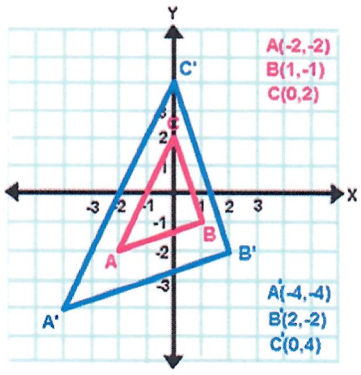
Transformations Vocabulary Match Game



STANDARD: **TEKS 8.3(C):** Use an algebraic expression to explain the effect of a given positive rational scale factor applied to two-dimensional figures on a coordinate plane with the origin as the center of dilation.
TEKS 8.10(C): Explain the effect of translations, reflections over the x- and y-axis, and rotations as applied to two-dimensional shapes on a coordinate plane using an algebraic representation.

MATERIALS: 1 set of cards, different color cards for terms, definitions, and images
Paper and Pencil
Recording Sheet
Answer Key

DIRECTIONS:

1. Arrange the cards face down in an array so that student pairs can reach them.
2. Have a pair of students turn over two of the cards and try to determine if the cards are a match. (Pairs take turns turning over a card.)
3. Other pairs share whether or not they agree. Discussion is encouraged by the teacher or the Leader.
4. If there is a match, then the pair gets to keep the cards. If there is not a match, then the cards remain face up.
5. When a match of two cards is made, then the two cards may be set in front of the pair. They must FIND THE **REMAINING TWO CARDS** to complete the set.
6. If a player turns over a card that matches another pair's 2-card or 3-card set, they may "steal" the pair's cards and keep the match.
7. Continue with the remaining cards.
8. All players complete the recording sheet.

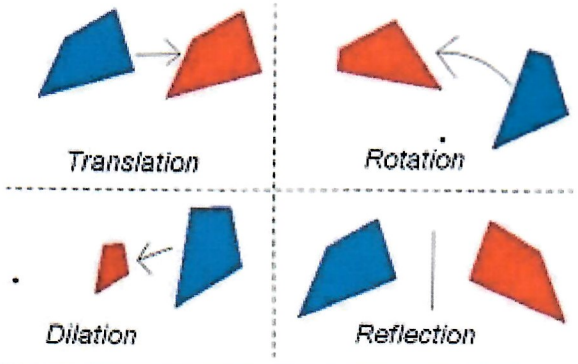
Challenge: Create new sets of cards.

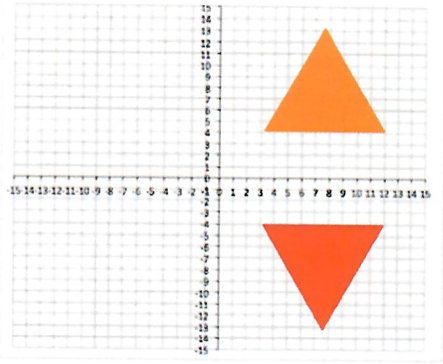
RTABORTATION

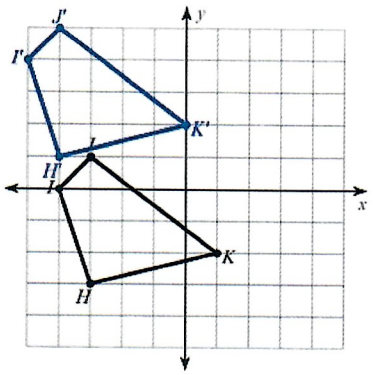
A number that can be expressed as p/q, where p and q are both integers and $q \neq 0$	rational number
The ratio between corresponding measurements of an object and a representation of that object	scale factor
A two-dimensional plane formed by the intersection of two number lines	coordinate plane
The point of intersection of the x and y axis with the coordinates of (0,0)	origin
A transformation, which is used to resize the object	dilation

