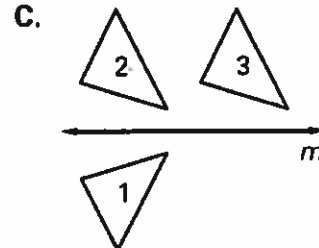
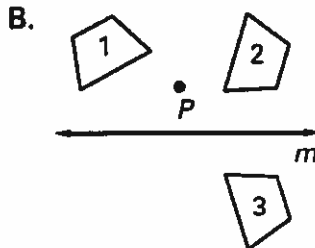
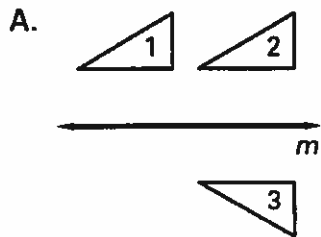


14.1 - 14.3 Practice

Name Key
 Date _____ Period _____

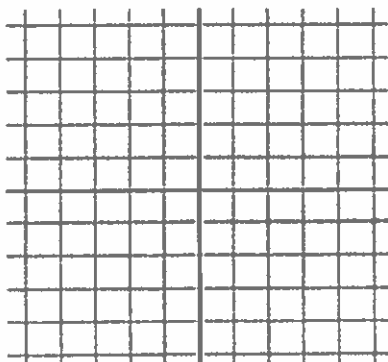
Directions: Match the composition with the diagram, in which figure 1 is the preimage of figure 2, and figure 2 is the preimage of figure 3.



1. Reflect in line m , then translate parallel to line m . **C**
2. Translate parallel to line m , then reflect in line m . **A**
3. Rotate about point P , then reflect in line m . **B**

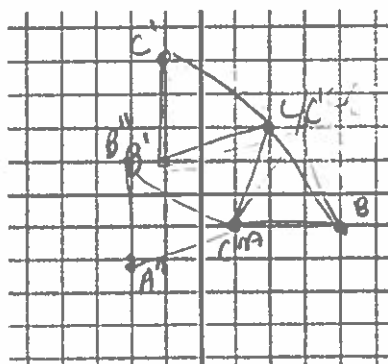
Directions: Perform the stated composition on the preimage $\triangle ABC$ where $A(1,-1)$, $B(4,-1)$, and $C(2,2)$. Then name the coordinates of the final image $\triangle A''B''C''$

4. Rotated 90° clockwise about $(2,-2)$, followed by a reflection in $x=1$



$A'' =$ _____ $B'' =$ _____ $C'' =$ _____

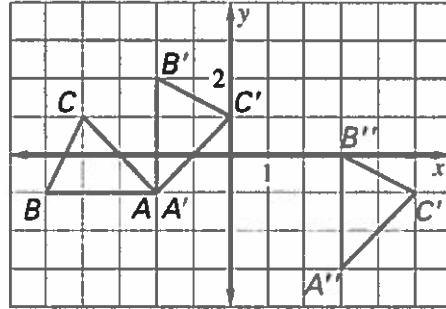
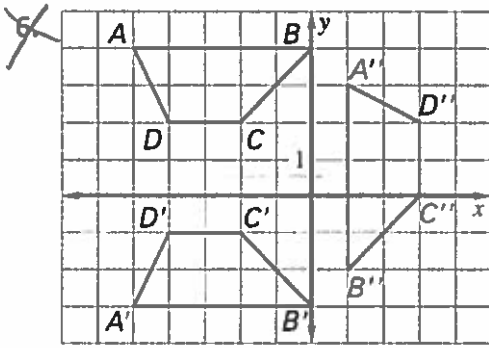
5. Reflected in $y=x$, followed by a translation with vector $\langle -1, -3 \rangle$



$$\begin{array}{l} A' = (-1, 1) \\ B' = (-1, 4) \\ C' = (2, 2) \end{array} \quad \begin{array}{l} A'' = (-2, -2) \\ B'' = (-2, 1) \\ C'' = (1, -1) \end{array}$$

