

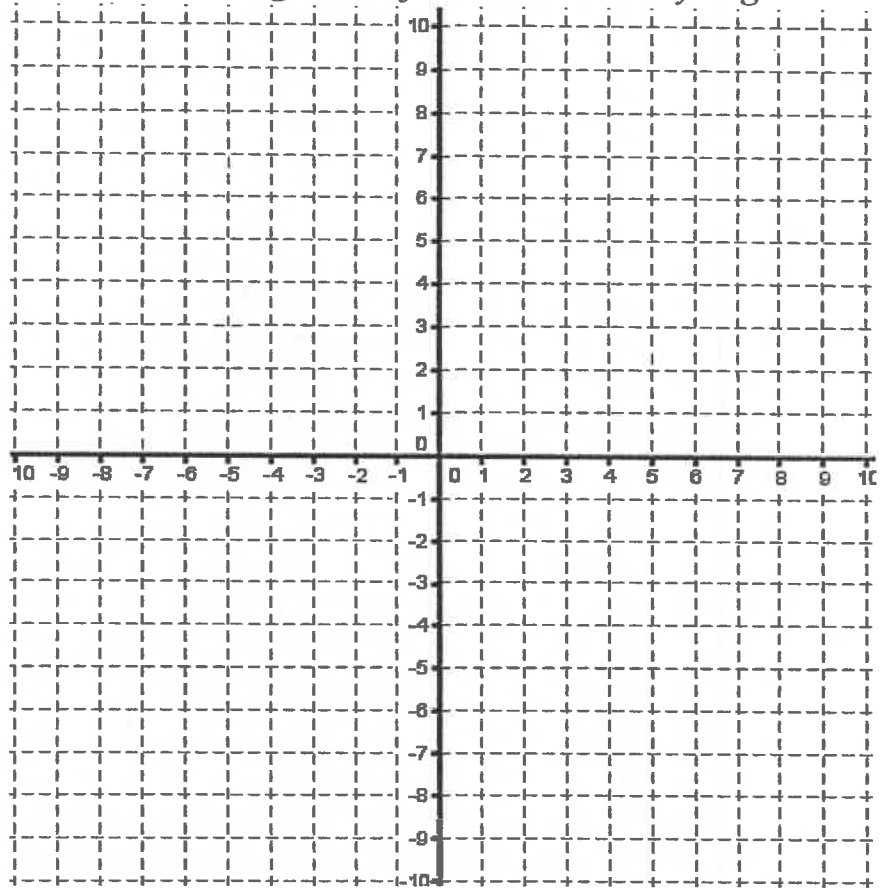
Geometry Transformation Composition Worksheet

Name _____

Directions: Plot the sequence of transformations on the grid and fill in the chart as you go!

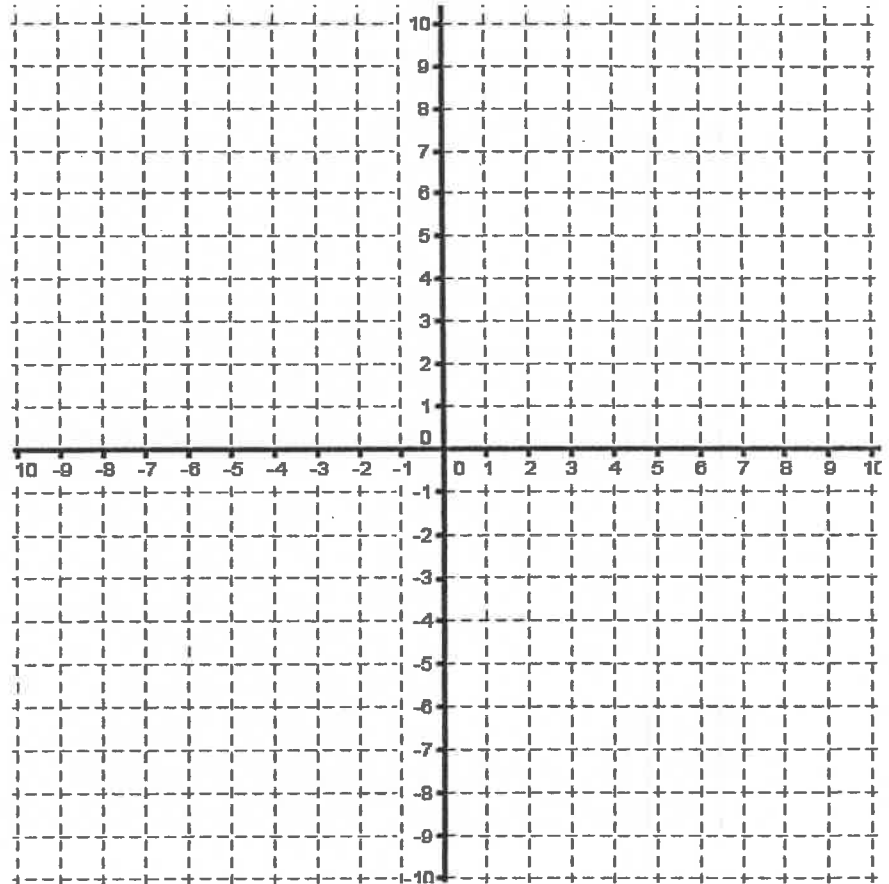
1. Pre-image: A(0,0), B(8,1), C(5,5)
 Transformations: $R_{x\text{-axis}} \circ r_{180^\circ}$