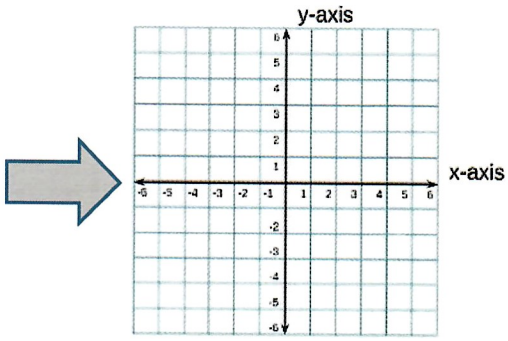
Describes how two-dimensional figures move around a coordinate plane	transformation
Moves a shape left, right, up, or down but does not turn. The translated shapes are congruent.	translation
A transformation that spins a shape around a point.	rotation
A transformation representing a flip of a figure.Reflected in a point, a line, or a plane.	reflection
Having corresponding congruent angles; the ratios of the lengths of corresponding sides are equal	similar

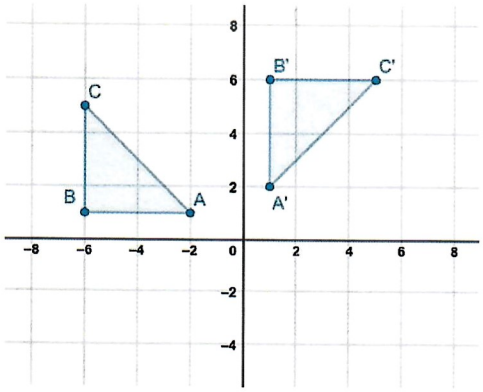
The line on a graph that runs horizontally (left-right) through zero	*x axis*
The line on a graph that runs vertically (up-down) through zero	y axis
When the scale factor of a dilation is greater than 1	enlargement
When the scale factor of a dilation is less than 1	reduction
Exactly equal shape and size	congruent

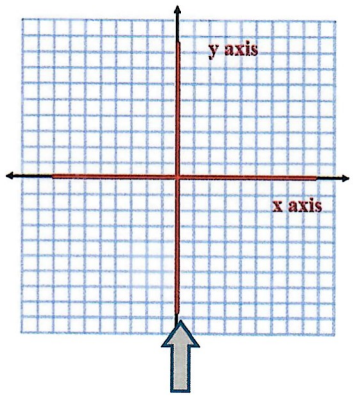


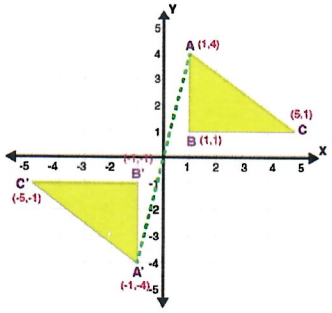


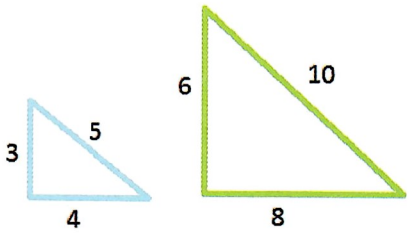


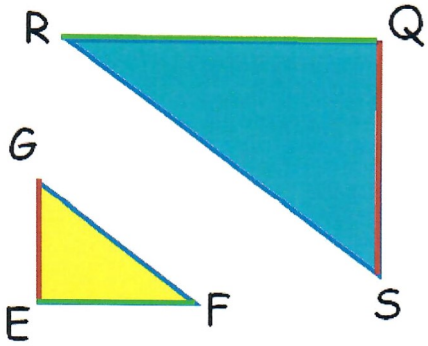




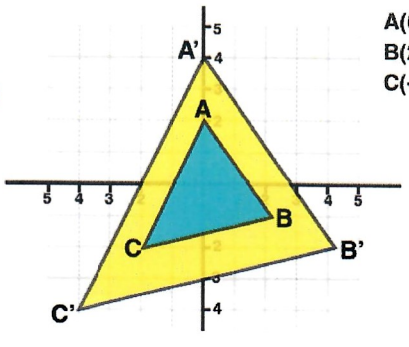








A'(0,4)
B'(4,-2)
C'(-4,-4)