$A'' =$ _____ $B'' =$ _____ $C'' =$ _____

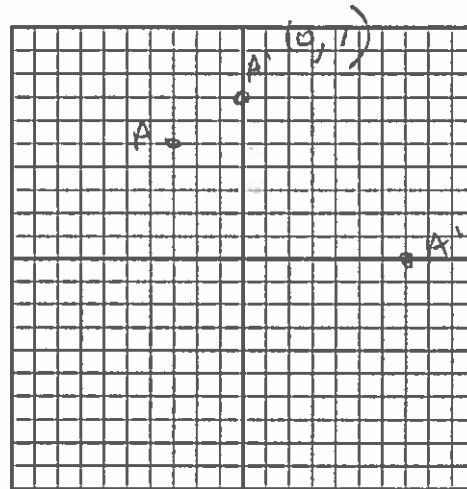
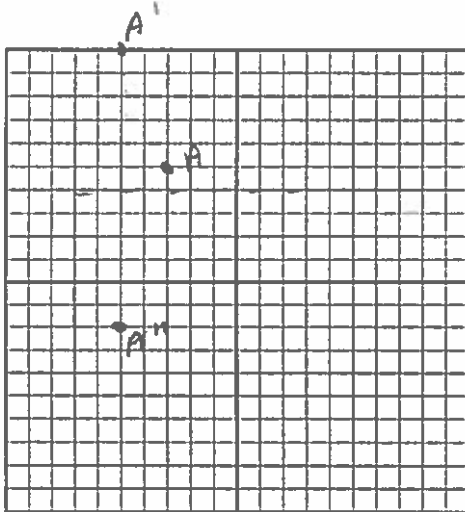
Directions: Describe the composition of transformations.



Directions: Sketch the image of A (-3,5) after the described glide reflection.

8. Translation: $(x, y) \rightarrow (x - 2, y + 5)$
 Reflection: in $y = 4$

9. Translation: $(x, y) \rightarrow (x + 3, y + 2)$
 Reflection: in $y = x$



Directions: Consider the translation defined by the coordinate notation: $(x, y) \rightarrow (x - 5, y + 8)$

10. What is the image of $(-1, 5)$?

$(-6, 13)$

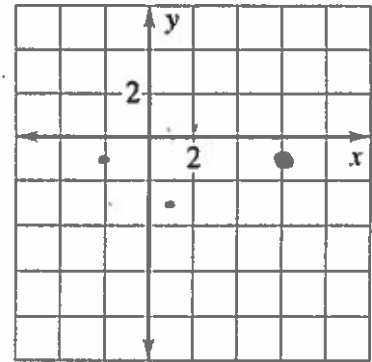
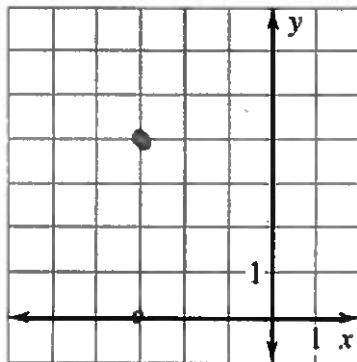
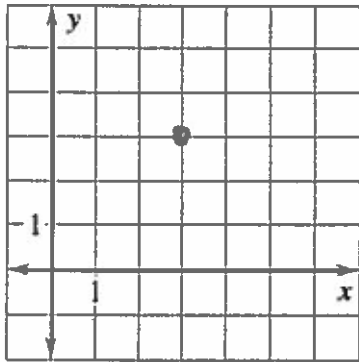
11. What is the preimage of $(7, -5)$?

$(12, -13)$

Worksheet 9.5 Composite Transformations Prep Name _____

Graph the image of $A(1, -3)$ after the described glide reflection.

