

Unit 8 Check Sheet

Name _____ Per _____

Transformations & Constructions

(Print)

- Check sheet must be turned in to receive Homework & Quiz points.
- All quiz corrections must be done for test score to replace quiz scores.
- No check sheet = No Points.
- Write quiz scores as fractions
- Lost Quizzes count as a 0.
- Quiz ratio is total points scored on quizzes and pre-test out of total possible
- Order (from top to bottom)
 - Check sheet,
 - **Quiz 1, 2, Pre-Test**
 - **Quiz corrections**

Section	HMK
8.1 Translations Worksheet 8.1 #1-12,	
8.2 Reflections Worksheet 8.2 Notes #1-10 all Worksheet 8.2 HWK #1-12 all	
8.3 Rotations Worksheet 8.3 Notes #1-8 all Worksheet 8.3 HWK #1-12 all	
8.4 Compositions of Isometries Worksheet 8.4 #1-13 all Quiz 1	
8.5 Basic Constructions (Ch. 10.1) Copy segment, bisect a segment, perpendicular bisector through an interior point, perpendicular bisector through an exterior point, copy angle, bisect angle, , construct 90° , 45° , 30° Worksheet 8.5 Guided Practice #1-13 all Worksheet 8.5b Independent Practice #1-13 all	
8.6 Constructing Perpendicular and Parallel Lines (11.7) , equilateral triangle, square, and hexagon Worksheet 8.6 Guided Practice #1-8 all Worksheet 8.6b Independent Practice #1-8 all Quiz 2	
Review Review WS 1 #1-14 all	
Unit Test	

Quiz 1: _____ Score/Possible

Quiz 2: _____ Score/Possible

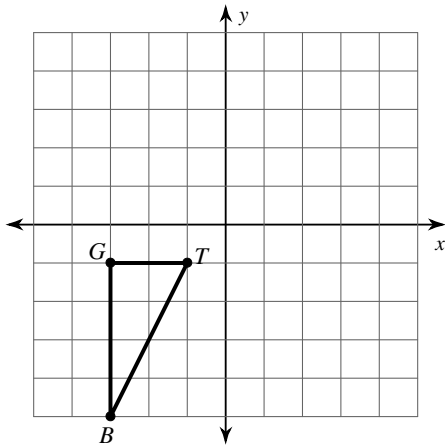
Pre-Test: _____ Score/Possible

Total Quiz Ratio: _____ Total Score/Total Possible

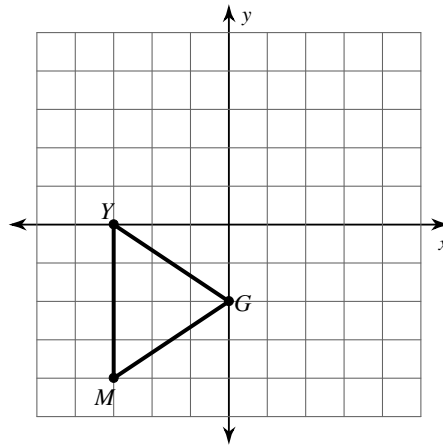
8.1 Translations

Graph the image of the figure using the transformation given.

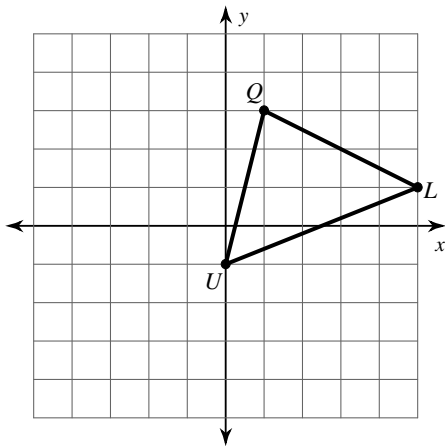
1) translation: 5 units right and 1 unit up



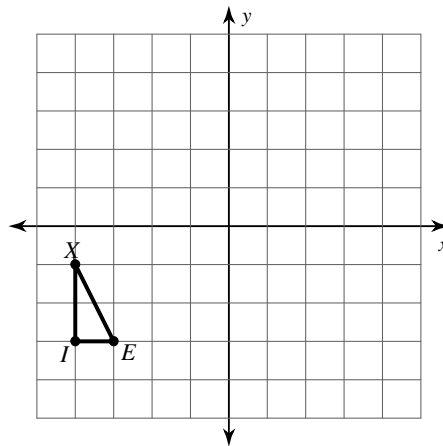
2) translation: 1 unit left and 2 units up



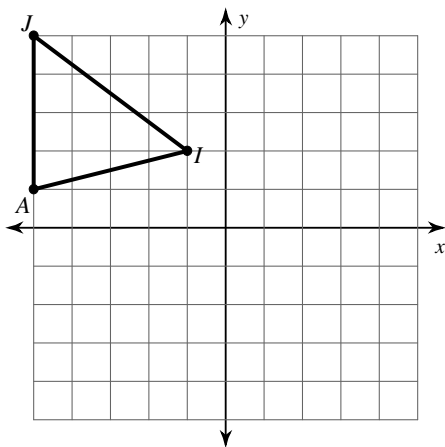
3) translation: 3 units down



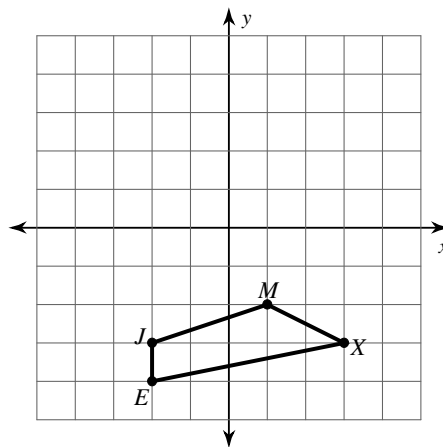
4) translation: 5 units right and 2 units up



5) translation: 4 units right and 4 units down

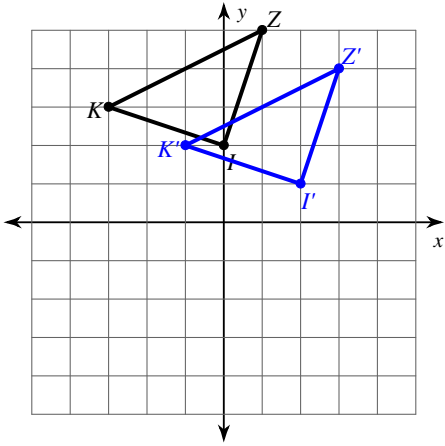


6) translation: 2 units right and 3 units up

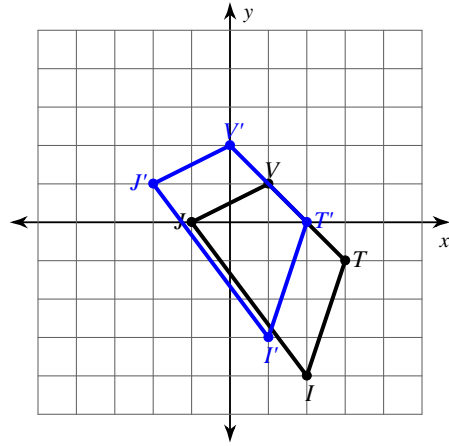


Write a rule in coordinate notation to describe each transformation.

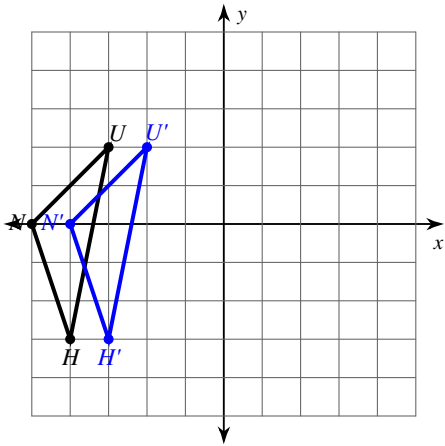
7)



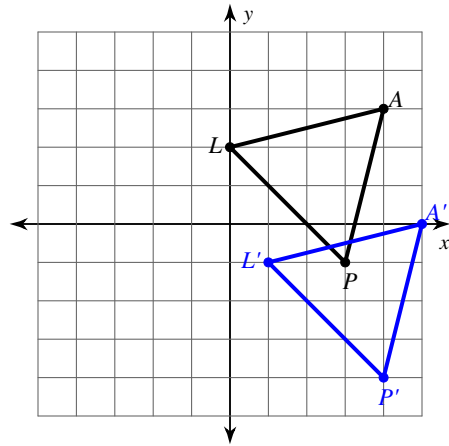
8)



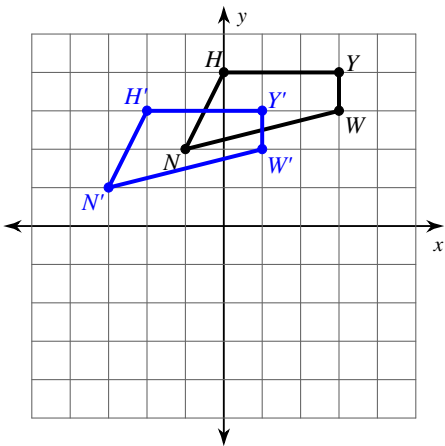
9)



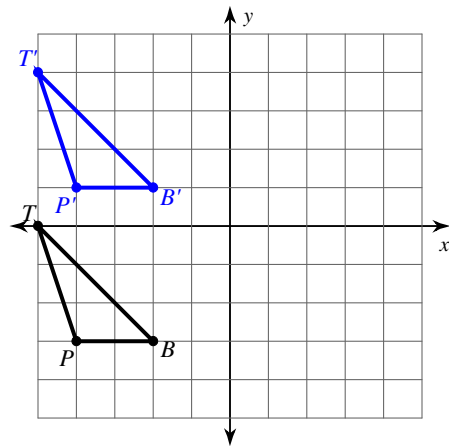
10)



11)



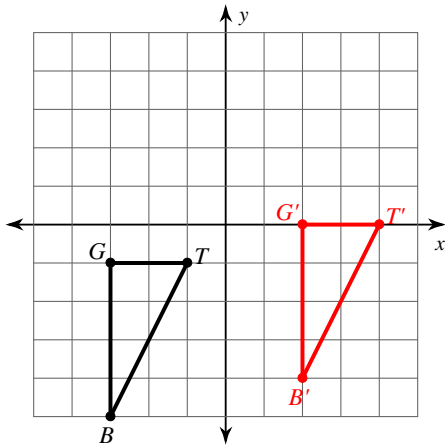
12)



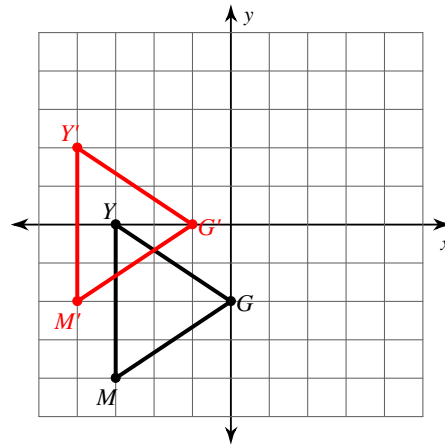
Translations

Graph the image of the figure using the transformation given.

