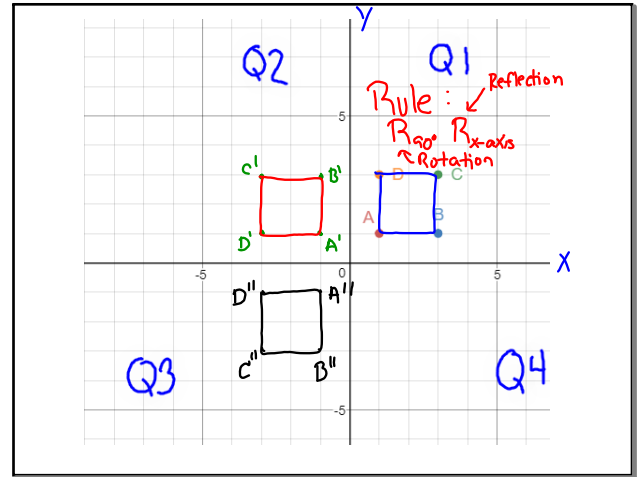


August 6, 2018

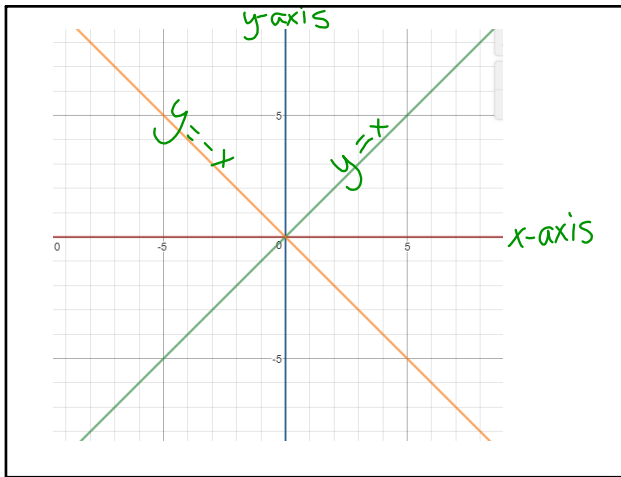
Rotate a square located at (1,1) (3,1) (3,3) and (1,3) in to quadrant 2, then reflect the square across the x-axis. Write a rule for the transformations.

Today -
geogebra reflection
find the $x = y$ line & the $x = -y$ line
reflect over these lines
Study Guide for tomorrow's quiz