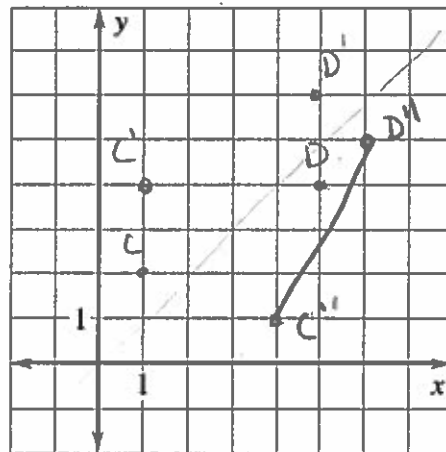
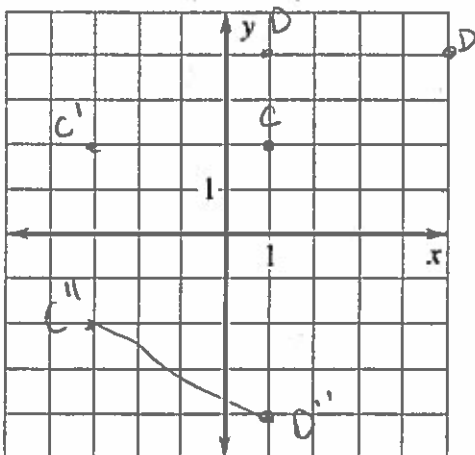
- 1) Translation: $(x, y) \rightarrow (x + 2, y)$ 2) Translation: $(x, y) \rightarrow (x - 4, y + 3)$ 3) Translation: $(x, y) \rightarrow (x - 3, y + 2)$
 Reflection: in the x -axis Reflection: in $y = 2$ Reflection: in $x = 2$



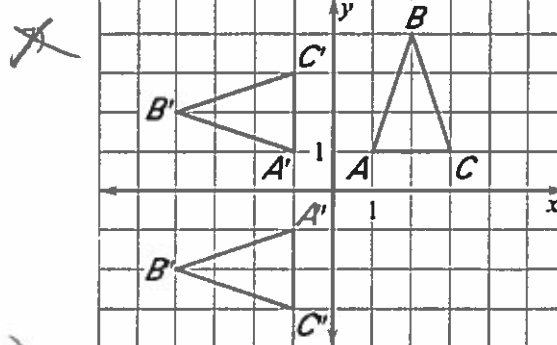
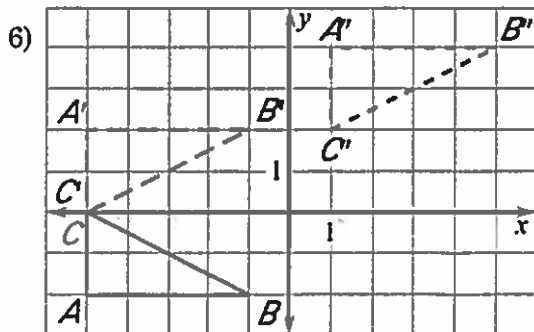
The endpoints of \overline{CD} are $C(1, 2)$ and $D(5, 4)$. Graph the image of \overline{CD} after the glide reflection.

- 4) Translation: $(x, y) \rightarrow (x - 4, y)$
 Reflection: in x -axis

- 5) Translation: $(x, y) \rightarrow (x, y + 2)$
 Reflection: in $y = x$



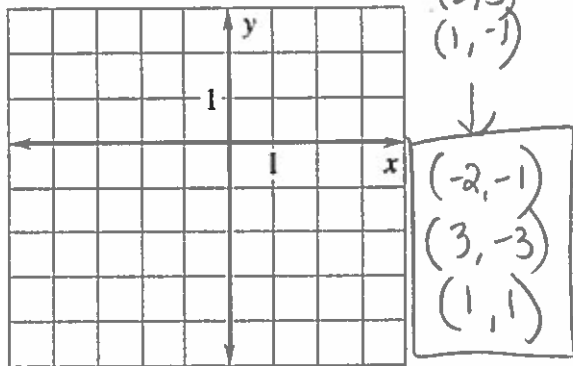
Describe the composition of the transformations.



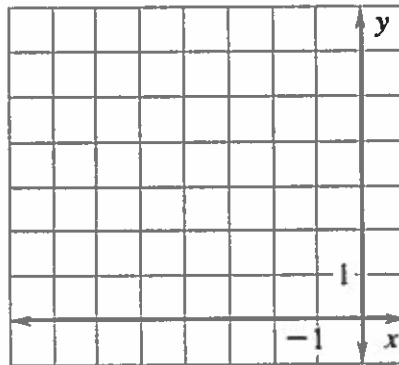
Ref. \times then $(x + 6, y + 2)$

The vertices of $\triangle ABC$ are $A(2,4)$, $B(7,6)$, and $C(5,2)$. Graph the image of $\triangle ABC$ after a composition of the transformations in the order they are listed.