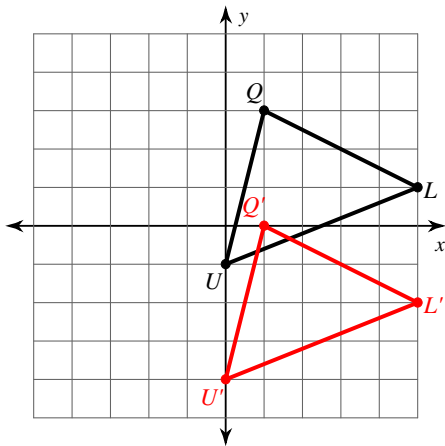
1) translation: 5 units right and 1 unit up



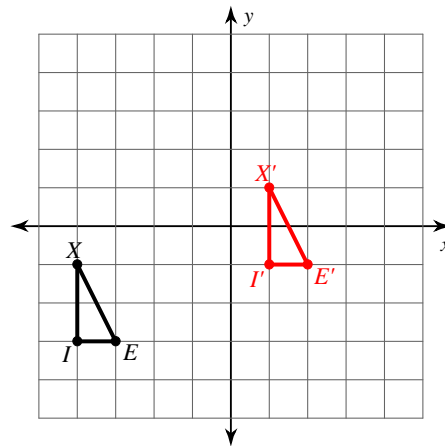
2) translation: 1 unit left and 2 units up



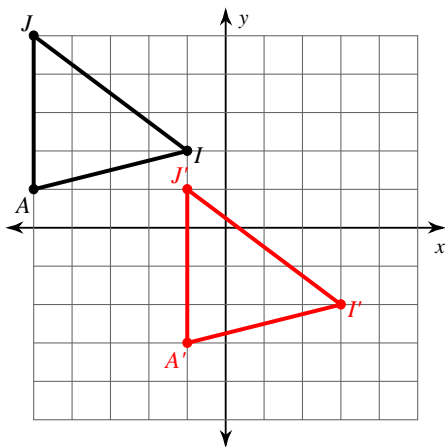
3) translation: 3 units down



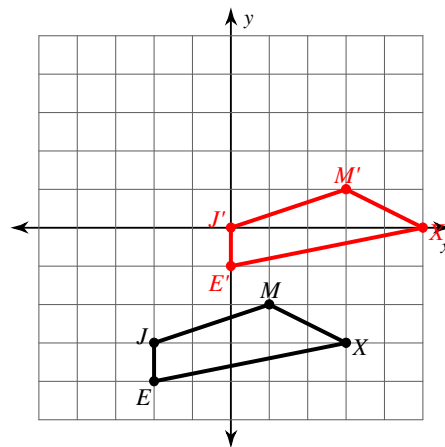
4) translation: 5 units right and 2 units up



5) translation: 4 units right and 4 units down

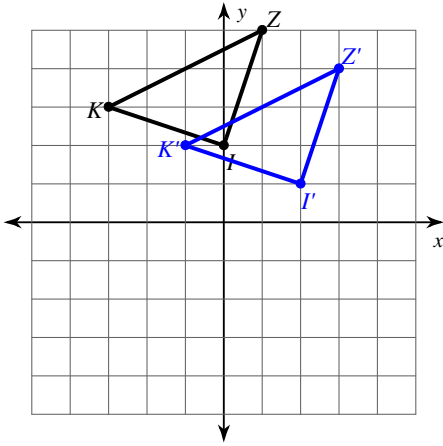


6) translation: 2 units right and 3 units up



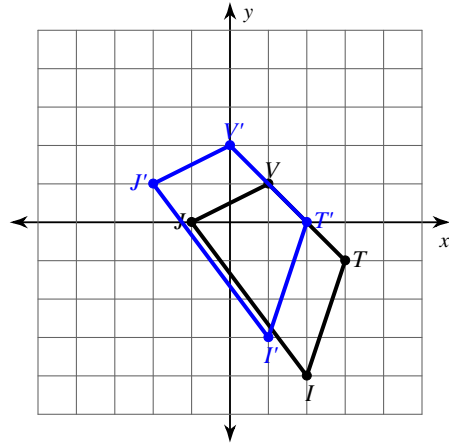
Write a rule to describe each transformation.

7)



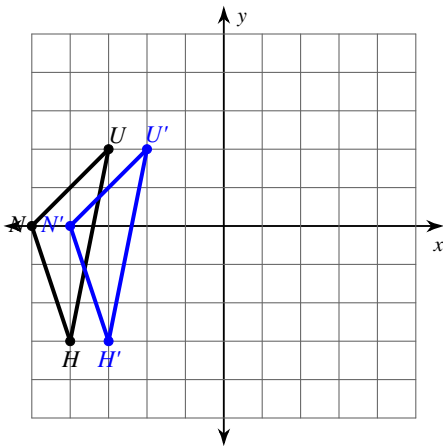
translation: 2 units right and 1 unit down

8)



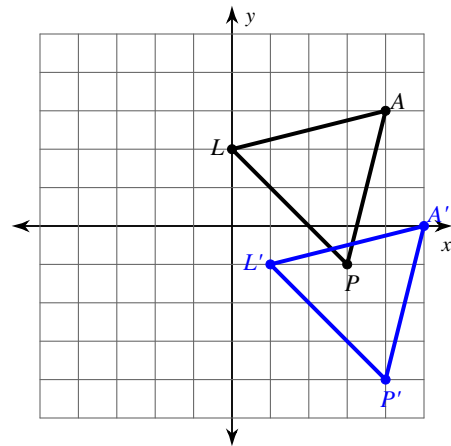
translation: 1 unit left and 1 unit up

9)



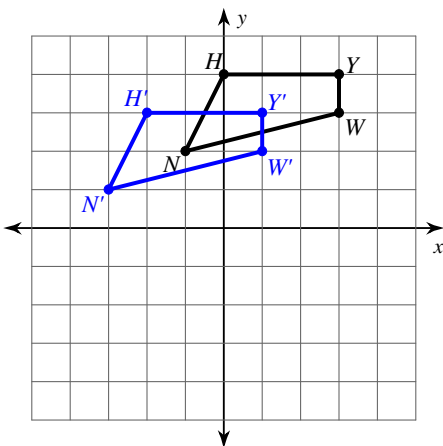
translation: 1 unit right

10)



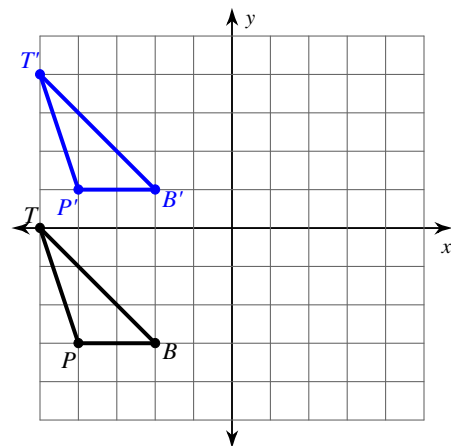
translation: 1 unit right and 3 units down

11)



translation: 2 units left and 1 unit down

12)

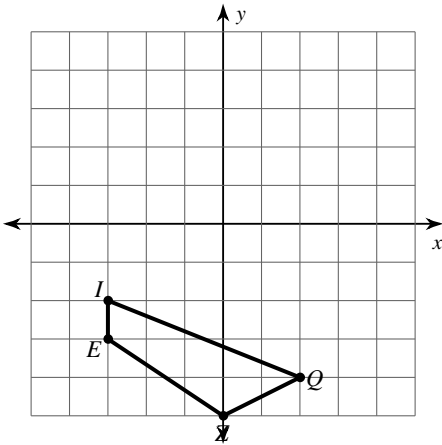


translation: 4 units up

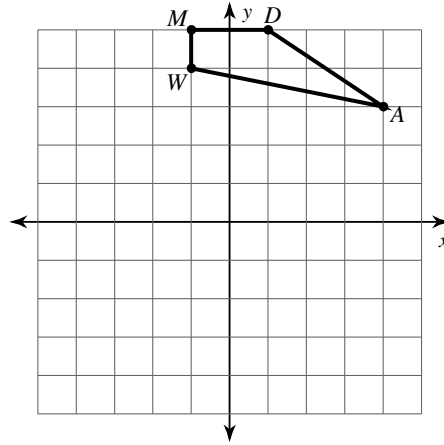
8.2 HWK Reflections

Graph the image of the figure using the transformation given.

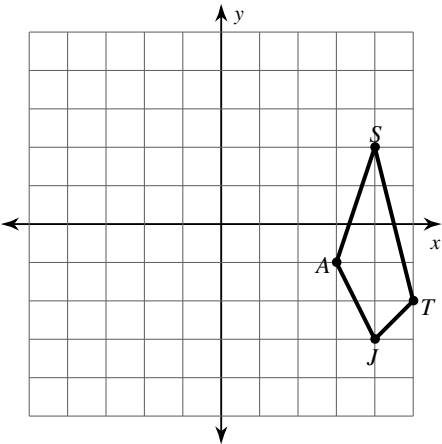
1) reflection across $y = -2$



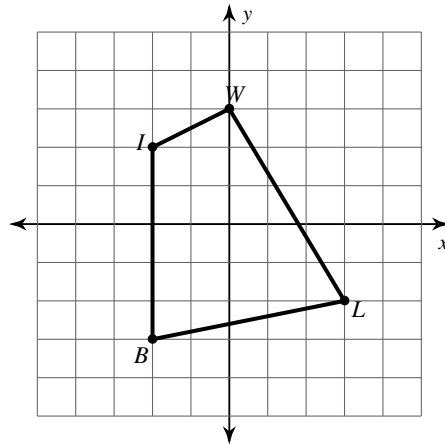
2) reflection across the x -axis



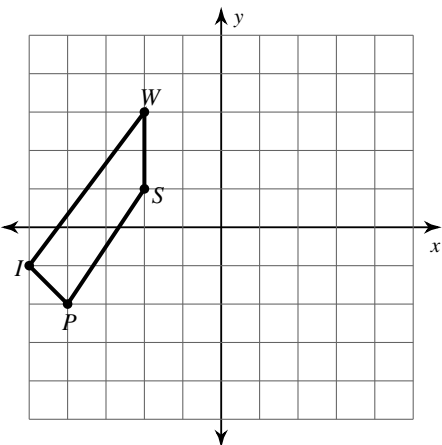
3) reflection across $y = -x$



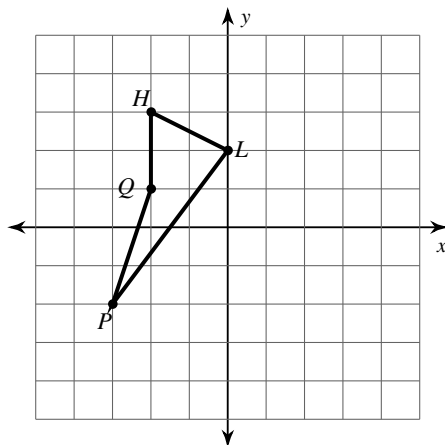
4) reflection across $y = -1$



5) reflection across $x = -3$

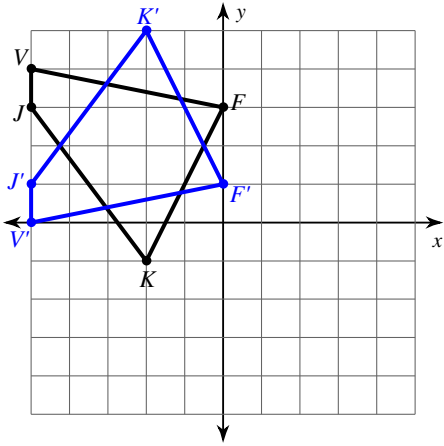


6) reflection across $y = x$

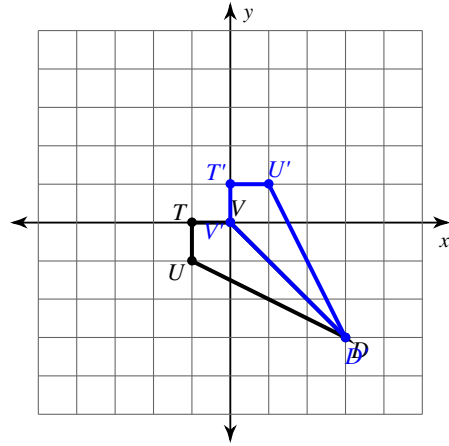


Write a rule out in words to describe each transformation.

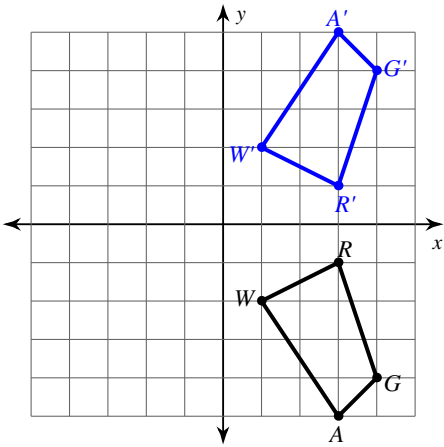
7)



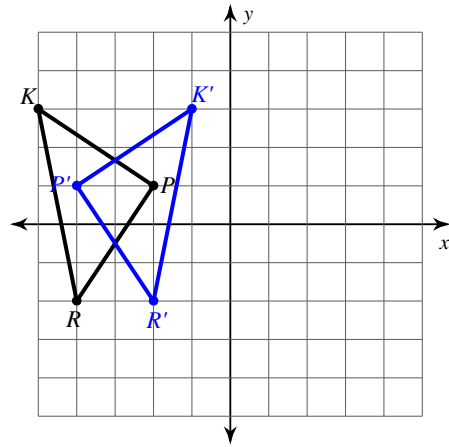
8)



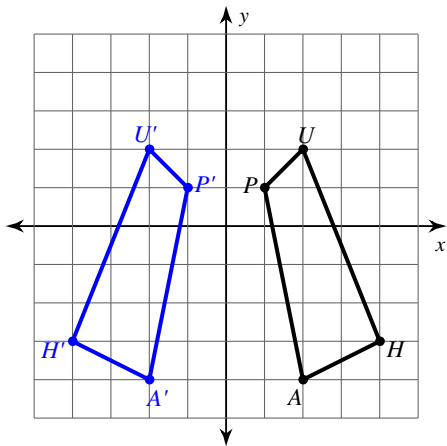
9)



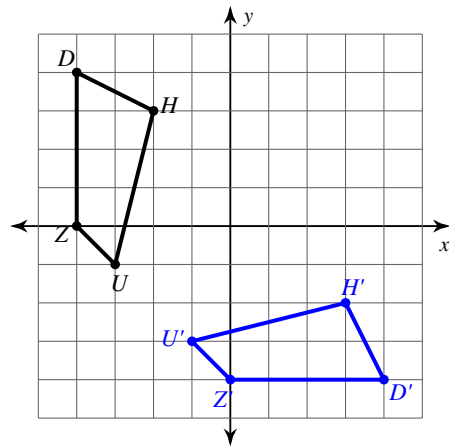
10)



11)



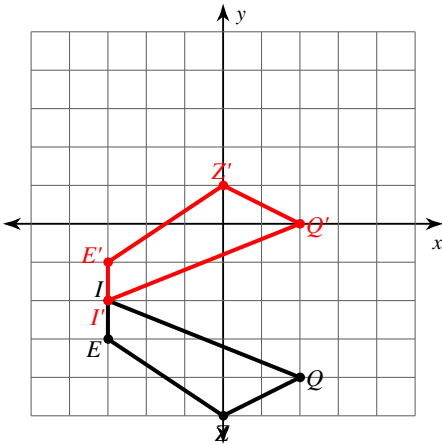
12)



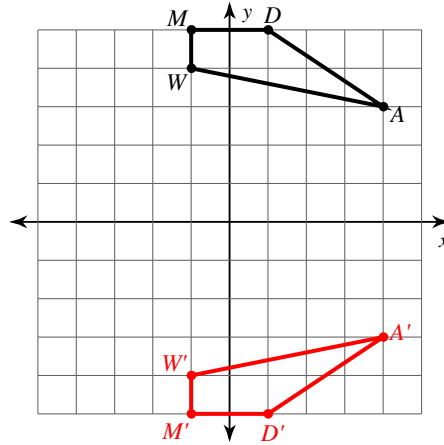
Reflections

Graph the image of the figure using the transformation given.

