Right Triangle Trigonometry Exploratory Activity Questions

1. Drag point A to change the size of the figure. Record 3 different side measurements for the triangle (this means you are making 3 right triangles of different sizes).

	Triangle 1 Measurements	Triangle 2 Measurements	Triangle 3 Measurements
Small Leg Length			
Long Leg Length			
Hypotenuse Length			

2. Are the triangles that you created similar? If so, explain how you know they are similar. If not, explain why not.

3. For Triangle 1, Triangle 2, and Triangle 3, record the ratio of sides between BC and BA. What do you notice about these ratios? (Give fraction and decimal forms for each.)

Triangle 1 Ratio	Triangle 2 Ratio	Triangle 3 Ratio
$\dfrac{BC}{BA} =$	$\dfrac{BC}{BA} =$	$\dfrac{BC}{BA} =$
Decimal Form:	Decimal Form:	Decimal Form:

4. For Triangle 1, Triangle 2, and Triangle 3, record the ratio of sides between CA and BA. What do you notice about these ratios? (Give fraction and decimal forms for each.)

Triangle 1 Ratio	Triangle 2 Ratio	Triangle 3 Ratio
$\dfrac{CA}{BA} =$	$\dfrac{CA}{BA} =$	$\dfrac{CA}{BA} =$
Decimal Form:	Decimal Form:	Decimal Form:

5. For Triangle 1, Triangle 2, and Triangle 3, record the ratio of sides between BC and CA. What do you notice about these ratios? (Give fraction and decimal forms for each.)

Triangle 1 Ratio	Triangle 2 Ratio	Triangle 3 Ratio
$\dfrac{BC}{CA} =$	$\dfrac{BC}{CA} =$	$\dfrac{BC}{CA} =$
Decimal Form:	Decimal Form:	Decimal Form:

6. Check with 3 classmates to see if they have answers for 3 – 5 that are similar to yours. (Write the name of the students you checked with along with whether you observed the same things or not.)

7. In similar right triangles, what can be concluded about the ratio of the opposite side of the acute angle and the hypotenuse?

8. In similar right triangles, what can be concluded about the ratio of the adjacent side of the acute angle and the hypotenuse?

9. In similar right triangles, what can be concluded about the ratio of the opposite side of the acute angle and the adjacent side of the acute angle?