Order your Transformations:	Coordinates:
1)	A' B' C'
2)	A'' B'' C''



2. Pre-image: Q(3,3), R(-1,4), S(2,6)
 Transformations: $r_{90^\circ} \circ R_{y\text{-axis}}$

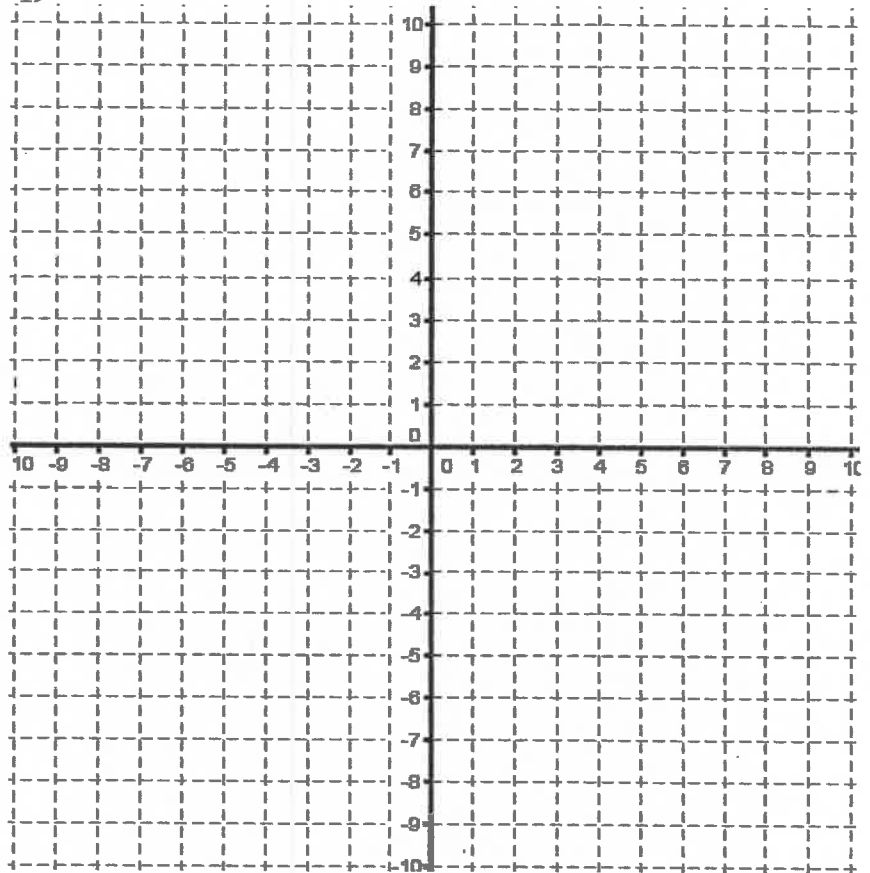
Order your Transformations:	Coordinates:
1)	Q' R' S'
2)	Q'' R'' S''