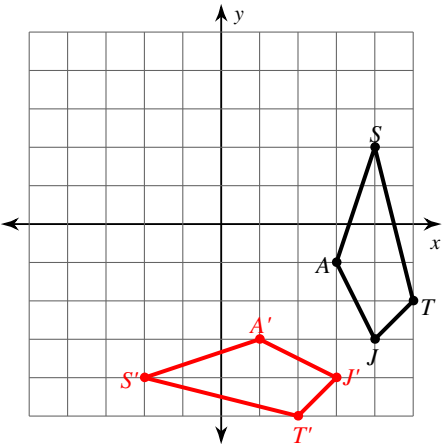
1) reflection across $y = -2$



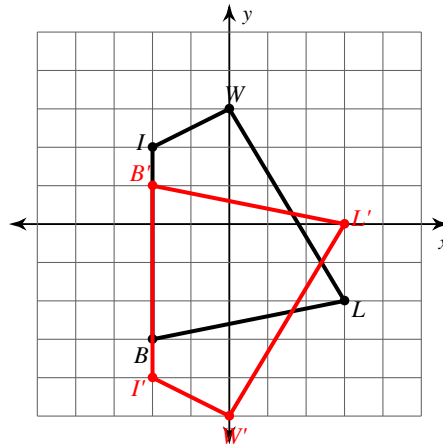
2) reflection across the x -axis



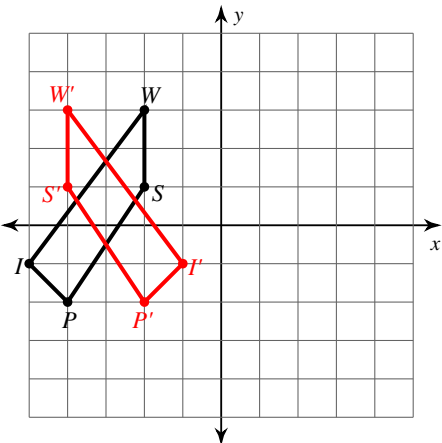
3) reflection across $y = -x$



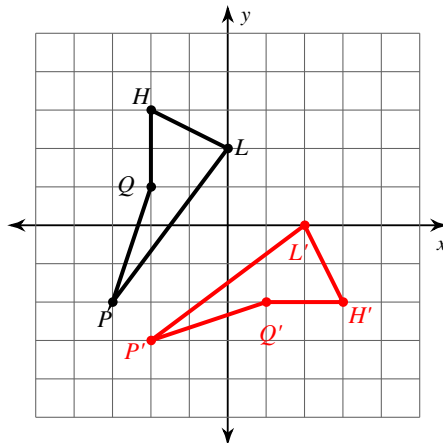
4) reflection across $y = -1$



5) reflection across $x = -3$

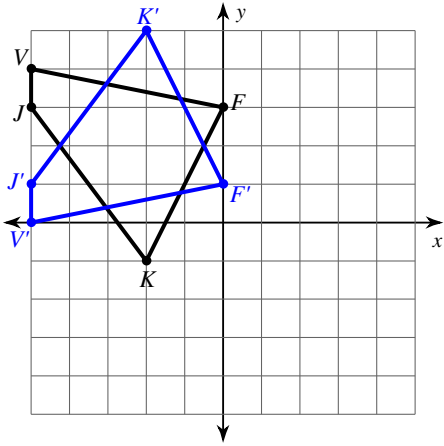


6) reflection across $y = x$



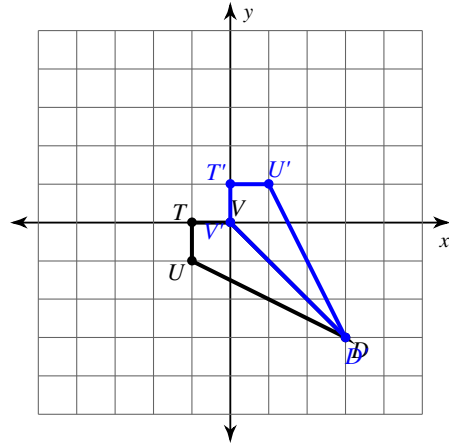
Write a rule to describe each transformation.

7)



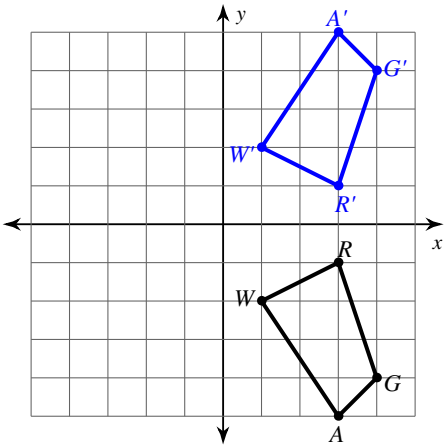
reflection across $y = 2$

8)



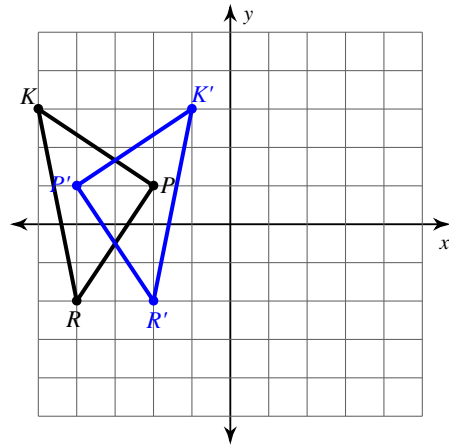
reflection across $y = -x$

9)



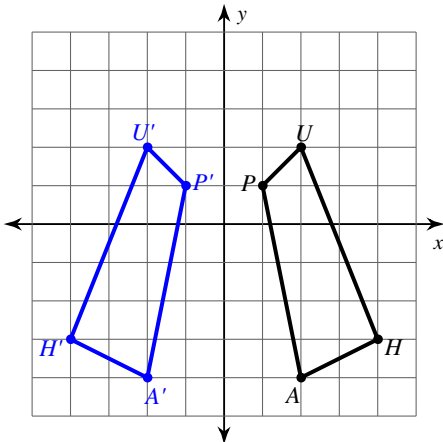
reflection across the x -axis

10)



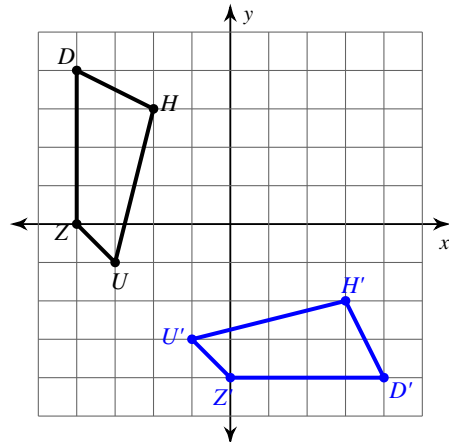
reflection across $x = -3$

11)



reflection across the y -axis

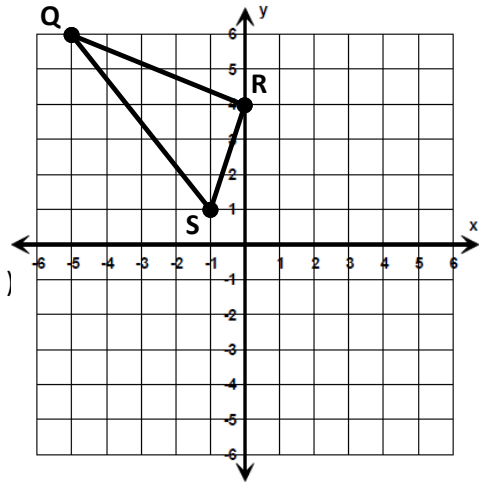
12)



reflection across $y = x$

Worksheet 8.2 Notes: Reflections

1. a) Give the coordinates for $\triangle QRS$
 $Q (\quad , \quad)$ $R (\quad , \quad)$ $S (\quad , \quad)$
- b) Reflect $\triangle QRS$ across the x-axis and label the image
- c) Give the coordinates for $\triangle Q'R'S'$
 $Q' (\quad , \quad)$ $R' (\quad , \quad)$ $S' (\quad , \quad)$
- d) Reflect $\triangle Q'R'S'$ across the y-axis and label the image
- e) Give the coordinates for $\triangle Q''R''S''$
 $Q'' (\quad , \quad)$ $R'' (\quad , \quad)$ $S'' (\quad , \quad)$



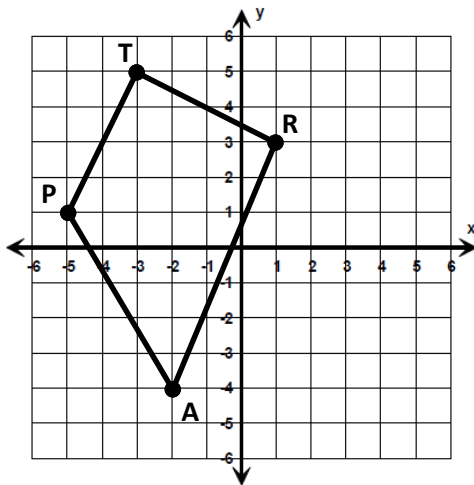
- f) Give the coordinate notation for the following transformations:

$$\triangle QRS \longrightarrow \triangle Q'R'S' \quad (x, y) \longrightarrow (\quad , \quad)$$

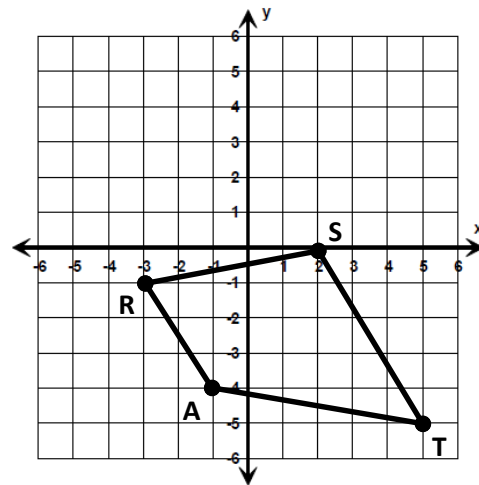
$$\triangle Q'R'S' \longrightarrow \triangle Q''R''S'' \quad (x, y) \longrightarrow (\quad , \quad)$$

$$\triangle QRS \longrightarrow \triangle Q''R''S'' \quad (x, y) \longrightarrow (\quad , \quad)$$

2. Reflect TRAP over the y-axis



3. Reflect STAR over the x-axis



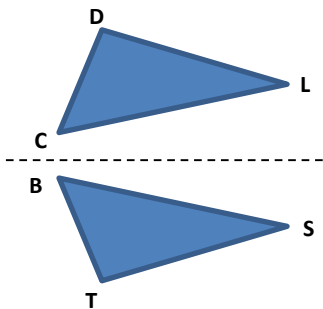
$$TRAP \longrightarrow T'R'A'P' \quad (x, y) \longrightarrow (\quad , \quad) \quad STAR \longrightarrow S'T'A'R' \quad (x, y) \longrightarrow (\quad , \quad)$$

4. $\triangle CDL$ is reflected to create $\triangle BTS$. Name the congruent parts.

$$\angle D \cong \underline{\hspace{2cm}} \qquad \overline{DL} \cong \underline{\hspace{2cm}}$$

$$\angle L \cong \underline{\hspace{2cm}} \qquad \overline{LC} \cong \underline{\hspace{2cm}}$$

$$\angle C \cong \underline{\hspace{2cm}} \qquad \overline{CD} \cong \underline{\hspace{2cm}}$$



For problems 5-8, $A(8, -2)$ and $B(-3, 9)$

5. Reflect \overline{AB} over the y-axis. Give the coordinates of $\overline{A'B'}$ and write the coordinate notation.

6. Reflect \overline{AB} over the x-axis. Give the coordinates of $\overline{A'B'}$ and write the coordinate notation.

7. Translate \overline{AB} right 6 and down 11 units. Give the coordinates of $\overline{A'B'}$ and write the coordinate notation.