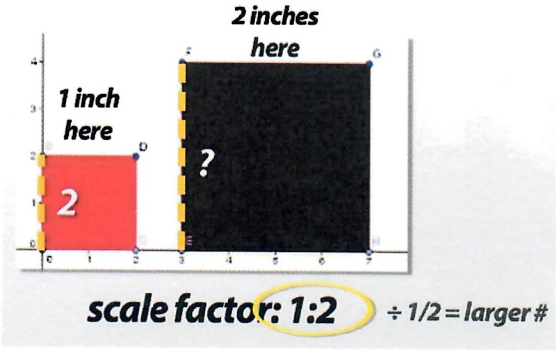
A(0,2)
B(2,-1)
C(-2,-2)

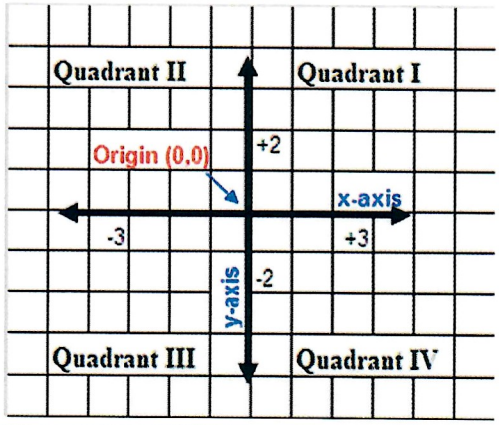
What is a rational number?

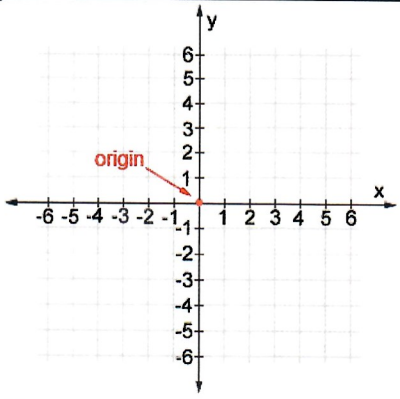
$\frac{a}{b}$ ← integers, $b \neq 0$

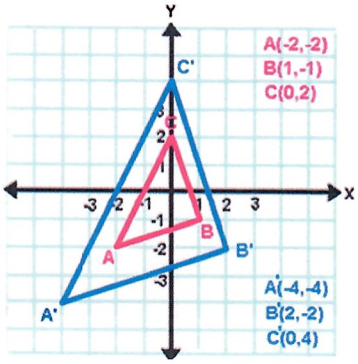
Rational Number: 5 $-1\frac{2}{5}$ 0.25 $0.66\overline{6}$

Fractional Form: $\frac{5}{1}$ $-\frac{7}{5}$ $\frac{1}{4}$



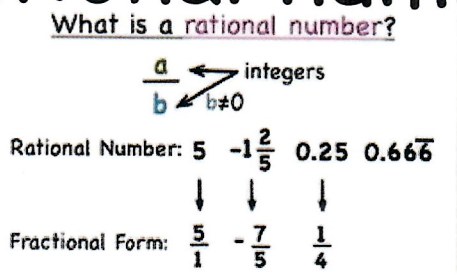






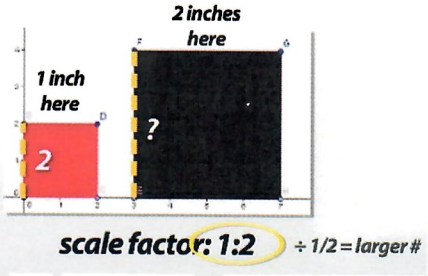
A number that can be expressed as p/q, where p and q are both integers and q ≠ 0

rational number



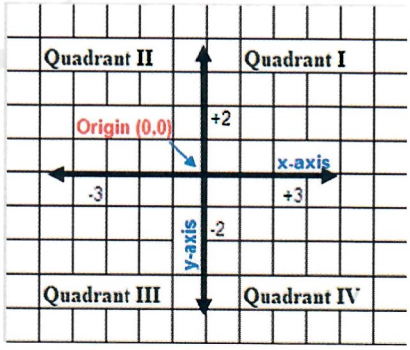
The ratio between corresponding measurements of an object and a representation of that object