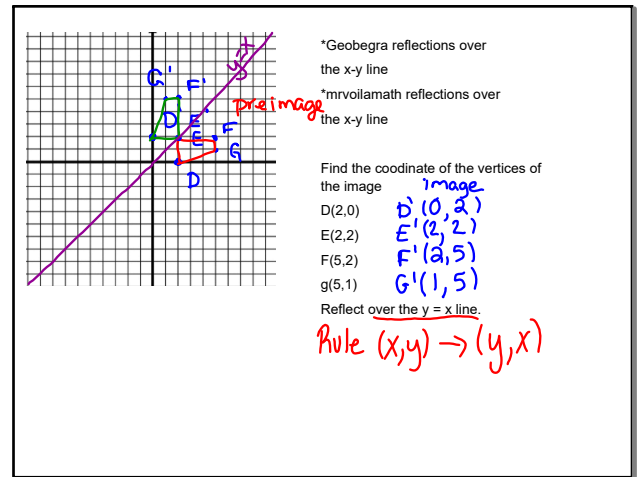


Aug 6-7:45 AM

Aug 6-11:57 AM



Aug 6-12:17 PM

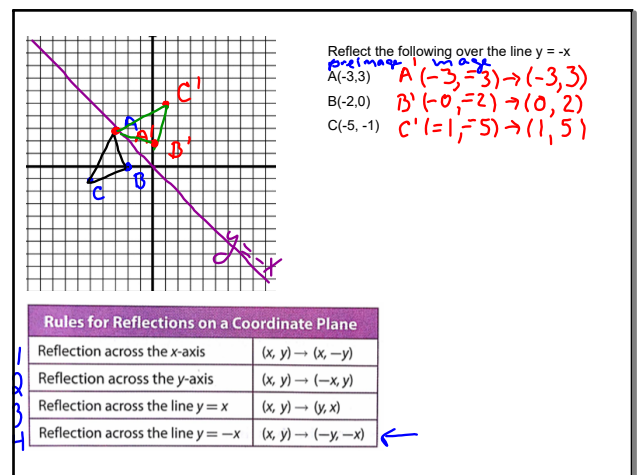


Aug 6-7:50 AM

Explain 2 Drawing Reflections on a Coordinate Plane

The table summarizes coordinate notation for reflections on a coordinate plane.

Rules for Reflections on a Coordinate Plane	
Reflection across the x-axis	$(x, y) \rightarrow (x, -y)$
Reflection across the y-axis	$(x, y) \rightarrow (-x, y)$
Reflection across the line $y = x$	$(x, y) \rightarrow (y, x)$
Reflection across the line $y = -x$	$(x, y) \rightarrow (-y, -x)$

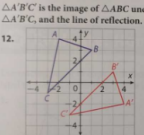


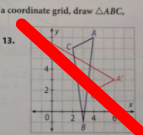
Aug 6-12:20 PM

Aug 6-7:52 AM

Your Turn

$\triangle A'B'C'$ is the image of $\triangle ABC$ under a reflection. On a coordinate grid, draw $\triangle ABC$, $\triangle A'B'C'$, and the line of reflection.

12. 

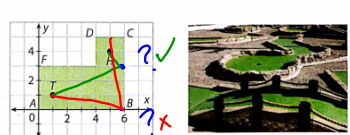
13. 

Aug 6-7:55 AM

Explain 4 Applying Reflections

Example 4

The figure shows one hole of a miniature golf course. It is not possible to hit the ball in a straight line from the tee T to the hole H . At what point should a player aim in order to make a hole in one?



Aug 6-8:00 AM

August 7, 2018

Eyeopener:

Translate point $(3,-7)$ using rule $(x - 10, y + 5)$.
 Where is the image? $(3-10, -7+5) \rightarrow (-7, -2)$
 Write the vector for the mapping. $\langle -10, 5 \rangle$

preimage

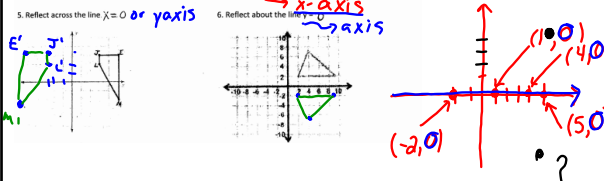
$T_{-10, 5}$
 Vector $\langle -10, 5 \rangle$

Aug 7-7:43 AM

Unit 1 **Translations & Reflections**

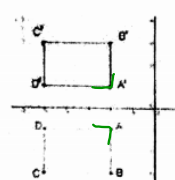
Describe the transformation.

- Given $A = (5, 4)$, describe the transformation if $A' = (0, 0)$. $(x-5, y-4)$
- Given $C = (3, -2)$, describe the transformation if $C' = (-12, 32)$. $(x+15, y+34)$
- Given $A = (3, -5)$, where would A' be if $T(x-3, y+4)$ occurred? $(0, -1)$
- Given $A = (5, 4)$, where would A' be if it was reflected over the line $y=0$? $(5, -4)$
- Reflect across the line $x=0$ or **y-axis**.
- Reflect about the line **x-axis**.