8. Translate \overline{AB} up two units then reflect it over the y-axis. Give the coordinates of $\overline{A'B'}$ and write the coordinate notation.

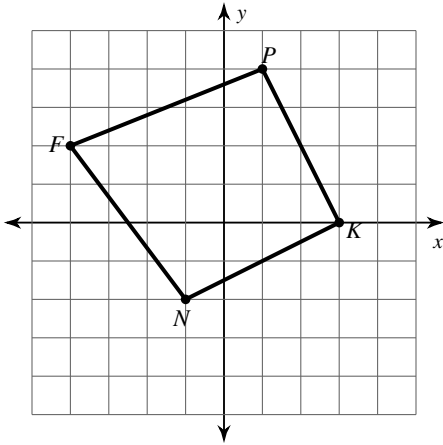
9. Translate \overline{AB} left 5 units then reflect it over the x-axis. Give the coordinates of $\overline{A'B'}$ and write the coordinate notation.

10. Reflect \overline{AB} over the x-axis then reflect it over the y-axis. Give the coordinates of $\overline{A'B'}$ and write the coordinate notation.

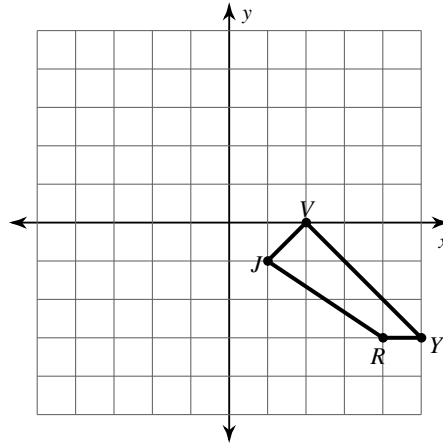
8.3 HWK Rotations

Graph the image of the figure using the transformation given.

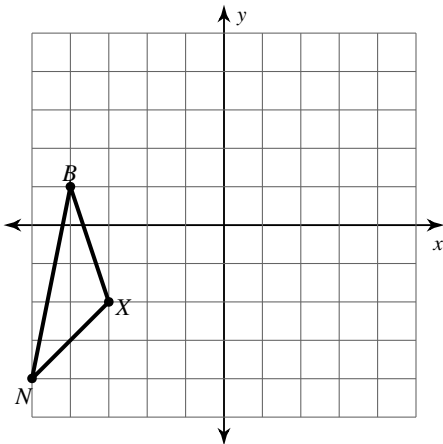
1) rotation 180° about the origin



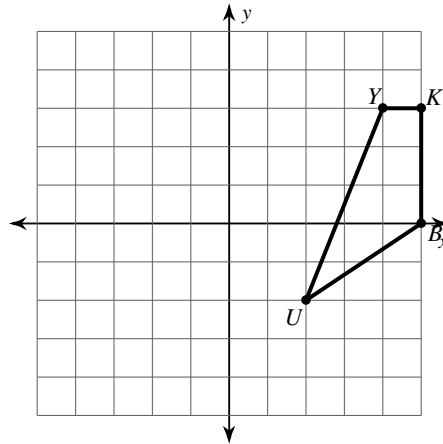
2) rotation 180° about the origin



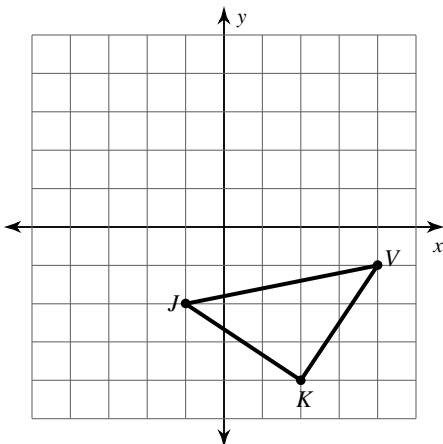
3) rotation 90° counterclockwise about the origin



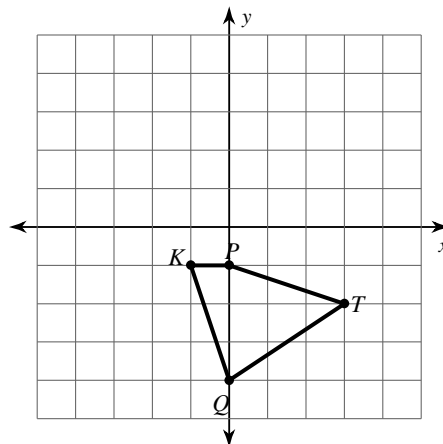
4) rotation 90° clockwise about the origin



5) rotation 90° clockwise about the origin

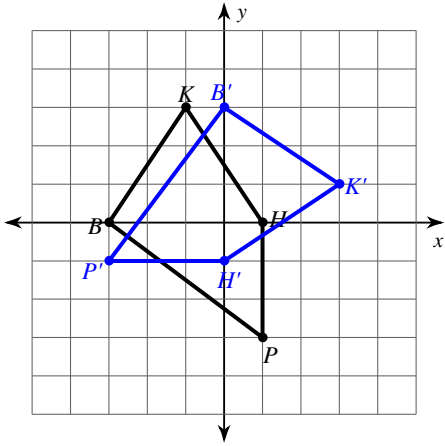


6) rotation 180° about the origin

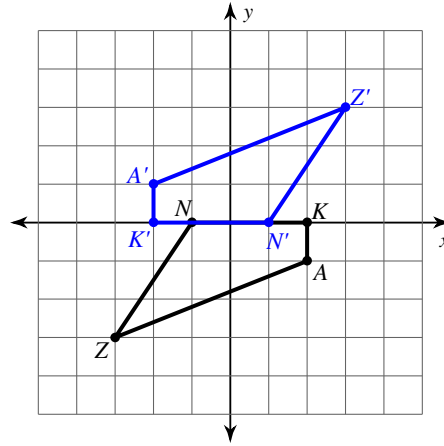


Write a rule in words to describe each transformation including direction.

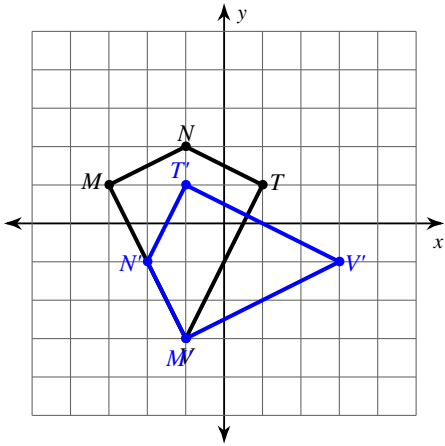
7)



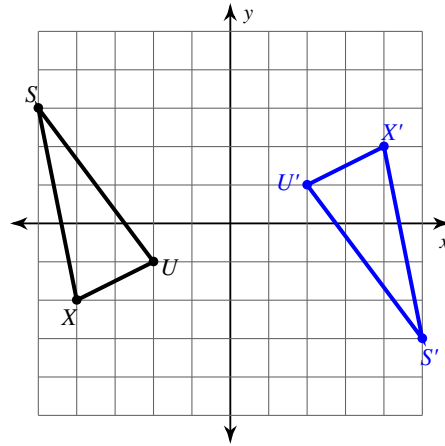
8)



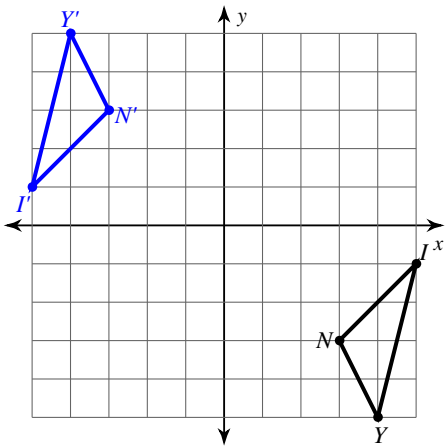
9)



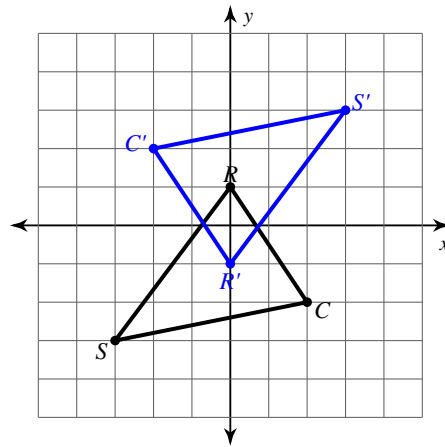
10)



11)



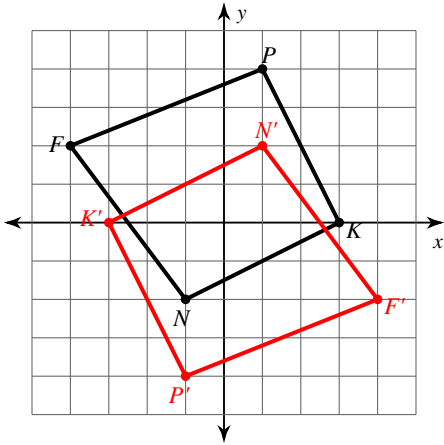
12)



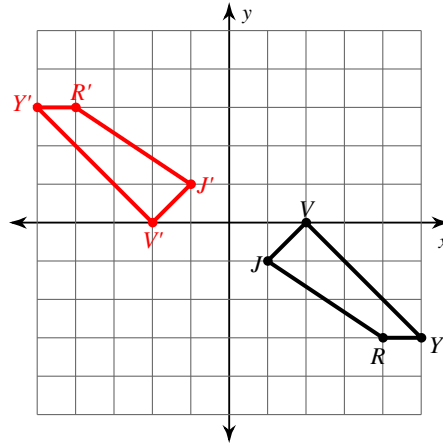
Rotations

Graph the image of the figure using the transformation given.

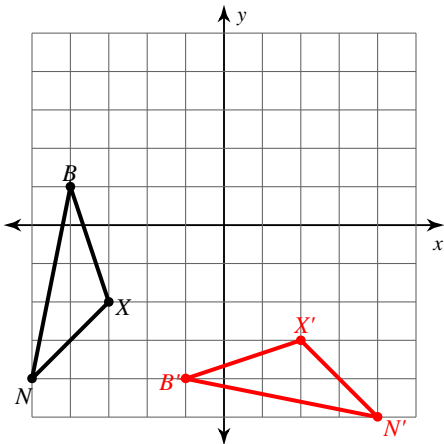
1) rotation 180° about the origin



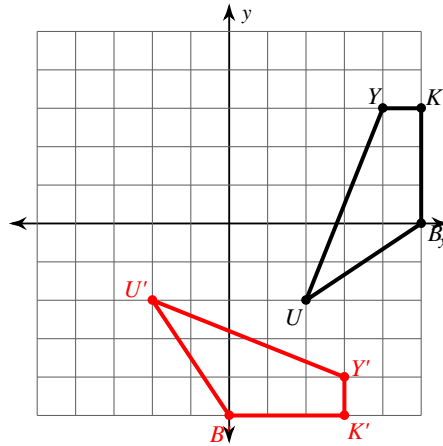
2) rotation 180° about the origin



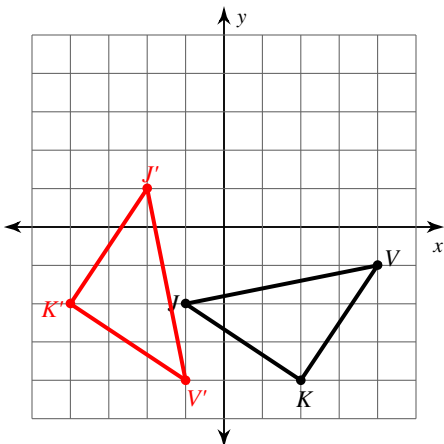
3) rotation 90° counterclockwise about the origin



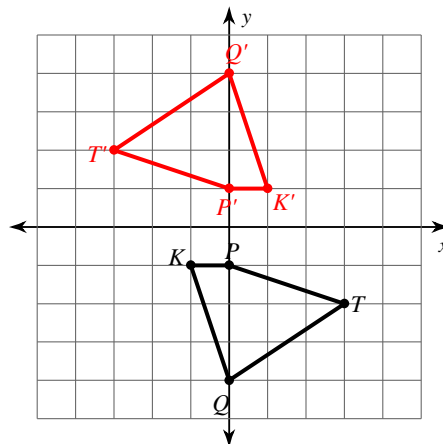
4) rotation 90° clockwise about the origin



5) rotation 90° clockwise about the origin

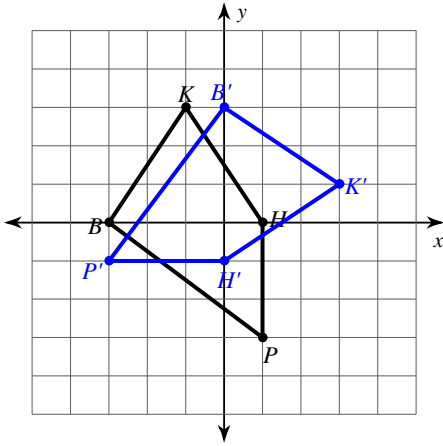


6) rotation 180° about the origin



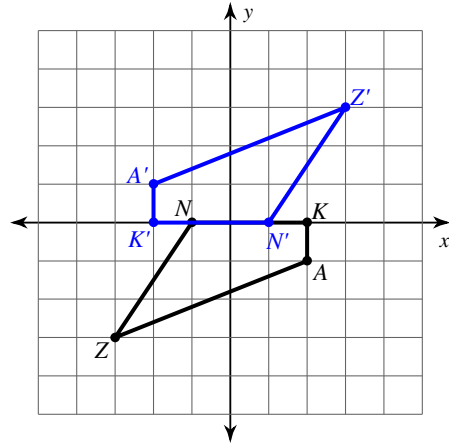
Write a rule to describe each transformation.