scale factor



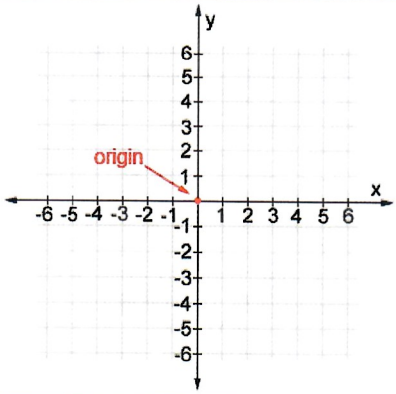
A two-dimensional plane formed by the intersection of two number lines

Coordinate plane



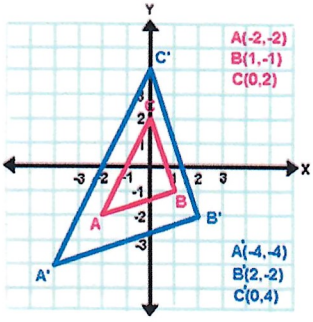
The point of intersection of the x and y axis with the coordinates of (0,0)

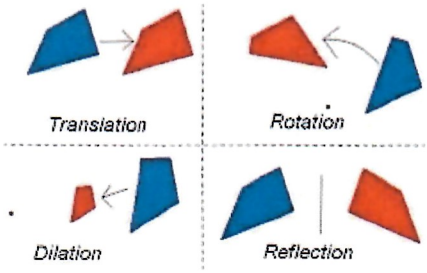
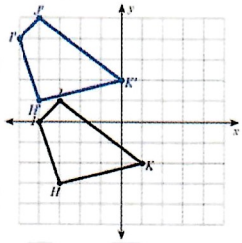
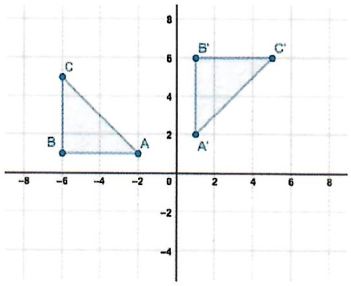
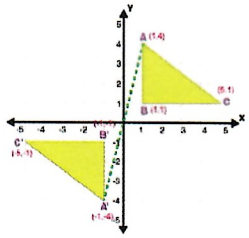
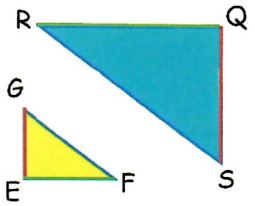
origin

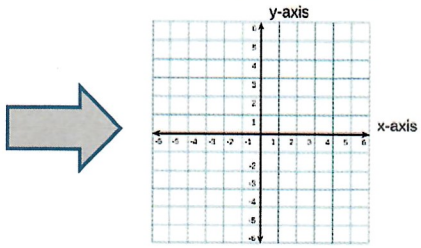
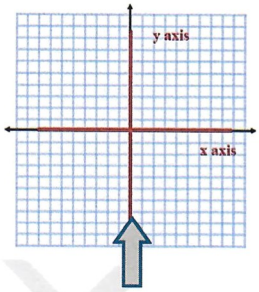
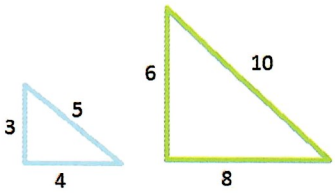
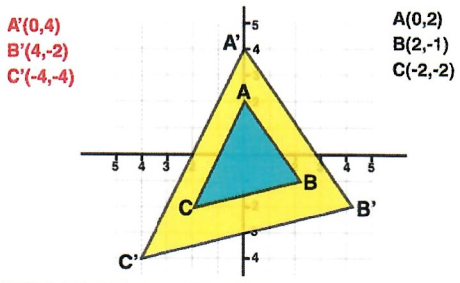
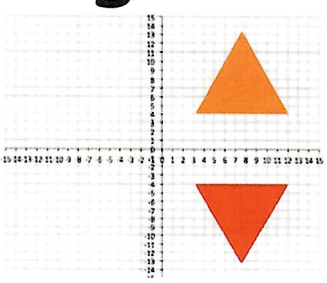


