Notes: Stretching and Shrinking

What does similar	Similar figures have the same shape. The two shapes	
mean?	corresponding angles have to be equal, and the ratios of all	
	corresponding sides must be equal. This ratio, image	
	length/original length, 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.	
	Ex: These two shapes are similar	
	These two are not $\begin{pmatrix} & & & & \\ & & & $	
What are	Corresponding sides and angles have the same relative position	
corresponding	in similar figures.	
sides/angles?	Ex. In the shapes above Angle A corresponds to Angle A', and Side AB corresponds to Side A'B'	
What are congruent	Two shapes that have corresponding angles that are equal and	
figures?	corresponding sides of the same length. They are exactly the	
<b>o</b>	same.	
What's the	Corresponding sides are similar (meaning they could be	
difference between		
corresponding and	long, all sides are twice as long)) while congruent sides are	
congruent?	exactly the same.	
	Corresponding angles and congruent angles are exactly the same.	
What needs to happen	Both the x and the y in the rule need to be multiplied by the	
in the rule for 2	same number. That number represents how many times longer	
figures to be similar?	the lengths of all the lines will become. All angles will stay	
	exactly the same.	
What happens when I	The width of the image will change according to the number	
multiply by the x	multiplied by the x variable.	
variable?		
What happens when I	The height of the image will change according to the number	
multiply by the y	multiplied by the y variable.	
	martiplied by the y variable.	
variable?	martiplied by the y variable.	
variable? What happens when I	The image will move left or right because the x-axis is	
What happens when I	The image will move left or right because the x-axis is	
What happens when I add to or subtract	The image will move left or right because the x-axis is horizontal.  Adding moves the image to the right.  Subtracting moves the image to the left.	
What happens when I add to or subtract from the x variable?  What happens when I	The image will move left or right because the x-axis is horizontal.  Adding moves the image to the right.  Subtracting moves the image to the left.  The image will move up or down because the y-axis is vertical.	
What happens when I add to or subtract from the x variable?	The image will move left or right because the x-axis is horizontal.  Adding moves the image to the right.  Subtracting moves the image to the left.	

What is a ratio? A' $ \begin{array}{ccc} A & & & \\ C & & & \\ C & & & \\ \end{array} $ $ \begin{array}{cccc} A & & & \\ C' & & & \\ B' & & \\ \end{array} $	A ratio is a comparison of two quantities that tells the scale between them.  Ex. If side AB equals 2 and side A'B' equals 5 then the ratio of the small one to the big one is 2/5.		
What is a scale factor? $ \begin{array}{cccccccccccccccccccccccccccccccccc$	It's the ratio of the lengths of similar figures. The Scale Factor from triangle ABC (original) to A'B'C' (image) would be 5/2 (image/original) and the scale factor from A'B'C' (image) to ABC (original) would be 2/5 (original/image). The two scale factors are reciprocals of one another meaning you just flip the fraction. The scale factor can be used to find any other length now.  For example side BC is 3/4 and the scale factor from the original to the image is 5/2 so the original length (3/4) x the scale factor (5/2) is 15/8 = 1-7/8 = the value of x  Take the length of one side of your destination figure and put it		
the scale factor?	over the length of the corresponding side of the original figure. (Always reduce to lowest terms)		
What does a scale factor of 1, less than 1, greater than 1 mean?	1: The two figures are exactly the same less than 1: The image is smaller than the original greater than 1: The image is larger than the original		
How does scale factor effect area and volume?	The difference in area is going to be the scale factor squared, while the difference in volume is going to be the scale factor cubed.		
Who is the greatest 7 <sup>th</sup> grade math teacher?	Mr. Dick		
When can I get extra help for math?	Study hall, lunch, after school, before school. Make an appointment when possible.		
How can I get a better grade in math?	Participate in class!!!  Do homework.  Work with your group.  Come in after some in af	uietly	
	Study for tests and quizzes. 3pts. Get & Ask questions. 4pts. Give h Come prepared for class. Pts. Go toward Do extra credit.	give help nelp s group work grade	
What's my favorite class?	math math math math math math math math	nath math math math math	