Aug 6-1:50 PM

True or False: Circle the correct answer. 7-11

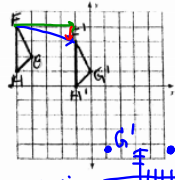


- True or **False** 7. Quadrilateral $A'B'C'D'$ is the pre-image.
- True or **False** 8. $AA' \neq AA'$
- True or **False** 9. Quadrilateral $ABCD$ is congruent to the quadrilateral $A'B'C'D'$. *the same*
- True or **False** 10. The transformation shown is not a reflection.
- True or **False** 11. Quadrilateral $ABCD$ was **rotated** to create quadrilateral $A'B'C'D'$. *ec*

Aug 6-1:51 PM

12 Write a translation rule to describe the transformation.

$T(x, y) = (x+4, y-1)$



13. Given $G = (4, 3)$ and $G' = (-4, 3)$, what is the line of reflection? **y-axis**

14. A figure is transformed by $T(x+4, y-2)$ and then transformation by $T(x+1, y-3)$. How does the original pre-image relate to the final image after both transformations?
 $(x+5, y-5)$

Aug 6-1:52 PM

Rule $(x+2, y+4)$

15 Point $P(2,3)$ has been translated to $P'(4,7)$. Where will point $Z(4,7)$ be located after the same translation?

a. $Z'(8,9)$ b. $Z'(6,11)$ (circled)
 c. $Z'(0,5)$ d. $Z'(11,6)$

16. Graph the composition of transformations.

5 Bonus Points: Factor and solve the following quadratic equation: $x^2 - 3x - 4 = 0$

$$(x+1)(x-4) = 0$$

$$\begin{array}{r} x+1=0 \\ -1 \quad -1 \\ \hline x = -1 \end{array} \quad \begin{array}{r} x-4=0 \\ +4 \quad +4 \\ \hline x = 4 \end{array}$$

Aug 6-1:52 PM

Quiz!

$$x^2 + 2x + 4 = 0$$

4x

Aug 7-7:43 AM

August 8, 2016

Eyeopener: Highly missed problems from the quiz....try them today!

3. Given $A = (0, 3)$, where would A' be if $T(x+2, y-14)$ occurred? $5, -19$

4. Given $A = (5, 4)$, where would A' be if it was reflected over the line $x=0$? $-5, 4$

5. Reflect across the line $y=0$ x -axis

6. Reflect about the line $x=0$ y -axis

Aug 7-2:55 PM

p 78 copy into your notebooks the first 4 lines of text

Let's investigate some Geometry rotations around the 'origin.'

Geogebra, rotations

Aug 7-7:53 AM

Rule!

Let's rotate 2 figures.

R_{90° around the origin

image

preimage

Rhombus
 $A(3,1)$
 $B(6,2)$
 $Y(3,4)$
 $Z(3,5)$

DRAW A LINE FROM A TO O
 MAKE A LINE 90°
 LOCATE A'

DRAW A LINE FROM Y TO O
 MEAS y TO O
 MOVE THAT MEAS.
 TO 90° LINE, REPEAT

Aug 7-7:59 AM

August 9, 2018

What is the easiest transformation for you (translation, reflection or rotation)?
 Please explain why this is the easiest transformation for you.
 Sketch a figure (square, rectangle, triangle, etc) displaying this type of transformation.

Aug 7-8:39 AM

The table summarizes rules for rotations on a coordinate plane.

Rules for Rotations Around the Origin on a Coordinate Plane	
90° rotation counterclockwise	$(x, y) \rightarrow (-y, x)$
180° rotation	$(x, y) \rightarrow (-x, -y)$
270° rotation counterclockwise	$(x, y) \rightarrow (y, -x)$
360° rotation	$(x, y) \rightarrow (x, y)$

Aug 7-7:58 AM

Composition
 $R_{90^\circ} \circ R_{y\text{-axis}}$

Rotation Reflection

Rules for Rotations Around the Origin on a Coordinate Plane	
90° rotation counterclockwise	$(x, y) \rightarrow (-y, x)$
180° rotation	$(x, y) \rightarrow (-x, -y)$
270° rotation counterclockwise	$(x, y) \rightarrow (y, -x)$
360° rotation	$(x, y) \rightarrow (x, y)$

Pre-Image **Rotation** **Reflection**

$X(1, 1) \rightarrow (-1, 1) \rightarrow (-1, 1) = (1, 1)$
 $Y(3, 1) \rightarrow (-1, 3) \rightarrow (-1, 3) = (1, 3)$
 $Z(4, 4) \rightarrow (-4, 4) \rightarrow (-4, 4) = (4, 4)$

Aug 7-7:59 AM

Protractor vs Rules....which one will you choose?

