Name: _____

Class/Block: _____ Date: _____

<div style="border: 2px solid green; text-align: center;">

Exploration: Similar Triangles (LAL)

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Part I. Introduction

In this exploration you will explore properties of similar triangles.

- ☐ Similar triangles have the same shape but can be different sizes.
- ☐ Corresponding angles of the two triangles have the same measure
- ☐ Corresponding sides of the two triangles are proportional

<u>Directions:</u>

Step 1: Launch the Similarity of Triangles (LAL) applet

http://teachers.henrico.k12.va.us/math/GeoGebraPages08/Similar_Triangles02.html

a) Leave the "Degree of similarity" slider set to 1
b) Observe the two triangles provided

Degree of similarity

h = 1
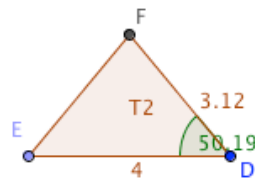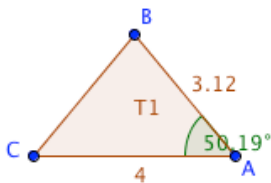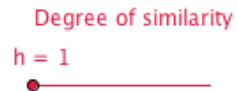
Step 2: Set up the ratios provided. Fill in the lengths of the sides. Answer the associated questions.
Complete the angle provided. Fill in the measure. Answer the associated question.

	Triangle 1	Triangle 2	Questions
1)	a) $\dfrac{AB}{DF} = $ ____	$\dfrac{AC}{DE} = $ ____	How do the two ratios compare?
	b) $\angle CAB = $	$\angle EDF = $	What do you notice about the two angles? ($\angle$CAB and $\angle$EDF)
Click on the point C and move it. Fill in the new values.			
2)	a) $\dfrac{AB}{DF} = $ ____	$\dfrac{AC}{DE} = $ ____	How do the two ratios compare?
	b) $\angle CAB = $	$\angle EDF = $	What do you notice about the two angles? ($\angle$CAB and $\angle$EDF)

c) What do you notice about the two triangles? Are they the same size? Shape?

Move the slider so h is equal to 2.
Fill in the new values.

Degree of similarity
h = 2

3)	a) $$\frac{AB}{DF} = \underline{\quad}$$	$$\frac{AC}{DE} = \underline{\quad}$$	How do the two ratios compare now?
	b) $\angle CAB =$	$\angle EDF =$	What do you notice about the two angles? ($\angle$CAB and $\angle$EDF)
	c) $\overline{AC} =$	$\overline{DE} =$	What do you notice about the lengths of $\overline{AC}$ and $\overline{DE}$? How do they compare?

Move the slider so h is equal to 3.
Fill in the new values.

Degree of similarity
h = 3

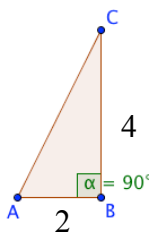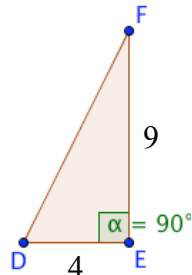| **4)**	a) $$\frac{AB}{DF} = \underline{\quad}$$	$$\frac{AC}{DE} = \underline{\quad}$$	How do the two ratios compare now?
	b) $\angle CAB =$	$\angle EDF =$	What do you notice about the two angles? ($\angle$CAB and $\angle$EDF)
	c) $\overline{AC} =$	$\overline{DE} =$	What do you notice about the lengths of $\overline{AC}$ and $\overline{DE}$? How do they compare?

5) Look at the following pairs of triangles. Using you experience above, determine if these triangles are similar:

a)	b)	Are they similar or not? Explain how you know.