3. Pre-image: $D(9,-3)$, $E(6,-7)$, $F(3,-3)$, $G(5,-1)$

Transformations: $R_{x=2} \circ r_{180^\circ} \circ T_{\langle -10, -1 \rangle}$

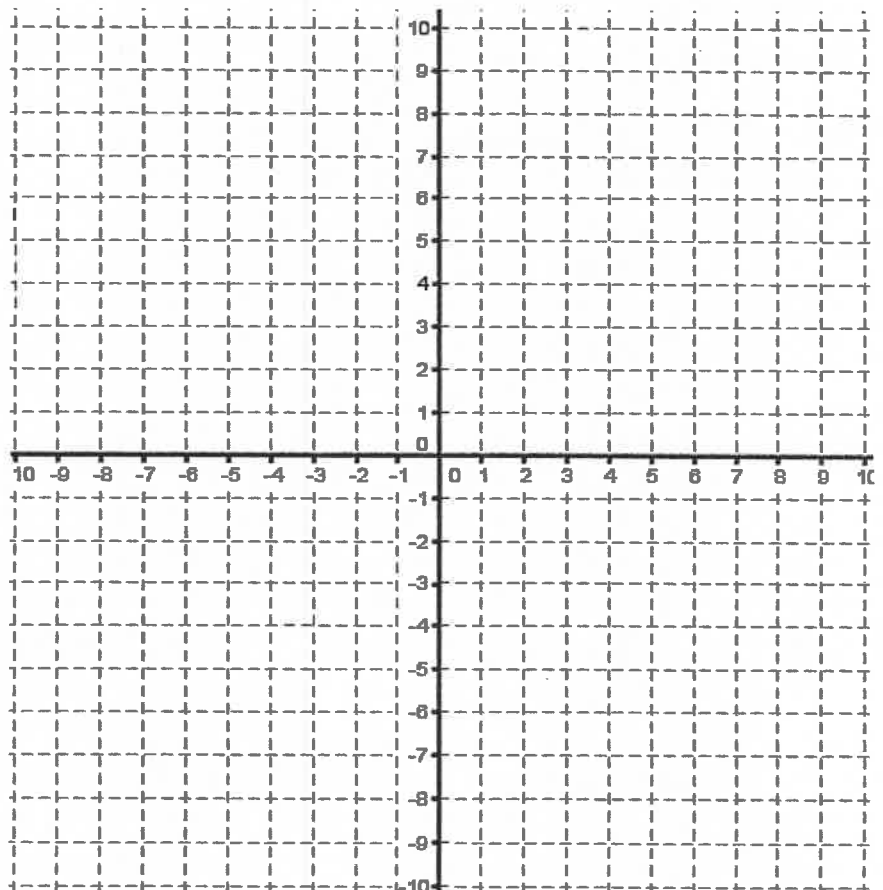
Order your Transformations:	Coordinates:
1)	D' E' F' G'
2)	D'' E'' F'' G''
3)	D''' E''' F''' G'''



4. Pre-image: $M(-3,5)$, $A(-4,0)$, $T(-8,-1)$

Transformations: $r_{90^\circ} \circ R_{y\text{-axis}} \circ R_{y=-2}$

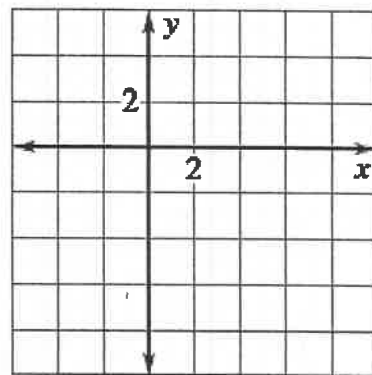
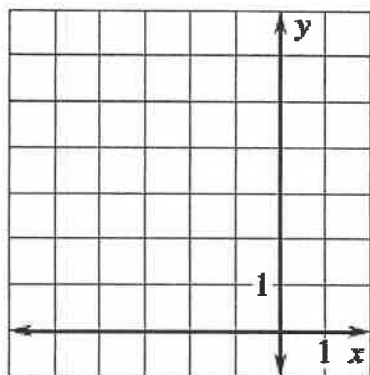
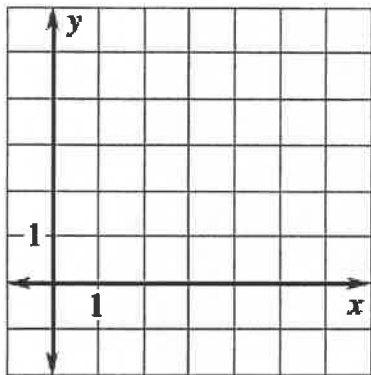
Order your Transformations:	Coordinates:
1)	M' A' T'
2)	M'' A'' T''
3)	M''' A''' T'''