Kuta Software - Infinite Pre-Algebra

Rotations of Shapes

Graph the image of the figure using the transformation given.

- rotation 180° about the origin
- rotation 90° counterclockwise about the origin
- rotation 90° clockwise about the origin
- rotation 180° about the origin

Aug 7-3:12 PM

- rotation 90° clockwise about the origin
 $E(-1, -1), W(2), A(5, 2), G(3, -3)$
- rotation 180° about the origin
 $H(2, 6), I(1, 3), J(5, 5), F(4, 2)$
- rotation 180° about the origin
 $Z(-1, -5), R(-1, 0), C(1, 1), N(3, -2)$
- rotation 180° about the origin
 $V(-5, -3), A(-3, 1), G(0, -3)$
- rotation 90° clockwise about the origin
 $S(1, -4), W(1, 0), J(3, -4)$

Aug 7-3:14 PM

Write a rule to describe each transformation.

- 11) [Diagram]
- 12) [Diagram]
- 13) [Diagram]
- 14) [Diagram]

Aug 7-3:15 PM

Study Guide

Skip 10-13

Unit 1 - 2 - Translations, Reflections & Rotations

Write the counter clockwise rule for each type of rotation:

- 0° $(x, y) \rightarrow (x, y)$
- 90° $(x, y) \rightarrow (-y, x)$
- 180° $(x, y) \rightarrow (-x, -y)$
- 270° $(x, y) \rightarrow (y, -x)$

5. Rotate the line 90° counter clockwise.

6. Rotate the line 180° clockwise.

7. Using the $(x-2, y+5)$, find the image of $A(-3, 5)$.

$(x, y) \rightarrow (-x, -y)$

$T(4, 2) \rightarrow T'(2, 4)$
 $R(7, 6) \rightarrow R'(6, 7)$
 $B(4, 8) \rightarrow B'(8, 4)$

$T(-7, 6) \rightarrow T'(-7, -6) = (7, -6)$ (image)
 $L(-7, 2) \rightarrow L'(-7, -2) = (7, -2)$
 $P(-3, 3) \rightarrow P'(-3, -3) = (3, -3)$

Aug 9-11:41 AM

Write a rule and proper notation that describes how the following figures have been transformed.

8. Rule: **T_{x-axis}**

9. Rule: **$T_{-9,-2} = (x-9, y-2)$**

Questions 10-13: Determine if each function is even, odd, or neither.

10. $f(x) = 2x^3 + 1$

11. $f(x) = x^4 + 2x^2$

12. $f(x) = x^3 - 2x$

13. $f(x) = x^2 + 3x - 5$

Aug 9-11:41 AM

14. What geometric figure has an infinite number of lines of symmetry?

15. How many lines of symmetry does a square have? _____

16. Which shape below has 2 lines of symmetry?

a.

b.

c.

d.

17.

18. An isometry is a transformation in which the pre-image and image are _____.

19. What is the smallest degree of rotation to map the image onto itself?

a. 360° b. 180°
c. 45° d. 90°

Aug 9-11:41 AM

Odd, even or neither functions

Andy Wain, describe an even, odd, and neither function

mathbyfives, even, odd, neither symmetry by looking @ the graph

....be ready to share what you have learned.

Aug 7-8:40 AM

Even, Odd, or Neither Worksheet Name: _____

Determine whether the following functions are even, odd, or neither.

1. $f(x) = 4x - 3$ 2. $f(x) = |x| + 1$ 3. $f(x) = -x^2 - 4$

4. $f(x) = \frac{1}{3}x^3$ 5. $f(x) = 7x$ 6. $f(x) = \sqrt{x+5}$

Aug 7-3:07 PM

7. $f(x) = 3x^2$ 8. $f(x) = x^2 - 2$ 9. $f(x) = 3x + 4$

10. $f(x) = x^2 - 5$ 11. $f(x) = 10x + 5$ 12. $f(x) = 2(x+1)^2$

Aug 7-3:08 PM