \_\_\_\_\_\_\_\_\_\_ measure a’ = \_\_\_\_\_\_\_\_\_\_

measure b = \_\_\_\_\_\_\_\_\_\_ measure b’ = \_\_\_\_\_\_\_\_\_\_

measure c = \_\_\_\_\_\_\_\_\_\_ measure c’ = \_\_\_\_\_\_\_\_\_\_

What do you notice about the relationship between corresponding sides?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If two triangles are similar, then all three sets of corresponding sides are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**This is called the Side-Side-Side (SSS) Theorem for Similar Triangles.**

1. Click the  icon. Choose **ANGLE**.
	1. Click point B, then point A, and then point C. m <A=\_\_\_\_\_\_\_\_\_
	2. Click point B’, then point A’, and then point C’. m <A’=\_\_\_\_\_\_\_\_\_
		1. m <A and m <A’ are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
	3. Click point A, then point C, and then point B. m <B=\_\_\_\_\_\_\_\_\_
	4. Click point A’, then point C’, and then point B’. m <B’=\_\_\_\_\_\_\_\_\_
		1. m <B and m <B’ are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

If two triangles are similar, then two sets of corresponding angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**This is called the Angle-Angle (AA) Theorem for Similar Triangles.**

Examples:

1. Use SSS to show the triangle with coordinates (-1,2), (-4,1), (1,-1) is similar to the triangle with coordinates (-3,-2), (-9,-4), (1,-8).
2. Using the triangles from example 1, use AA to show they are similar.
3. Find a similar triangle to a triangle with points (1,2), (3,4), and (4,1). Show it is similar using SSS and AA.
4. Find two triangles which are similar by a scale of 1.5.