

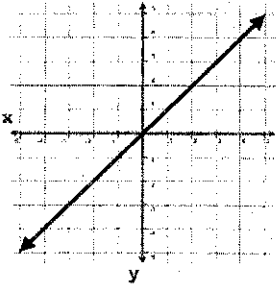
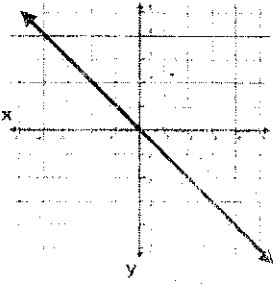
Name: Kay

Date: _____

Reflections: Isometric transformation in which the pre-image "Flips" to create a mirror image.

Figures maintain the same shape and size.

Each point moves the same distance from the line of reflection.

Line of Symmetry (Draw)	Reflection Rule	Example (ordered pairs)
Reflection across x-axis	$(x,y) \rightarrow (x,-y)$	$C(-2, 4) \rightarrow C'(-2, -4)$ $A(0, -8) \rightarrow A'(0, 8)$ $T(-3, 5) \rightarrow T'(-3, -5)$
Reflection across y-axis	$(x,y) \rightarrow (-x,y)$	$H(1, 2) \rightarrow H'(-1, 2)$ $A(-3, -5) \rightarrow A'(3, -5)$ $T(4, -1) \rightarrow T'(-4, -1)$
Horizontal and Vertical Lines VUX HOY *Each figure is same distance from line of reflection	Reflected over $x = 2$ (y stays the same, x changes) Reflected over $y = 2$ (x stays the same, y changes)	Reflect $x = 2$ $A(3, 5) \rightarrow A'(1, 5)$ $(2-1)$ Reflect $y = -1$ $B(-3, -3) \rightarrow B'(-3, 1)$ $(-1+2)$
Reflection across $y = x$ 	$(x,y) \rightarrow (y,x)$	$B(-7, -12) \rightarrow B'(7, 12)$ $A(8, -2) \rightarrow A'(-2, 8)$ $T(9, 13) \rightarrow T'(13, 9)$
Reflection across $y = -x$ 	$(x,y) \rightarrow (-y,-x)$	$W(13, 21) \rightarrow W'(-21, -13)$ $E(-2, 9) \rightarrow E'(-9, 2)$ $B(17, -24) \rightarrow B'(24, -17)$

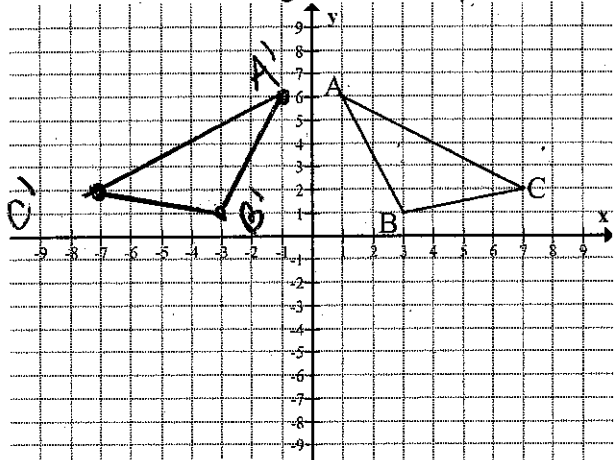
Notes:

Homework

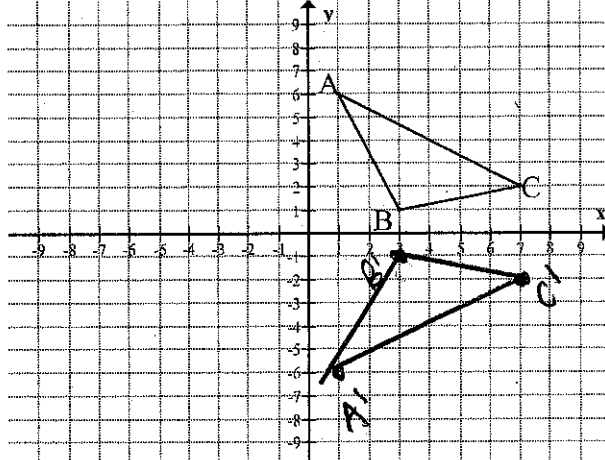
Reflections Worksheet Wkst 2a

For #1-6, draw the triangle after each transformation and give the coordinates of A', B' and C'.

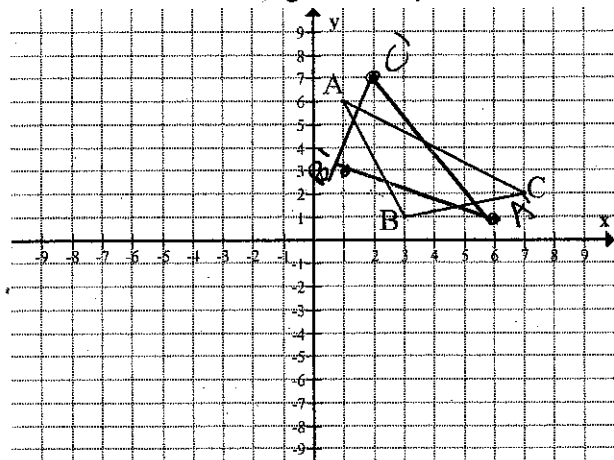
1. Reflect the triangle over the y-axis.



