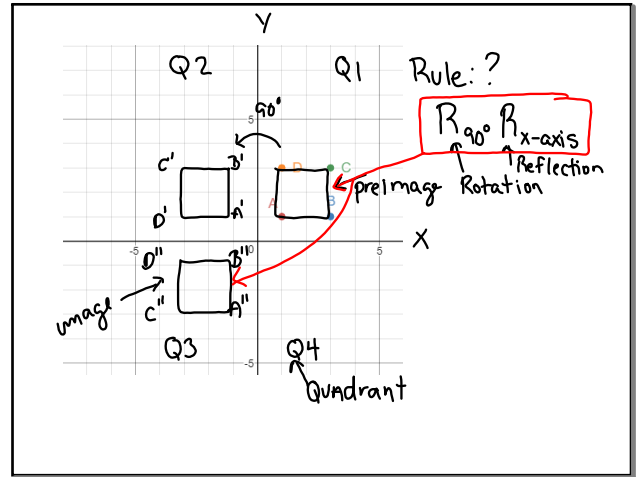


August 6, 2018

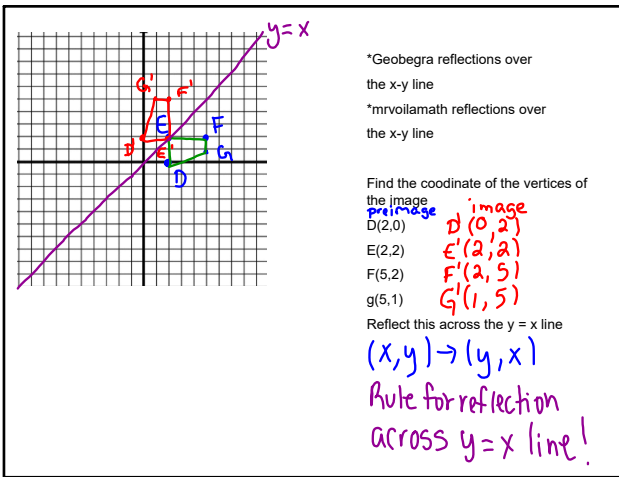
Rotate a square located at (1,1) (3,1) (3,3) and (1,3) in to quadrant 2, then reflect the square across the x-axis. Write a rule for the transformations.

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 6-10:26 AM



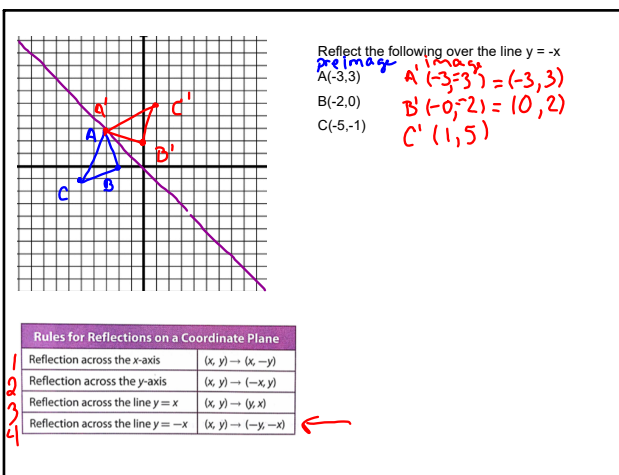
Aug 6-7:50 AM

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 6-11:13 AM



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.

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?
Write the vector for the mapping.

Aug 7-7:50 AM

Study Guide!

Unit 1 **Sc4** 1 - Translations & Reflections Name: _____

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 $A = (5, -5)$, where would A' be if $T(x-2, y+k)$ occurred? $(3, -5)$
- Given $A = (5, 4)$, where would A' be if it was reflected over the line $y = 0$? $(5, -4)$
- Reflect across the line $x = 0$. \leftarrow **Y-axis**
- Reflect about the line $y = 0$. \leftarrow **X-axis**

Aug 6-11:30 AM

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

- True or False: Quadrilateral $A'B'C'D'$ is the pre-image. True
- True or False: $SA \neq SA'$. True
- True or False: Quadrilateral $ABCD$ is congruent to the quadrilateral $A'B'C'D'$. True *same as*
- True or False: The transformation shown is not a reflection. True
- True or False: Quadrilateral $ABCD$ was transformed, to create quadrilateral $A'B'C'D'$. True

X-axis
Y=0 line

Aug 6-1:50 PM

12 Write a translation rule to describe the transformation.
 $T(x, y) = (x+4, y-1)$

13. Given $G = (4, 3)$ and $G' = (-1, 3)$, what is the line of reflection? **Y-axis**

14. A figure is transformed by $T(x+4, y-2)$ and then transformation by $T(x+1, y-5)$. How does the original pre-image related to the final image after both transformations?
 $T''(x+5, y-5)$

Aug 6-1:51 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. $Z'(6, 11)$
c. $Z'(8, 5)$
d. $Z'(11, 8)$

16. Graph the composition of transformations: $T(x-2, y)$, R_{90°

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

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

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

Aug 6-1:52 PM

Quiz

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

Aug 7-7:52 AM

August 8, 2016

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

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

6. Reflect about the line $x = 0$

Get your SG out!