- 8) Translation: $(x,y) \rightarrow (x-4,y-3)$
 Reflection: in the x -axis

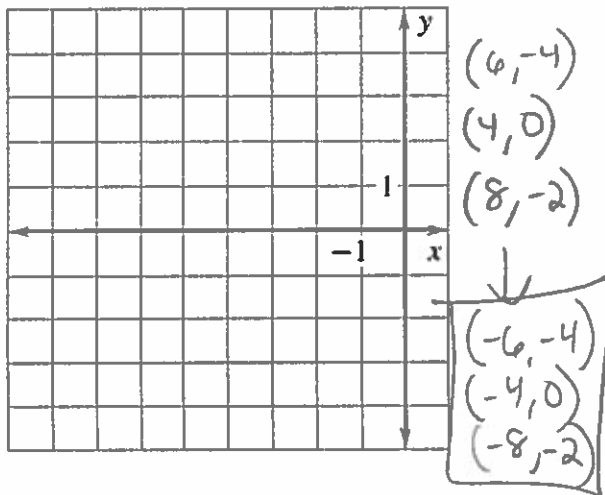


- ~~9) Translation: $(x,y) \rightarrow (x-2,y)$
 Rotation: 90° about the origin~~

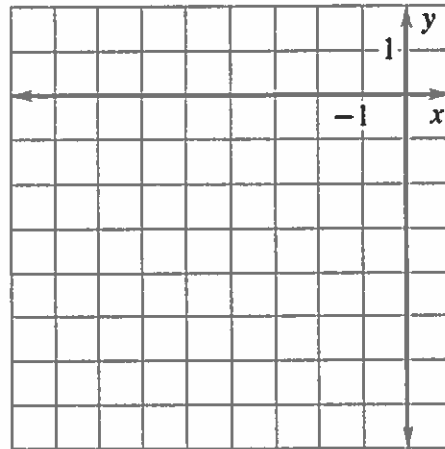


The vertices of $\triangle ABC$ are $A(3,1)$, $B(1,5)$, and $C(5,3)$. Graph the image of $\triangle ABC$ after a composition of the transformations in the order they are listed.

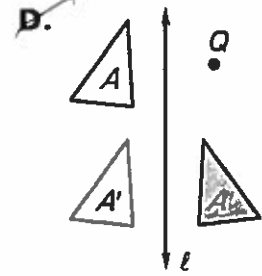
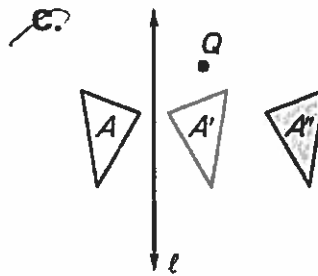
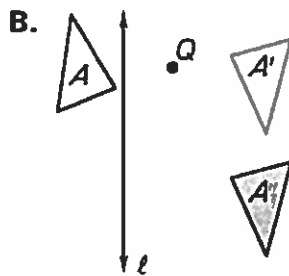
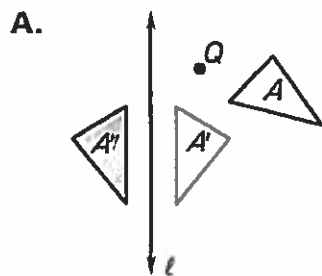
- 10) Translation: $(x,y) \rightarrow (x+3,y-5)$
 Reflection: in the y -axis



- ~~11) Translation: $(x,y) \rightarrow (x-6,y+1)$
 Rotation: 90° about the origin~~



Match the composition with the diagram.



- 12) Translate parallel to ℓ then reflect in ℓ .

D

- 13) Rotate about Q , then translate parallel to ℓ .

A

- 14) Rotate about Q , then reflect in ℓ .

B

- 15) Reflect in ℓ , then translate perpendicular to ℓ .

C