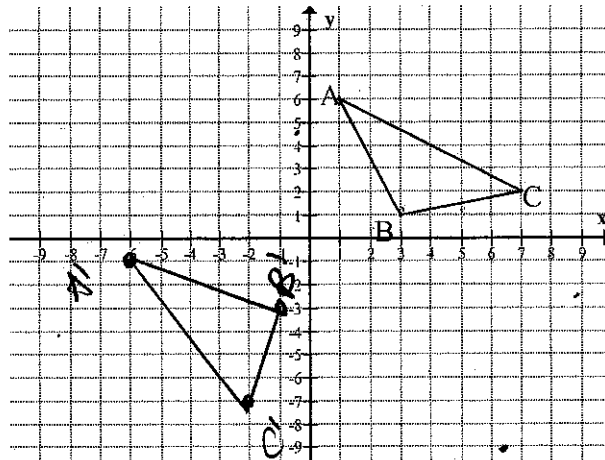
2. Reflect the triangle over the x-axis.



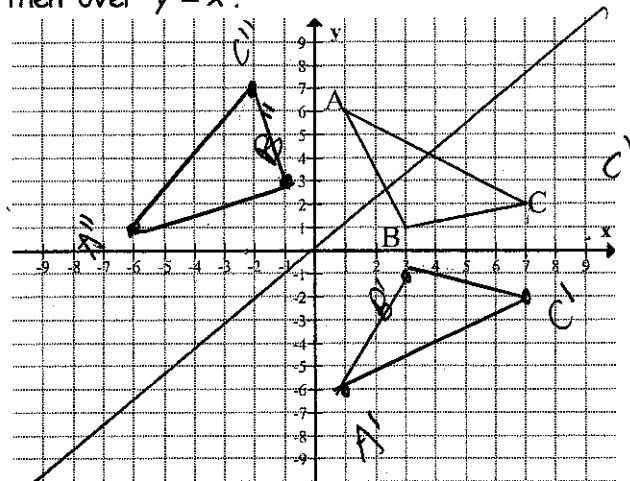
3. Reflect the triangle over $y = x$.



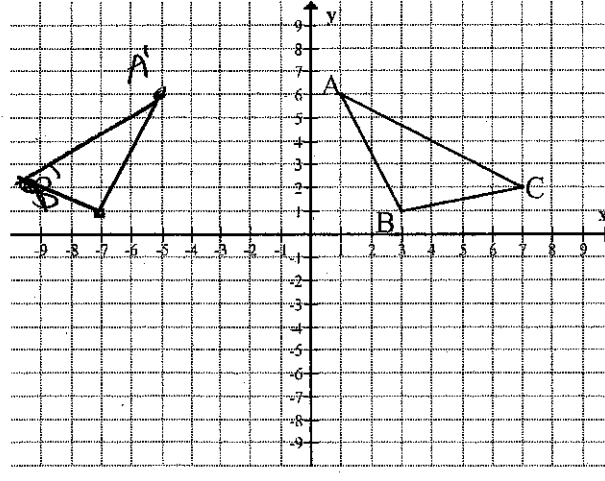
4. Reflect the triangle over $y = -x$.



5. Reflect the triangle over the x-axis and then over $y = x$.



6. Reflect the triangle over $x = -2$.



Complete.

7. After a reflection over the line $y = x$, $(8, 11)$ is the image of point C. What is the original location of point C?

$$C(11, 8)$$

8. After a reflection over the y-axis, $(0, 4)$ is the image of point L. What is the original location of point L?

$$L(0, 4)$$

9. The reflection of $J(-1, 11)$ is $J'(-1, -11)$. What is the reflection of $D(5, -5)$ if the point is reflected across the same line?

$$D'(5, 5)$$

What is the line of reflection?

reflect over x-axis

10. The reflection of $K(-2, 8)$ is $K'(8, -2)$. What is the reflection of $L(10, -3)$ if the point is reflected across the same line?

$$L'(-3, 10)$$

What is the line of reflection?

reflect over $y = x$

11. Given triangle JBN with coordinates $J(4, 5)$, $B(-1, -7)$, and $N(-7, 8)$, find the image of point B after a reflection over the line $y = x$.

$$B'(-7, -1)$$

12. After a reflection over the x-axis, $(5, 10)$ is the image of point N. What is the original location of point N?

$$N(5, -10)$$

13. Given triangle ONA with coordinates $O(-4, 1)$, $N(11, -12)$ and $A(-7, -9)$, find the image of point O after a reflection over the x-axis.

$$O'(-4, -1)$$

14. Given triangle UCJ with coordinates $U(-12, 7)$, $C(4, 2)$, and $J(-3, 9)$, find the image of point C after a reflection over the y-axis.

$$C'(-4, 2)$$

15. The reflection of $H(-10, -11)$ is $H'(10, -11)$. What is the reflection of $N(8, 10)$, if the point is reflected across the same line?

What is the line of reflection?

$$N'(-8, 10)$$

reflect across y-axis