Worksheet 9.5 Composite Transformations Prep Name _____

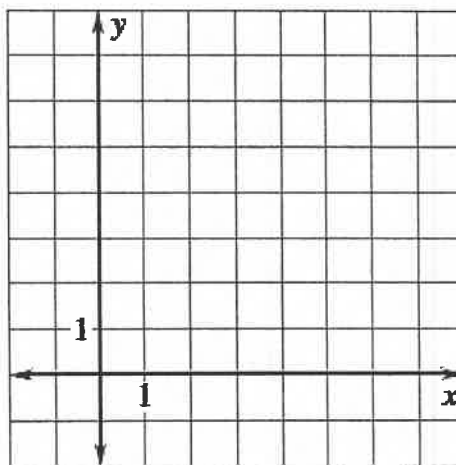
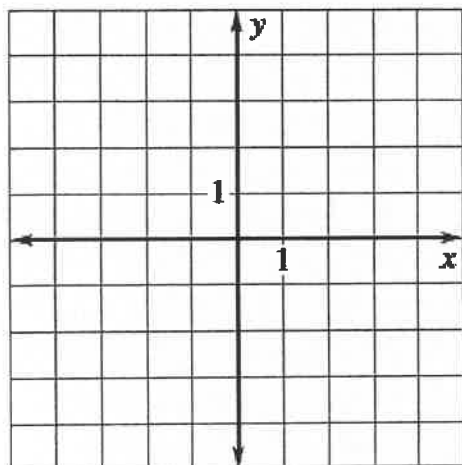
Graph the image of $A(1, -3)$ after the described glide reflection.

- 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 $x = 2$

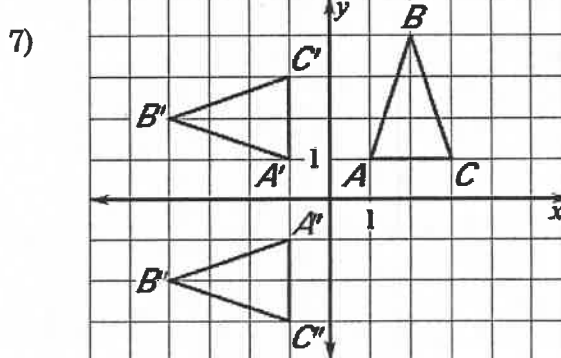
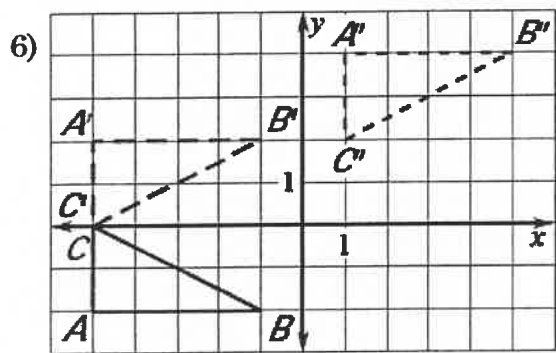


The endpoints of \overline{CD} are $C(1, 2)$ and $D(5, 4)$. Graph the image of \overline{CD} after the glide reflection.

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

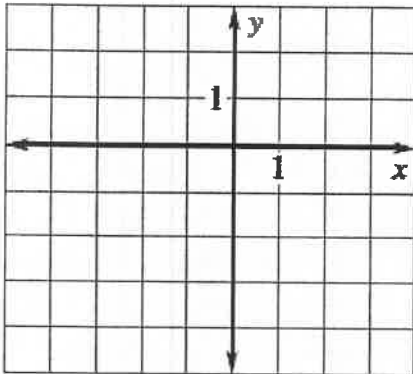


Describe the composition of the transformations.