7)



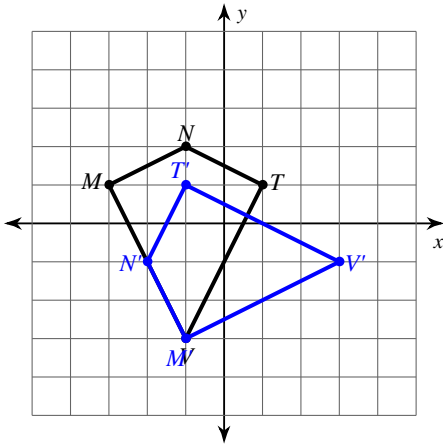
rotation 90° clockwise about the origin

8)



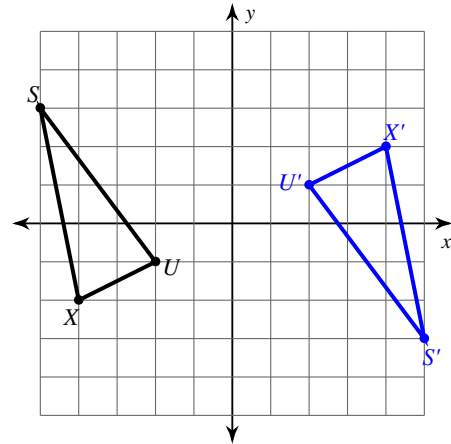
rotation 180° about the origin

9)



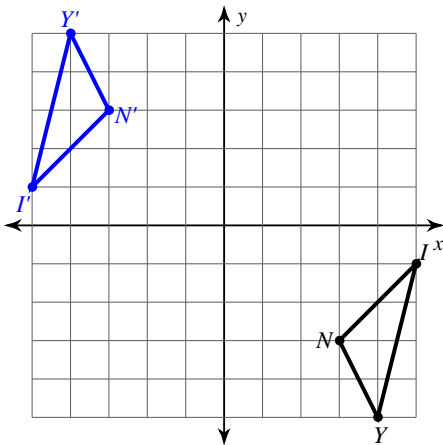
rotation 90° counterclockwise about the origin

10)



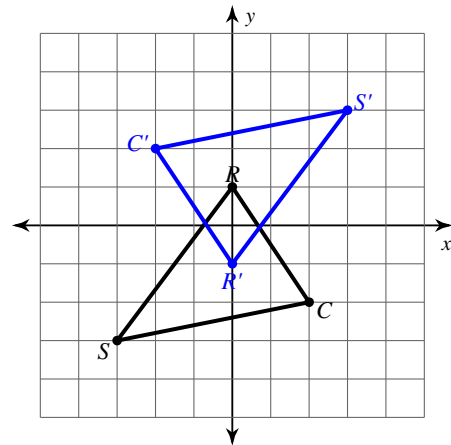
rotation 180° about the origin

11)



rotation 180° about the origin

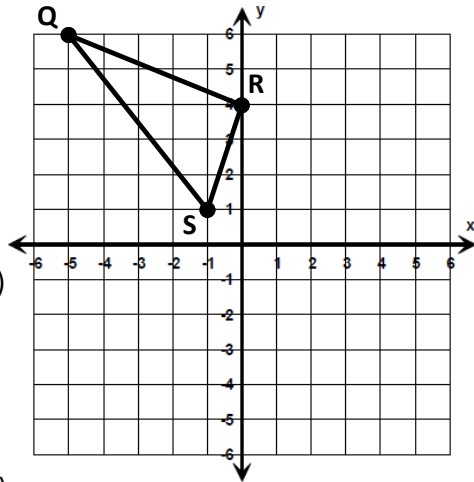
12)



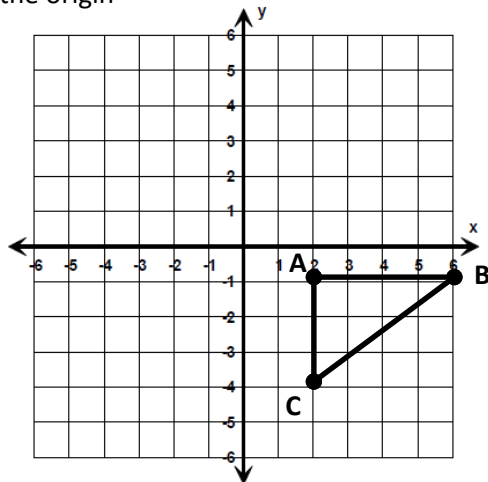
rotation 180° about the origin

Worksheet 8.3: Notes Rotations

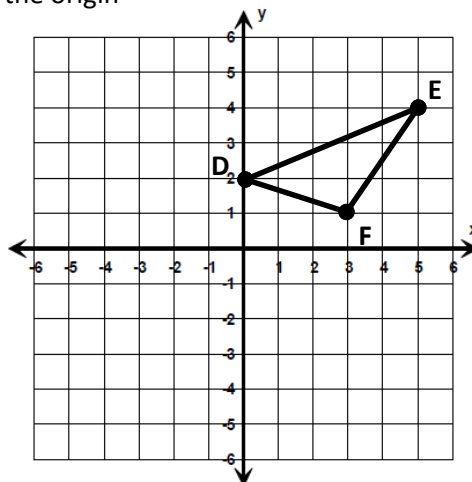
1.
 - a) Give the coordinates for $\triangle QRS$
 $Q (\quad , \quad) R (\quad , \quad) S (\quad , \quad)$
 - b) Rotate $\triangle QRS$ 90° counterclockwise about the origin
 - c) Give the coordinates for $\triangle Q'R'S'$
 $Q' (\quad , \quad) R' (\quad , \quad) S' (\quad , \quad)$
 - d) Rotate $\triangle QRS$ 180° counterclockwise about the origin
 - e) Label the image $\triangle Q''R''S''$ and give the coordinates
 $Q'' (\quad , \quad) R'' (\quad , \quad) S'' (\quad , \quad)$
 - f) Rotate $\triangle QRS$ 270° counterclockwise about the origin
 - g) Label the image $\triangle Q'''R'''S'''$ and give the coordinates
 $Q''' (\quad , \quad) R''' (\quad , \quad) S''' (\quad , \quad)$
 - h) Give the coordinate notation for the following transformations:
 $\triangle QRS \longrightarrow \triangle Q'R'S' \quad (x,y) \longrightarrow (\quad , \quad)$
 $\triangle QRS \longrightarrow \triangle Q''R''S'' \quad (x,y) \longrightarrow (\quad , \quad)$
 $\triangle QRS \longrightarrow \triangle Q'''R'''S''' \quad (x,y) \longrightarrow (\quad , \quad)$



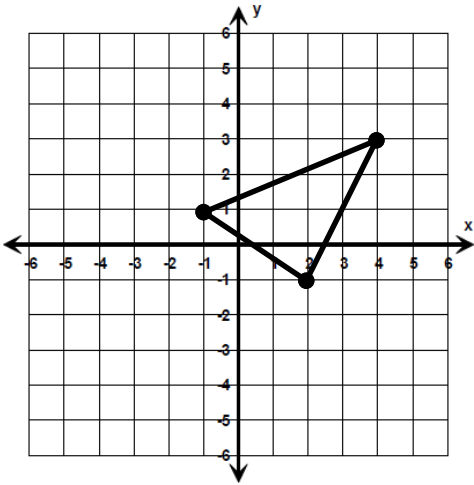
2. Rotate $\triangle ABC$ 90° counterclockwise about the origin



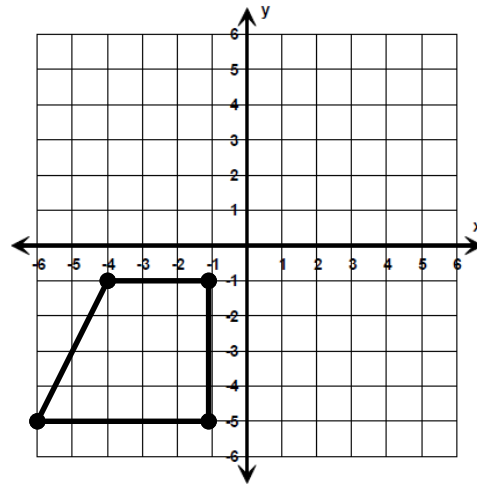
3. Rotate $\triangle DEF$ 180° counterclockwise about the origin



4. Graph and describe the transformation given by: $(x, y) \rightarrow (-x, -y)$



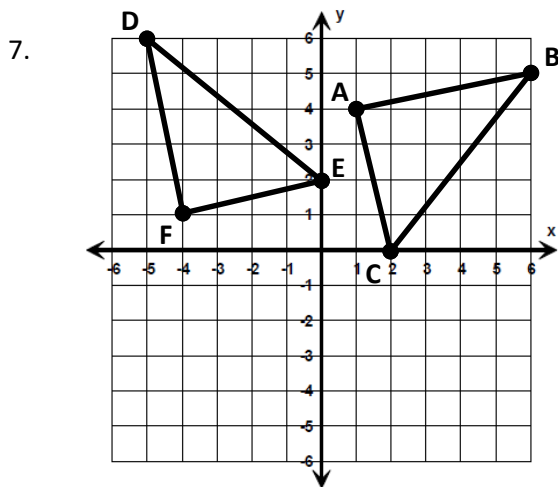
5. Graph and describe the transformation given by: $(x, y) \rightarrow (y, -x)$



6. $\triangle ABC$ is rotated 90° counter clockwise about the origin to produce the image $\triangle A'B'C'$

a.) Is $\triangle ABC \cong \triangle A'B'C'$? Explain your reasoning.

b.) A and A' are equidistant from which point?



How many degrees is $\triangle ABC$ rotated to produce the image $\triangle DEF$?

$\overline{AB} \cong$ _____

$\overline{FE} \cong$ _____

$\angle C \cong$ _____

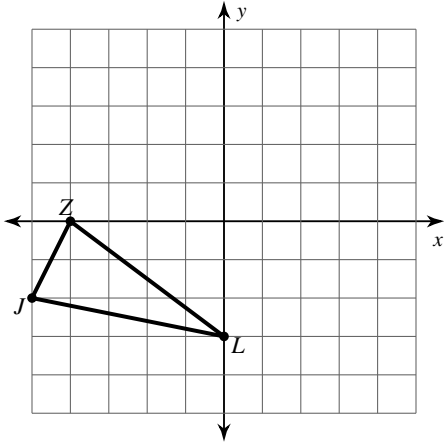
$\angle D \cong$ _____

8. Anthony reflected $\triangle ABC$ over the y-axis and then reflected it over the x-axis. Bethany says she can create the same image using only one transformation. What transformation does she use?

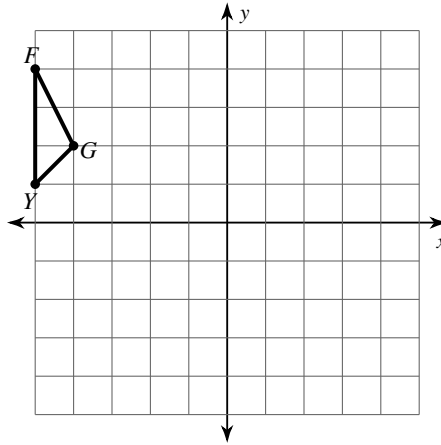
All Transformations

Graph the image of the figure using the transformation given.

