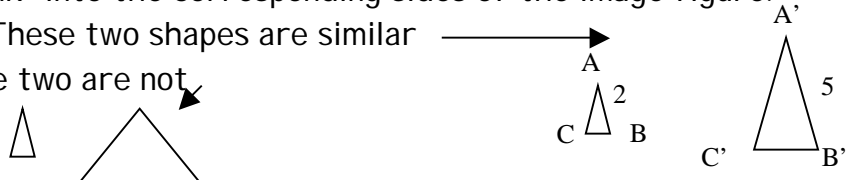


## Notes: Stretching and Shrinking

<p>What does similar mean?</p>	<p>Similar figures have the same shape. The two shapes corresponding angles have to be equal, and the ratios of all corresponding sides must be equal. This ratio, <i>image length/original length</i>, compares a side in the image to its corresponding side in the original. This means there is a single scale by which all sides of the original figure "stretch" or "shrink" into the corresponding sides of the image figure.</p> <p>Ex: These two shapes are similar <math>\longrightarrow</math></p> <p>These two are not <math>\swarrow</math></p> 
<p>What are corresponding sides/angles?</p>	<p>Corresponding sides and angles have the same relative position in similar figures.</p> <p>Ex. In the shapes above Angle A corresponds to Angle A', and Side AB corresponds to Side A'B'</p>
<p>What are congruent figures?</p>	<p>Two shapes that have corresponding angles that are equal and corresponding sides of the same length. <i>They are exactly the same.</i></p>
<p>What's the difference between corresponding and congruent?</p>	<p>Corresponding sides are similar (meaning they could be different lengths, but all the same ratio (if one side is twice as long, all sides are twice as long)) while congruent sides are exactly the same.</p> <p>Corresponding angles and congruent angles are exactly the same.</p>
<p>What needs to happen in the rule for 2 figures to be similar?</p>	<p>Both the x and the y in the rule need to be multiplied by the same number. That number represents how many times longer the lengths of all the lines will become. All angles will stay exactly the same.</p>
<p>What happens when I multiply by the x variable?</p>	<p>The width of the image will change according to the number multiplied by the x variable.</p>
<p>What happens when I multiply by the y variable?</p>	<p>The height of the image will change according to the number multiplied by the y variable.</p>
<p>What happens when I add to or subtract from the x variable?</p>	<p>The image will move left or right because the x-axis is horizontal.</p> <p>Adding moves the image to the right.</p> <p>Subtracting moves the image to the left.</p>
<p>What happens when I add to or subtract from the y variable?</p>	<p>The image will move up or down because the y-axis is vertical.</p> <p>Adding moves the image up.</p> <p>Subtracting moves the image down.</p>

