A ratio uses division to compare two quantities.

A proportion is an equation that states that two ratios are equivalent.

In this activity, you will explore two different ways to compare similar triangles.

Problem 1 – Ratios of corresponding sides

In Cabri Jr. open the file **RATIO**.  $\triangle ABC$  is similar to  $\triangle DEF$ .

Find the lengths of the sides using the **D. & Length** tool from the Measure menu.

Then use the Calculate tool to find the ratios below.

 $\frac{AB}{DE}$ 

 $\frac{BC}{FF}$ 

 $\frac{AC}{DE}$ 

1. What do you notice about the values of the ratios?

**2.** Use the point on the slider to change the size of  $\Delta DEF$ . What do you notice about the ratios?

**3.** Move points A, B, or C. What do you notice about the ratios?

**4.** Using the letters of the triangles, write a proportion comparing the lengths of corresponding sides.

## Problem 2 – Ratios of two sides of a triangle

Use the Clear > Object command to delete the ratios you found in Problem 1.

Then use the Calculate tool to find the ratios below.

$\frac{AB}{BC}$	$\frac{BC}{AC}$	$\frac{AC}{AB}$
<u>DE</u>	<u>EF</u>	DF
EF	DF	DE

**5.** What do you notice about the the ratios?

**6.** Use the slider to change  $\triangle DEF$ . What do you notice about the ratios?

7. Move points A, B, and C. What do you notice about the ratios?

**8.** Write proportions using the ratios (in letter form).