

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

Class/Block: \_\_\_\_\_ Date: \_\_\_\_\_

## Exploration: Similar Triangles Activity

### Part I. Introduction

In this exploration you will use the proportional sides property of similar triangles to find sides of similar triangles.

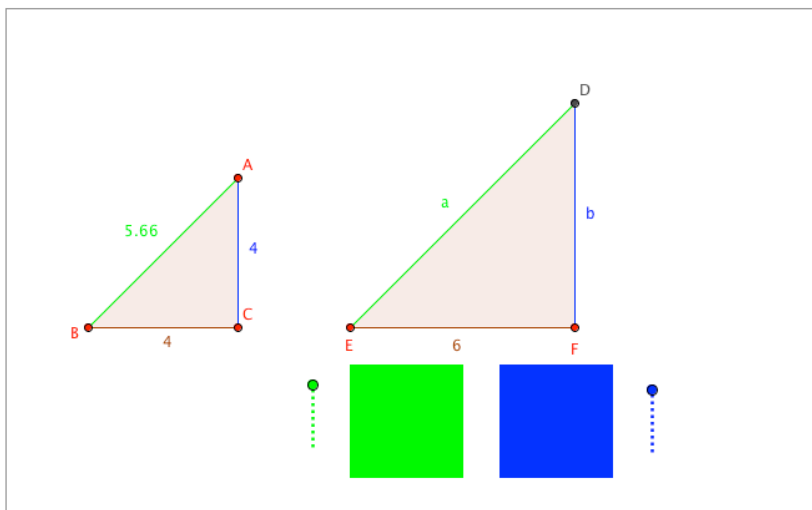
#### Directions:

**Step 1: Launch the “Missing lengths in similar triangles” applet**

[http://206.110.20.132/~dhabecker/geogebraHTML/missing\\_similar\\_triangles/missing\\_similar\\_triangles.html](http://206.110.20.132/~dhabecker/geogebraHTML/missing_similar_triangles/missing_similar_triangles.html)

- a) Set up the proportions provided on the given triangles.
- b) Solve the proportion
- c) Check the solutions

### Missing lengths in similar triangles



#### DIRECTIONS:

1.  $\triangle ABC$  and  $\triangle DEF$  are similar triangles.
2. Move the red points to change the shape of the two triangles.
3. Create proportions to find the values for the missing lengths  $a$  and  $b$  and then solve the proportions.
4. Use the green and blue sliders to reveal a proportion and the answer.

Duane Habecker, 4/8/07, Created with [GeoGebra](http://www.geogebra.org)

#### Example:

$$\frac{AC}{BC} = \frac{4}{4} \quad \frac{DF}{FE} = \frac{b}{6} \quad \frac{4}{4} = \frac{b}{6}$$

$$(4)(6) = (4)b$$

$$24 = 4b$$

$$\frac{24}{4} = b$$

$$6 = b$$

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**Step 2: Set up the ratios provided.** Fill in the lengths of the sides. Solve for the missing value

	Triangle 1	Triangle 2	Solve
1)	a) $\frac{AC}{BC} = \frac{DF}{FE}$	___ = ___	
	b) $\frac{AB}{BC} = \frac{DE}{EF}$	___ = ___	

**Move the sliders to move the boxes and check your answers.**

**Move point A. Set up the new proportions. Solve.**

2)	a) $\frac{AC}{BC} = \frac{DF}{FE}$	___ = ___	
	b) $\frac{AB}{BC} = \frac{DE}{EF}$	___ = ___	

**Move the sliders to move the boxes and check your answers.**

**Move point A. Set up the new proportions. Solve.**

3)	a) $\frac{AC}{BC} = \frac{DF}{FE}$	___ = ___	
	b) $\frac{AB}{BC} = \frac{DE}{EF}$	___ = ___	

**Move the sliders to move the boxes and check your answers.**

**Move point A. Set up the new proportions. Solve.**

4)	a) $\frac{AC}{BC} = \frac{DF}{FE}$	___ = ___	
	b) $\frac{AB}{BC} = \frac{DE}{EF}$	___ = ___	