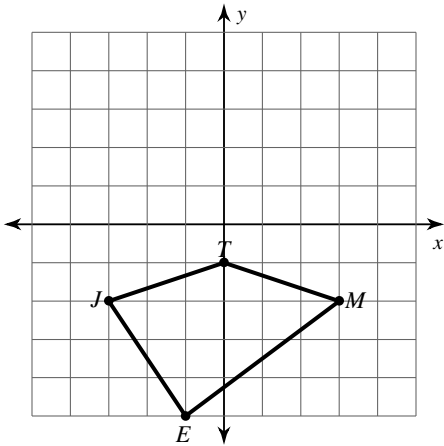
- 1) rotation 90° counterclockwise about the origin



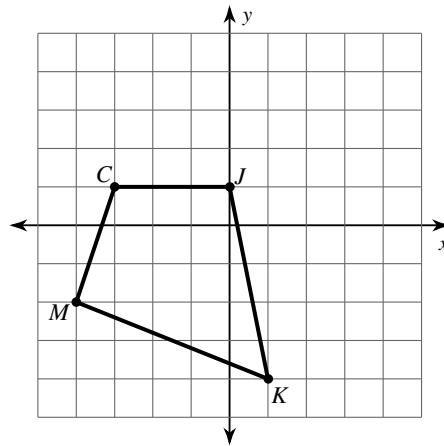
- 2) translation: 4 units right and 1 unit down



- 3) translation: 1 unit right and 1 unit up

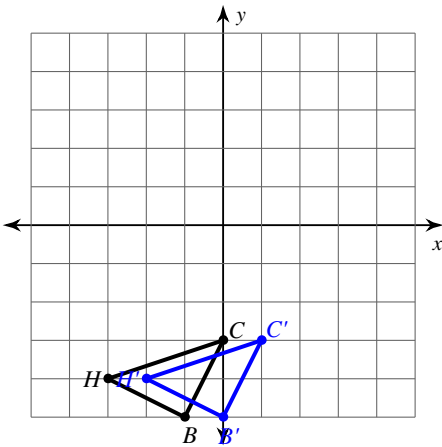


- 4) reflection across the x-axis

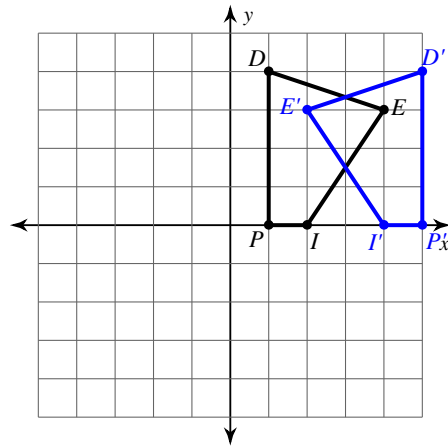


Write a rule to describe each transformation.

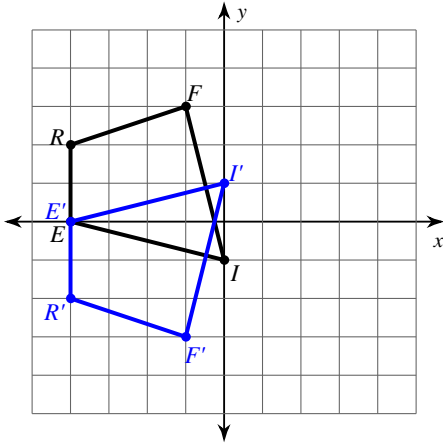
- 5)



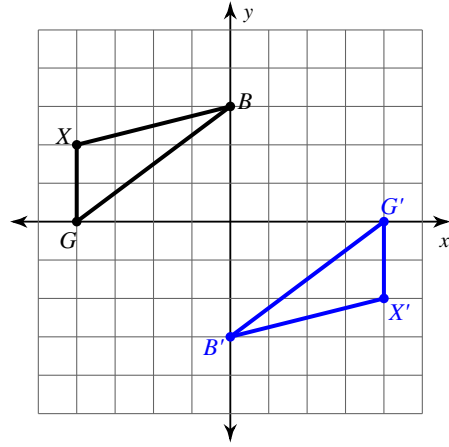
- 6)



7)

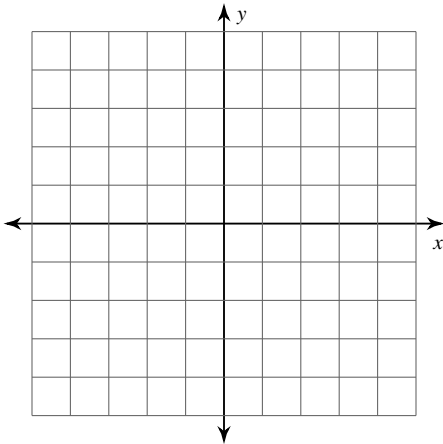


8)

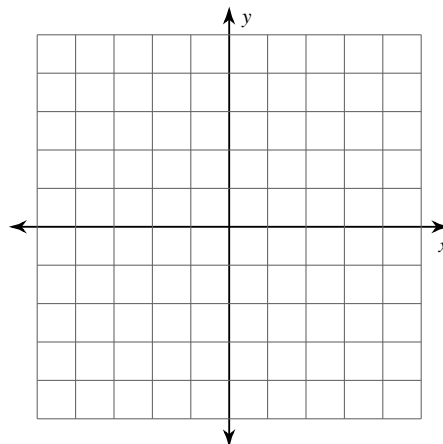


Graph the image of the figure using the transformation given.

9) rotation 90° clockwise about the origin
 $B(-2, 0)$, $C(-4, 3)$, $Z(-3, 4)$, $X(-1, 4)$



10) reflection across $y = x$
 $K(-5, -2)$, $A(-4, 1)$, $I(0, -1)$, $J(-2, -4)$



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

11) rotation 180° about the origin
 $E(2, -2)$, $J(1, 2)$, $R(3, 3)$, $S(5, 2)$

12) reflection across $y = 2$
 $J(1, 3)$, $U(0, 5)$, $R(1, 5)$, $C(3, 2)$

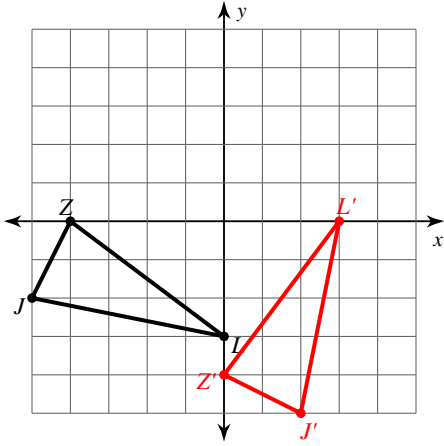
13) translation: 7 units right and 1 unit down
 $J(-3, 1)$, $F(-2, 3)$, $N(-2, 0)$

14) translation: 6 units right and 3 units down
 $S(-3, 3)$, $C(-1, 4)$, $W(-2, -1)$

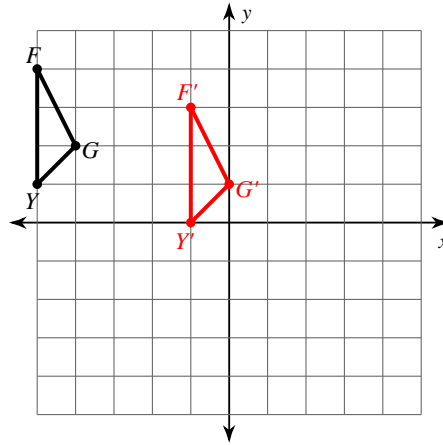
All Transformations

Graph the image of the figure using the transformation given.

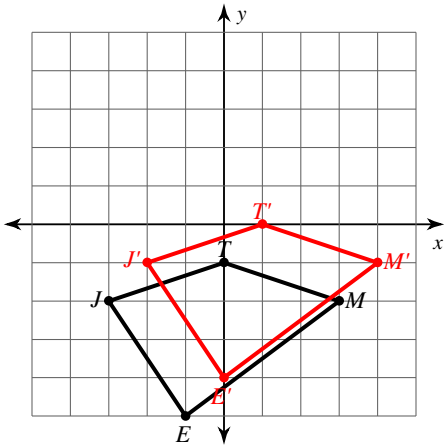
- 1) rotation 90° counterclockwise about the origin



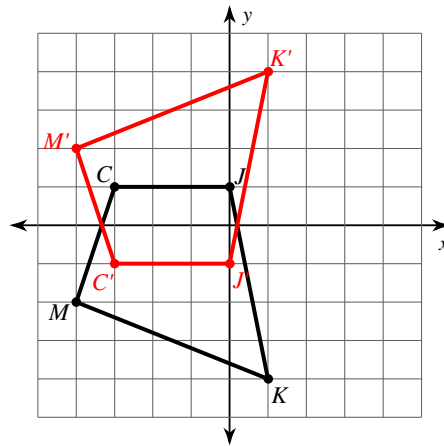
- 2) translation: 4 units right and 1 unit down



- 3) translation: 1 unit right and 1 unit up

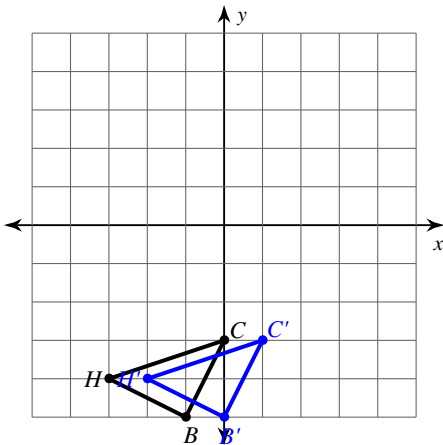


- 4) reflection across the x-axis



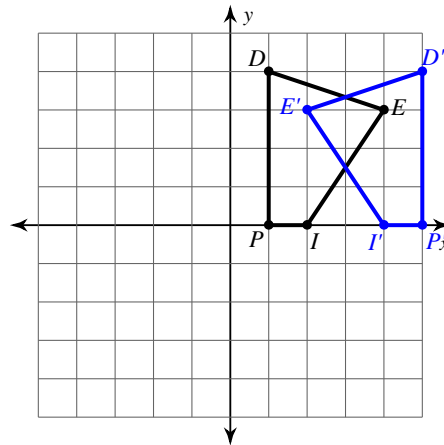
Write a rule to describe each transformation.

- 5)



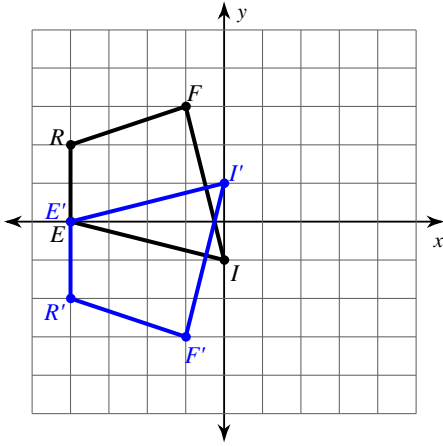
translation: 1 unit right

- 6)



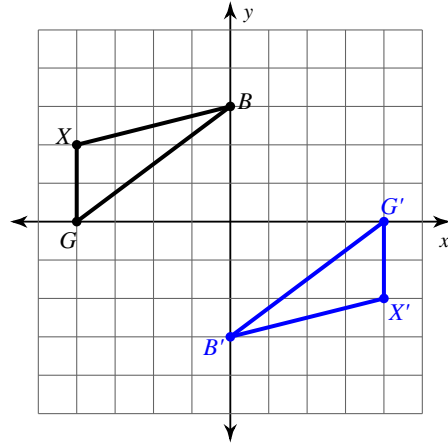
reflection across $x = 3$

7)

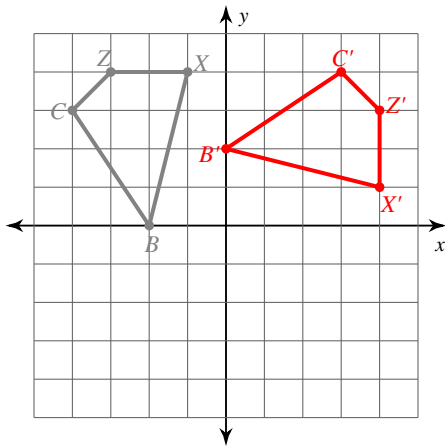
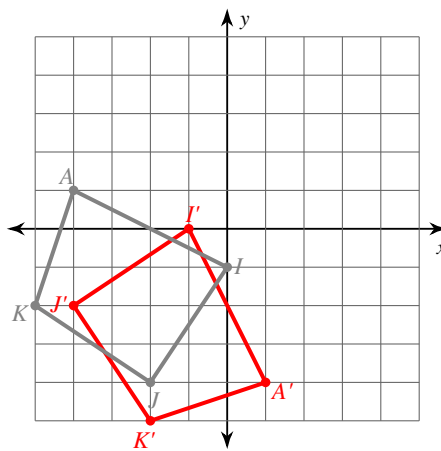


reflection across the x-axis

8)

rotation 180° about the origin

Graph the image of the figure using the transformation given.