Aug 7-2:56 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 7-10:05 AM

Let's rotate 2 figures.

R_{270° around the origin

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

Meas A to +ho origin
 Rotate 270
 Measure A to origin
 Measure D to origin

Aug 7-10:05 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 7-10:05 AM

P 80 Rules for Rotation

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 7-10:05 AM

Composition
 $R_{90} * R_{y\text{-axis}}$
 Rotation Reflection

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

Preimage: $X(2,1), Y(4,1), Z(5,4)$
 Rotation: $X'(-1,2), Y'(-1,4), Z'(4,5)$
 Reflection: $(x,y) \rightarrow (-x,y)$
 $X''(1,2), Y''(1,4), Z''(4,5)$

Aug 9-7:55 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.

1) rotation 180° about the origin
 2) rotation 90° counterclockwise about the origin
 3) rotation 90° clockwise about the origin
 4) rotation 180° about the origin

Handwritten notes: $(-5, 2), (0, 1), (-3, 5)$
 $F(-3, -1), B(-1, 5), M(2, -4), H(2, -1)$
 GT (KH)
 ST

Aug 7-3:14 PM

P JP LB
 5) rotation 90° clockwise about the origin
 $U(1, -2), W(0, 2), A(3, 2), G(3, -3)$

6) rotation 180° about the origin
 $V(2, 0), S(1, 3), G(5, 0)$

Find the coordinates of the vertices of each figure after the given transformation.

7) rotation 180° about the origin
 $Z(-1, -5), K(-1, 0), C(1, 1), M(3, -2)$

8) rotation 180° about the origin
 $L(1, 3), Z(5, 5), F(4, 2)$

9) rotation 90° clockwise about the origin
 $S(1, -4), W(1, 0), A(3, -4)$

10) rotation 180° about the origin
 $V(-5, -3), A(-3, 1), G(0, -3)$

Aug 7-3:14 PM

Write a rule to describe each transformation.

1) 12) 13) 14)

Aug 7-3:15 PM

Study Guide U1 SG2

Skipping 10-13
 18) ~~2~~ 3

Unit 1 X_1 2 - Translations, Reflections & Rotations

Write the counter clockwise rule for each type of rotation:

1. 0° $(x, y) \rightarrow (x, y)$
 2. 90° $(x, y) \rightarrow (-y, x)$
 3. 180° $(x, y) \rightarrow (-x, -y)$
 4. 270° $(x, y) \rightarrow (y, -x)$

5. Rotate the line 90° counter clockwise.
 Preimage $(x, y) \rightarrow (-y, x)$
 $(4, -2) \rightarrow (2, 4)$
 $(8, -6) \rightarrow (6, 8)$
 $(4, -8) \rightarrow (8, 4)$

6. Rotate the line 90° clockwise.
 $(x, y) \rightarrow (y, -x)$
 $T(7, 4) \rightarrow (4, -7)$
 $L(7, 2) \rightarrow (2, -7)$
 $R(3, 3) \rightarrow (3, -3)$

7. Using the $(x-2, y+5)$, find the preimage of $A(-2, 5)$.
 $x-2=3 \quad y+5=5$
 $+2 \quad +2 \quad -5 \quad -5$
 $x=-1 \quad y=0$
 preimage $(-1, 0)$

Aug 9-11:29 AM

August 10, 2018

Get study guide out and start working individually.

We will work in groups soon.

Aug 10-7:59 AM

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

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

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

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

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

12.

13.

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

Aug 9-11:34 AM

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

15. How many lines of symmetry does a square have? **4**

16. Which shape below has **3** lines of symmetry?

a.

b.

c.

d.

17.

18. Which shape below has **3** lines of symmetry?

a.

b.

c.

d.

19. An **isometry** is a transformation in which the pre-image and image are **equal** and **same size**.

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

a. 360°

b. 180°

c. 45°

d. 90°

Aug 9-11:34 AM

Quiz

Aug 10-11:11 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 7-10:05 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. $f(x) = \frac{1}{3}x^2$

5. $f(x) = 7x$

6. $f(x) = \sqrt{5} + 3$

Aug 7-3:07 PM

7. $f(x) = 3x^2$

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

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