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

On page 1.4, two triangles are shown. $\triangle \boldsymbol{A}$ is similar to $\triangle \boldsymbol{B}$.

Find the lengths of the sides using the **Length** tool. Then use the **Calculate** tool to find the ratios shown on the page.

$$\frac{A_1A_2}{B_1B_2} \qquad \frac{A_2A_3}{B_2B_3} \qquad \frac{A_1A_3}{B_1B_3}$$

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

2. Use the up and down arrows at the top of the page to change the size of $\triangle \boldsymbol{B}$. What do you notice about the ratios?

3. Move points A_1, A_2, or A_3. What do you notice about the ratios?

4. Write a proportion comparing the lengths of corresponding sides. (Use the ratios found on page 1.4).

Problem 2 – Ratios of two sides of a triangle

On page 2.2, two triangles are shown. △***A*** is similar to △***B***.

Find the lengths of the sides using the **Length** tool. Then use the **Calculate** tool to find the ratios shown on the page.

$\frac{A_1A_2}{A_2A_3}$ $\frac{A_2A_3}{A_1A_3}$ $\frac{A_1A_3}{A_1A_2}$

$\frac{B_1B_2}{B_2B_3}$ $\frac{B_2B_3}{B_1B_3}$ $\frac{B_1B_3}{B_1B_2}$

5. What do you notice about the ratios?

6. Use the up and down arrows at the top of the page to change △***B***. What do you notice about the ratios?

7. Move points A_1, A_2, or A_3. What do you notice about the ratios?

8. Write proportions using the ratios (in letter form) from page 2.2.