9) rotation 90° clockwise about the origin
 $B(-2, 0)$, $C(-4, 3)$, $Z(-3, 4)$, $X(-1, 4)$ 10) reflection across $y = x$
 $K(-5, -2)$, $A(-4, 1)$, $I(0, -1)$, $J(-2, -4)$ 

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

11) rotation 180° about the origin
 $E(2, -2)$, $J(1, 2)$, $R(3, 3)$, $S(5, 2)$ $E'(-2, 2)$, $J'(-1, -2)$, $R'(-3, -3)$, $S'(-5, -2)$ 12) reflection across $y = 2$
 $J(1, 3)$, $U(0, 5)$, $R(1, 5)$, $C(3, 2)$ $U'(0, -1)$, $R'(1, -1)$, $C'(3, 2)$, $J'(1, 1)$ 13) translation: 7 units right and 1 unit down
 $J(-3, 1)$, $F(-2, 3)$, $N(-2, 0)$ $J'(4, 0)$, $F'(5, 2)$, $N'(5, -1)$ 14) translation: 6 units right and 3 units down
 $S(-3, 3)$, $C(-1, 4)$, $W(-2, -1)$ $S'(3, 0)$, $C'(5, 1)$, $W'(4, -4)$

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Math 1 Worksheet 8.4: Compositions of Transformations

For problems 1-6, in each of the following transformations, write the coordinate notation.

Example: Reflect about the y-axis then translate up two units $(x, y) \rightarrow (-x, y) \rightarrow (-x, y + 2)$

1. Translate 5 units to the right then rotate 90° counterclockwise about the origin

$$(x, y) \rightarrow (\underline{\hspace{1cm}}, \underline{\hspace{1cm}}) \rightarrow (\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$$

2. Reflect over the x-axis then translate up two units

$$(x, y) \rightarrow (\underline{\hspace{1cm}}, \underline{\hspace{1cm}}) \rightarrow (\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$$

3. Translate left 6 units and up 4 units then rotate 180° counterclockwise about the origin

$$(x, y) \rightarrow (\underline{\hspace{1cm}}, \underline{\hspace{1cm}}) \rightarrow (\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$$

4. Rotate 90° counterclockwise about the origin then translate right 2 units and down 3 units

$$(x, y) \rightarrow (\underline{\hspace{1cm}}, \underline{\hspace{1cm}}) \rightarrow (\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$$

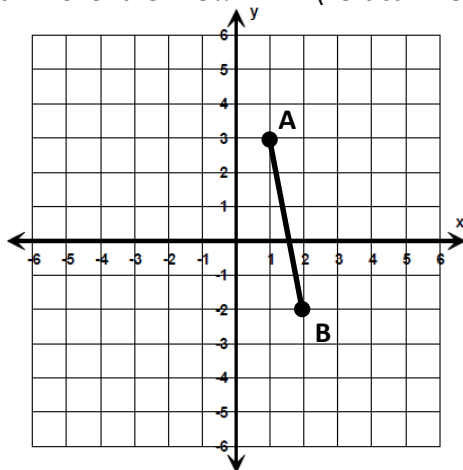
5. Reflect over the y-axis then rotate 270° counterclockwise about the origin

$$(x, y) \rightarrow (\underline{\hspace{1cm}}, \underline{\hspace{1cm}}) \rightarrow (\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$$

6. Reflect over the x-axis then translate up 1 unit and left 6 units

$$(x, y) \rightarrow (\underline{\hspace{1cm}}, \underline{\hspace{1cm}}) \rightarrow (\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$$

7. Reflect \overline{AB} over the line $x = -2$ (vertical line passing through -2 on the x-axis)

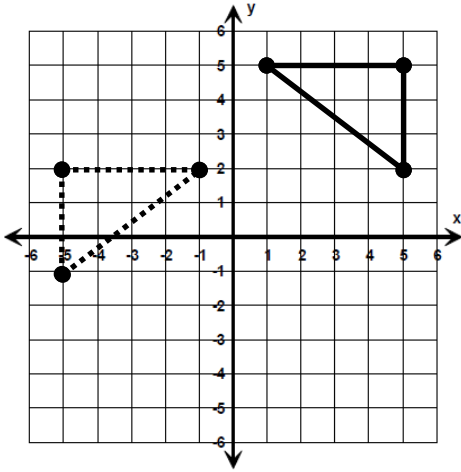


Create a rule that describes this transformation

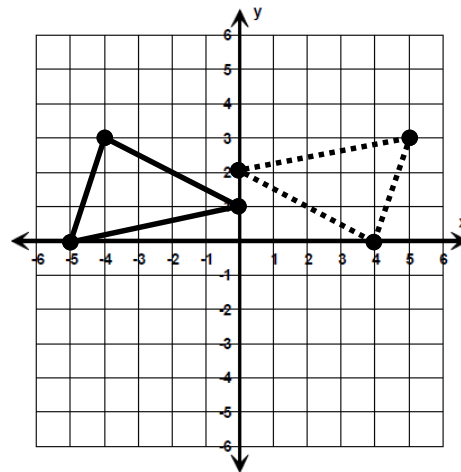
$$(x, y) \rightarrow (\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$$

In problems 8-13, describe the transformations needed to produce the images (dotted shapes).

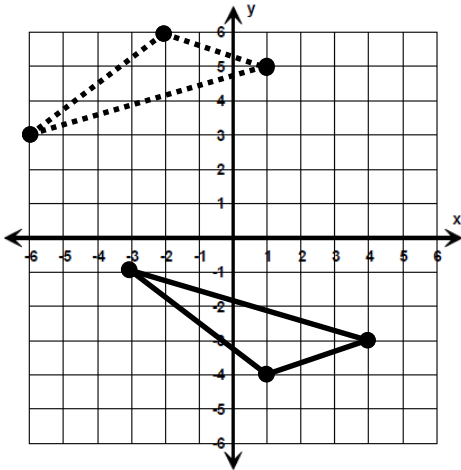
8.



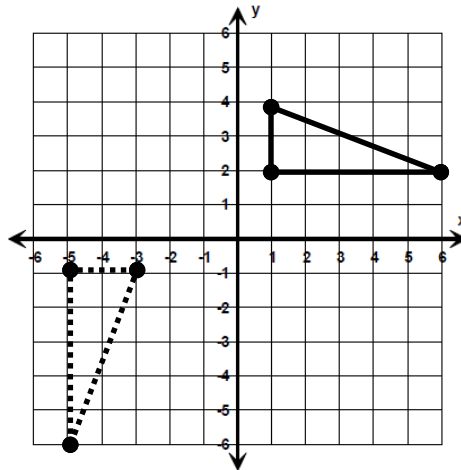
9.



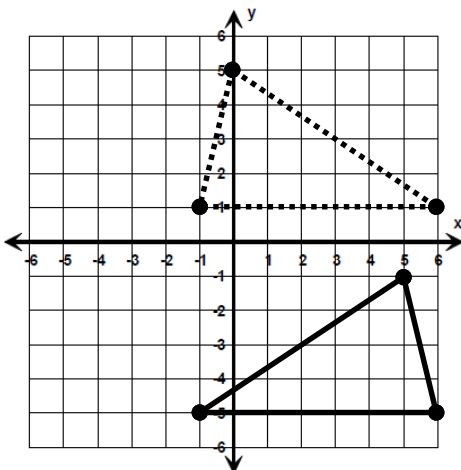
10.



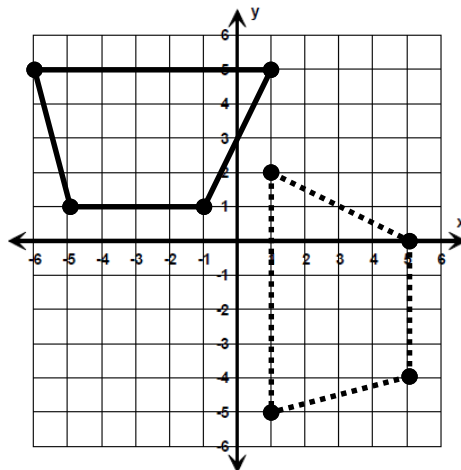
11.



12.

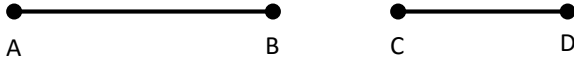


13.



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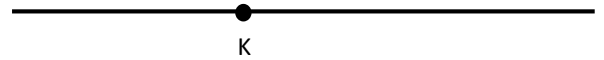
Math 1 Worksheet 8-5 (10.1) Guided Practice



1. Make a copy of AB
below <http://www.mathopenref.com/constcopysegment.html>

5. Create a perpendicular through point K
<http://www.mathopenref.com/constperplinepoint.html>

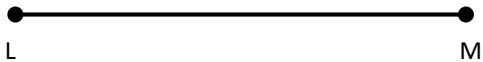
2. Create a segment equal to AB+CD. Include markings.
<http://www.mathopenref.com/constaddsegments.html>



3. Create a segment equal to 2·CD
<http://www.mathopenref.com/constaddsegments.html>

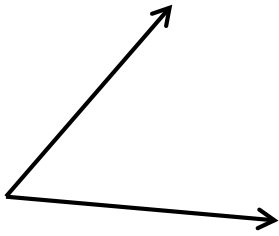
4. Create a perpendicular bisector to \overline{LM}
<http://www.mathopenref.com/constbisectline.html>

6. Create a perpendicular through point P
<http://www.mathopenref.com/constperpextpoint.html>



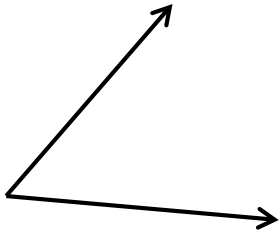
7. Make a copy of the angle

<http://www.mathopenref.com/constcopyangle.html>



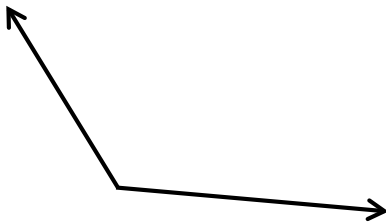
8. Bisect the angle

<http://www.mathopenref.com/constbisectangle.html>



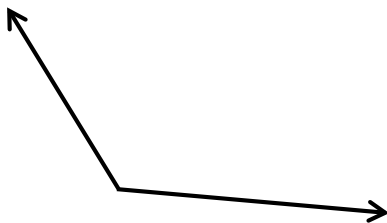
9. Make a copy of the angle

<http://www.mathopenref.com/constcopyangle.html>



10. Bisect the angle

<http://www.mathopenref.com/constbisectangle.html>



11. Create a 90° angle

<http://www.mathopenref.com/constangle90.html>

12. Create a 45° angle

<http://www.mathopenref.com/constangle45.html>

13. Create a 60° angle

<http://www.mathopenref.com/constangle60.html>

Name _____ Period _____ Date _____

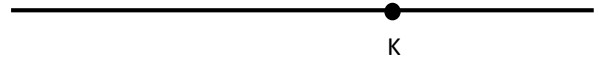
Math 1 Worksheet 8-5b (10.1b) Independent Practice



1. Make a copy of AB
below <http://www.mathopenref.com/constcopysegment.htm>
!

5. Create a perpendicular through point K
<http://www.mathopenref.com/constperplinepoint.html>

2. Create a segment equal to AB+CD. Include
markings. <http://www.mathopenref.com/constaddsegments.html>



3. Create a segment equal to 2·CD
<http://www.mathopenref.com/constaddsegments.html>

4. Create a perpendicular bisector to \overline{LM}
<http://www.mathopenref.com/constbisectline.html>

6. Create a perpendicular through point P
<http://www.mathopenref.com/constperpextpoint.html>

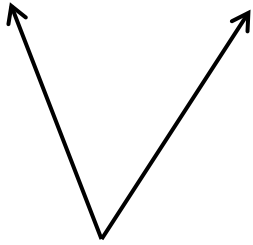


● P



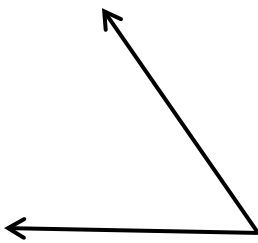
7. Make a copy of the angle

<http://www.mathopenref.com/constcopyangle.html>



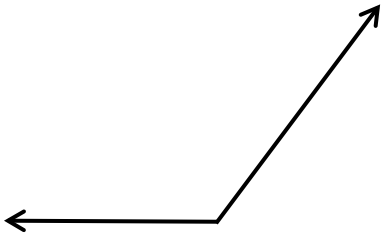
8. Bisect the angle

<http://www.mathopenref.com/constbisectangle.html>



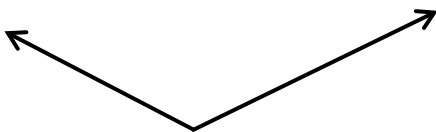
9. Make a copy of the angle

<http://www.mathopenref.com/constcopyangle.html>



10. Bisect the angle

<http://www.mathopenref.com/constbisectangle.html>



11. Create a 90° angle

<http://www.mathopenref.com/constangle90.html>

12. Create a 45° angle

<http://www.mathopenref.com/constangle45.html>

13. Create a 30° angle

<http://www.mathopenref.com/constangle60.html>

Name _____ Period _____ Date _____

Math 1 Worksheet 8-6 (11.6) Guided Practice

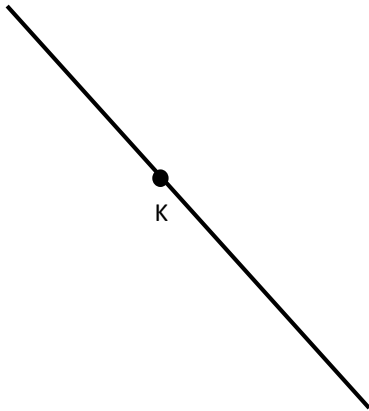
1. Bisect \overline{LM}

<http://www.mathopenref.com/constbisectline.html>



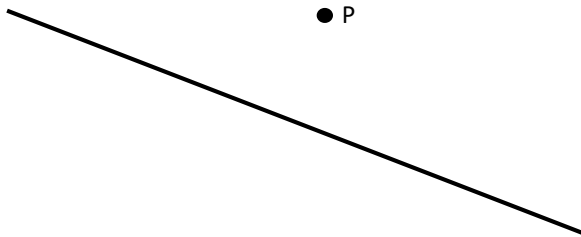
2. Construct a perpendicular through point K