A transformation, which is used to resize the object

dilation



Describes how two-dimensional figures move around a coordinate plane	transformation 
Moves a shape left, right, up, or down but does not turn. The translated shapes are congruent.	translation 
A transformation that spins a shape around a point.	rotation 
A transformation representing a flip of a figure.Reflected in a point, a line, or a plane.	reflection 
Having corresponding congruent angles; the ratios of the lengths of corresponding sides are equal	similar 

The line on a graph that runs horizontally (left-right) through zero	x axis 
The line on a graph that runs vertically (up-down) through zero	y axis 
When the scale factor of a dilation is greater than 1	enlargement 
When the scale factor of a dilation is less than 1	reduction 
Exactly equal shape and size	congruent 

Name:_____ Transformations Vocabulary Match Game, RECORDING SHEET

Select 4 of the terms you matched. Create a different icon to help someone remember the term.

What are the two most important math concepts to remember from this game? Why?

Name

Transformations Vocabulary Match Game

Circle the correct solution. Show your work next to the problem.

Trapezoid *WKRP* was translated 4 units to the left and 5 units up on a coordinate grid to create trapezoid *W'K'R'P'*. Which rule describes this transformation?

A $(x, y) \rightarrow (x - 4, y + 5)$

B $(x, y) \rightarrow (x + 4, y - 5)$

C $(x, y) \rightarrow (x + 4, y + 5)$

D $(x, y) \rightarrow (x - 4, y - 5)$

Triangle 1 is dilated by a scale factor of 4.1 using the origin as the center of dilation to create Triangle 2. Which statement about the area and perimeter of Triangle 2 is true?

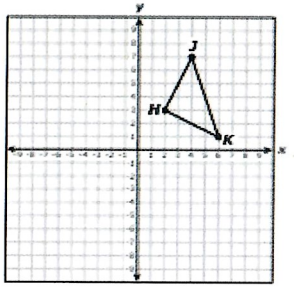
Ⓐ The perimeter is 4.1 times the perimeter of Triangle 1, and the area is 4.1 times the area of Triangle 1.

Ⓑ The perimeter is 8.2 times the perimeter of Triangle 1, and the area is 8.2 times the area of Triangle 1.

Ⓒ The perimeter is 4.1 times the perimeter of Triangle 1, and the area is 16.81 times the area of Triangle 1.

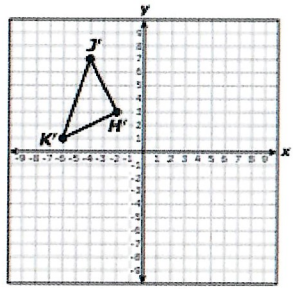
Ⓓ The perimeter is 16.4 times the perimeter of Triangle 1, and the area is 16.81 times the area of Triangle 1.

Triangle *HJK* is graphed on the coordinate grid. Triangle *HJK* will be transformed using the rule $(x, y) \rightarrow (-x, y)$ to create triangle *H'J'K'*.

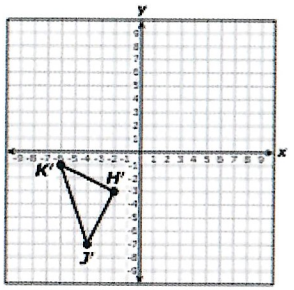


Which graph represents triangle *H'J'K'*?

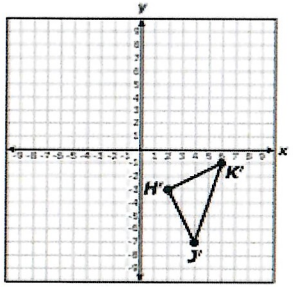
A



C



B



D