<http://www.mathopenref.com/constperplinepoint.html>



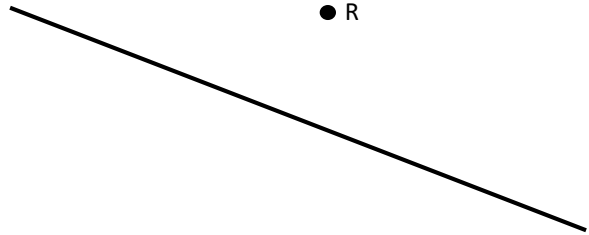
3. Construct a perpendicular through point P

<http://www.mathopenref.com/constperpextpoint.html>



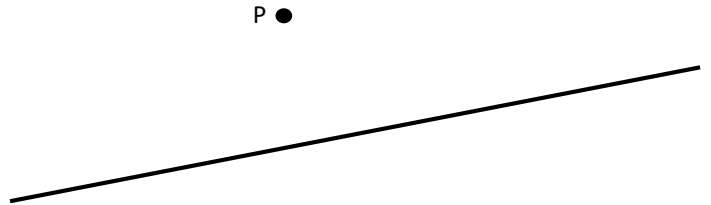
4. Construct a line parallel through R (Angle Copy Method)

<http://www.mathopenref.com/constparallel.html>



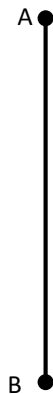
5. Construct a line parallel through P (Angle Copy Method)

<http://www.mathopenref.com/constbisectangle.html>



6. Construct an equilateral triangle with all sides equal to \overline{AB}

<http://www.mathopenref.com/constcopyangle.html>



7. Construct a square with the given side length

<http://www.mathopenref.com/constsquare.html>



8. Construct a Hexagon with the given side length

<http://www.mathopenref.com/consthexagon.html>



Name _____ Period _____ Date _____

Math 1 Worksheet 8-6b (11.6) Independent Practice

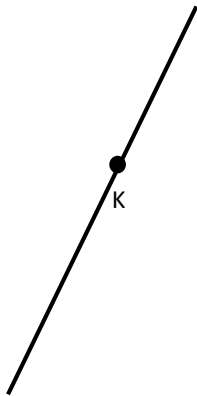
1. Bisect \overline{LM}

<http://www.mathopenref.com/constbisectline.html>



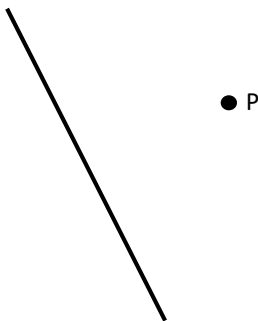
2. Construct a perpendicular through point K

<http://www.mathopenref.com/constperplinepoint.html>



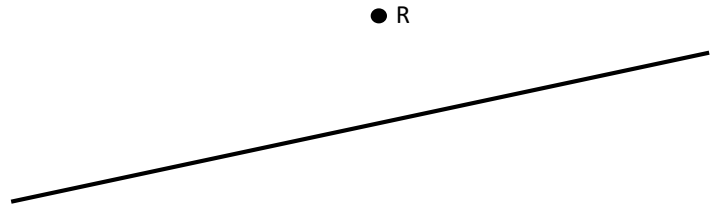
3. Construct a perpendicular through point P

<http://www.mathopenref.com/constperpextpoint.html>



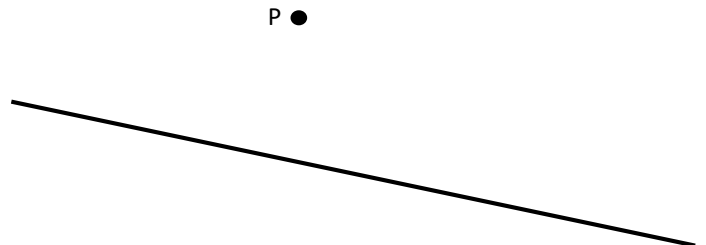
4. Construct a line parallel through R (Angle Copy Method)

<http://www.mathopenref.com/constparallel.html>



5. Construct a line parallel through P (Angle Copy Method)

<http://www.mathopenref.com/constbisectangle.html>



6. Construct an equilateral triangle with all sides equal to \overline{AB}

<http://www.mathopenref.com/constcopyangle.html>



7. Construct a square with the given side length

<http://www.mathopenref.com/constsquare.html>

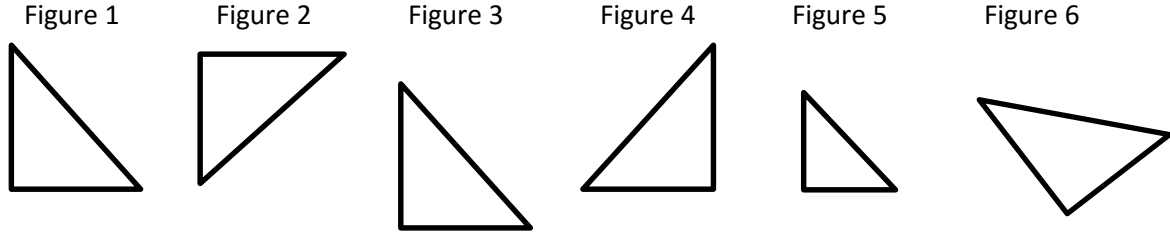


8. Construct a Hexagon with the given side length

<http://www.mathopenref.com/consthexagon.html>



1. From the figures below which type of transformation was mapped one figure onto the second figure.
- A. Rigid Motion – Reflection
 - B. Rigid Motion – Translation
 - C. Rigid Motion – Rotation
 - D. The transformation does not appear to be rigid motion.



- 1a. _____
- 1b. _____
- 1c. _____
- 1d. _____
- 1e. _____
- 1f. _____

- 1a. Figure 1 to Figure 2
- 1b. Figure 1 to Figure 3
- 1c. Figure 1 to Figure 4
- 1d. Figure 1 to Figure 5
- 1e. Figure 1 to Figure 6
- 1f. Figure 2 to Figure 4

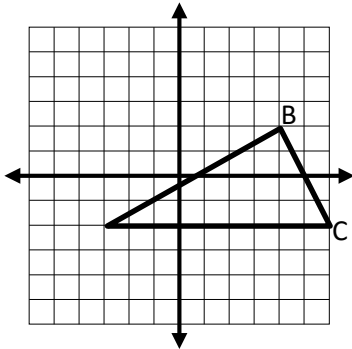
2. Complete the table with the missing parts.

Original graph – pre-image with labels	Image with labels	Rule
<p>a.</p>		<p>$(x, y) \rightarrow (\quad , \quad)$</p> <p>Describe in words: <u>move 4 units right and 5 units down</u></p> <p>Slope \overline{AB} = _____</p> <p>Slope $\overline{A'B'}$ = _____</p>
<p>b.</p>		<p>$(x, y) \rightarrow (\quad - x \quad , \quad y \quad)$</p> <p>Describe in words: _____ _____</p> <p>Slope \overline{EB} = _____</p> <p>Slope $\overline{E'B'}$ = _____</p>
<p>c.</p>		<p>$(x, y) \rightarrow (\quad , \quad)$</p> <p>Describe in words: Rotate 90° clockwise about the origin.</p> <p>Slope \overline{GH} = _____</p> <p>Slope $\overline{G'H'}$ = _____</p>

3. In 2b above, is $\triangle DEF \cong \triangle D'E'F'$? Why? _____

4. Plot and label the image of the triangle after the transformation of:

a. $(x, y) \rightarrow (x - 3, y + 2)$



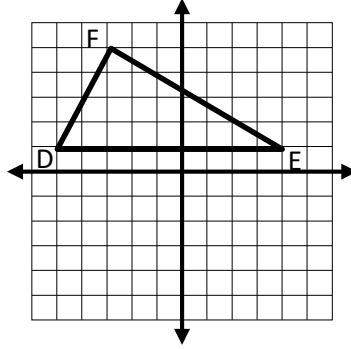
$A(-3, -2) \rightarrow A'(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$

Slope $\overline{AB} = \underline{\hspace{1cm}}$

Slope $\overline{A'B'} = \underline{\hspace{1cm}}$

$(x, y) \rightarrow (\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$

b. reflect over the x axis



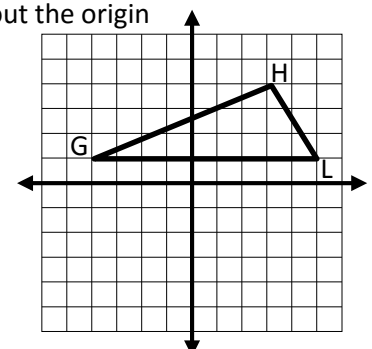
$F(-3, 5) \rightarrow F'(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$

Slope $\overline{FE} = \underline{\hspace{1cm}}$

Slope $\overline{F'E'} = \underline{\hspace{1cm}}$

$(x, y) \rightarrow (\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$

c. rotate 90° counterclockwise about the origin



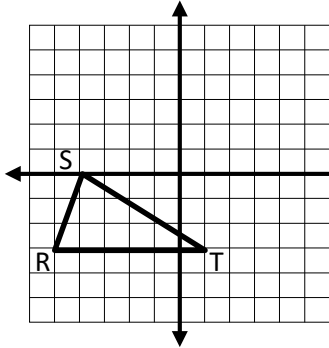
$L(5, 1) \rightarrow L'(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$

Slope $\overline{GH} = \underline{\hspace{1cm}}$

Slope $\overline{G'H'} = \underline{\hspace{1cm}}$

$(x, y) \rightarrow (\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$

5. Describe in detail the transformation of $\triangle RST$ to $\triangle UVW$. $(x, y) \rightarrow (-x, y + 4)$ Draw and label $\triangle UVW$.



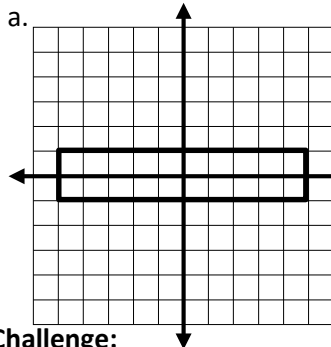
In words: _____

$(x, y) \rightarrow (\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$

Is $\triangle RST \cong \triangle UVW$? _____ why? _____

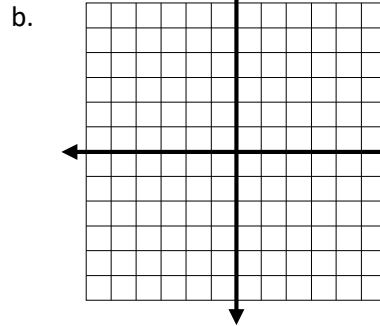
$\overline{RS} \cong \underline{\hspace{1cm}}$ $\overline{UV} \cong \underline{\hspace{1cm}}$ $\angle S \cong \underline{\hspace{1cm}}$ $\angle W \cong \underline{\hspace{1cm}}$

6. Name two transformations that will map the shape onto itself.



1. _____

2. _____

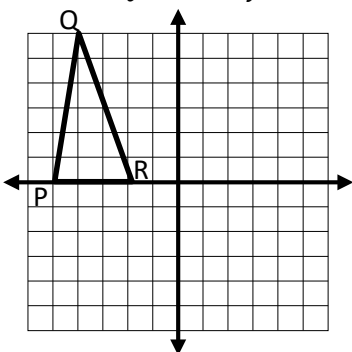


1. _____

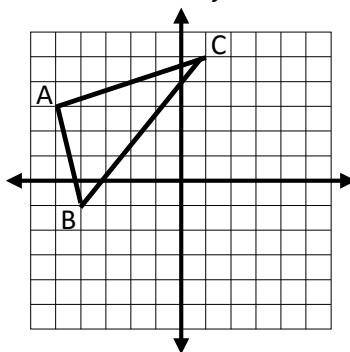
2. _____

6. Challenge:

a. graph line $y = x$, reflect $\triangle PQR$ across $y = x$



b. graph line $y = x + 2$, reflect $\triangle ABC$ across $y = x + 2$



c. rotate $\triangle DEF$ 90° counterclockwise about point D