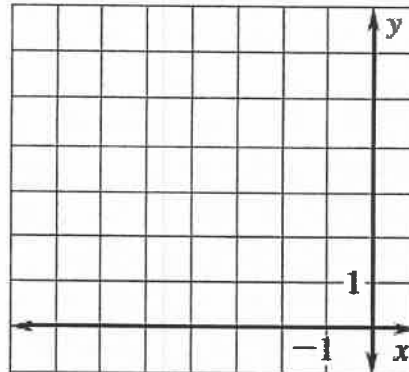


The vertices of $\triangle ABC$ are $A(2,4)$, $B(7,6)$, and $C(5,2)$. Graph the image of $\triangle ABC$ after a composition of the transformations in the order they are listed.

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

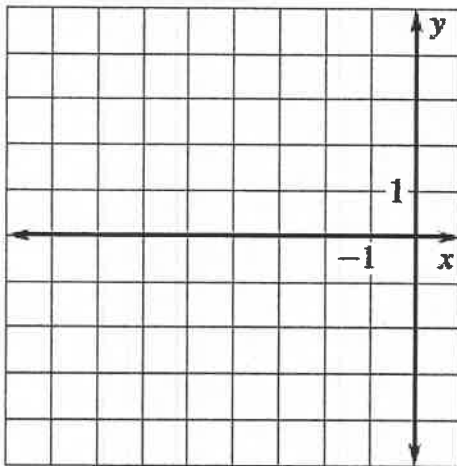


- 9) Translation: $(x, y) \rightarrow (x - 2, y)$
 Rotation: 90° about the origin

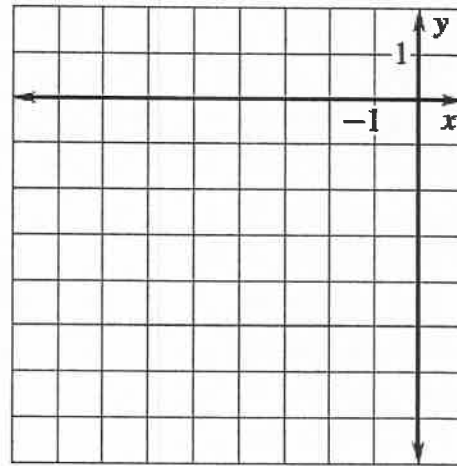


The vertices of $\triangle ABC$ are $A(3,1)$, $B(1,5)$, and $C(5,3)$. Graph the image of $\triangle ABC$ after a composition of the transformations in the order they are listed.

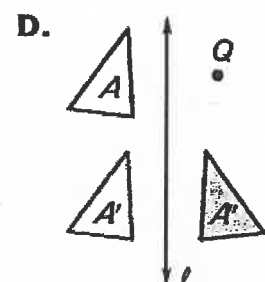
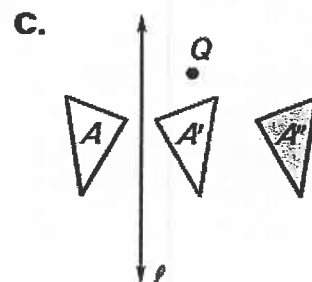
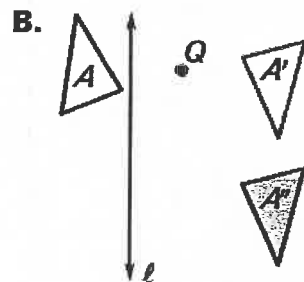
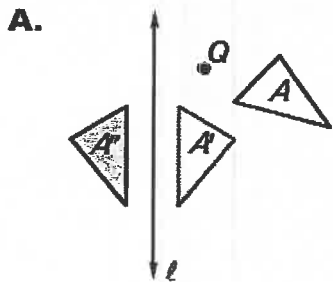
- 10) Translation: $(x, y) \rightarrow (x + 3, y - 5)$
 Reflection: in the y -axis



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

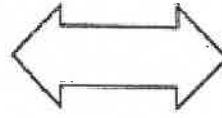
- 14) Rotate about Q , then reflect in l . 15) Reflect in l , then translate perpendicular to l .

Draw lines of symmetry on each shape. Count and write the lines of symmetry you see.

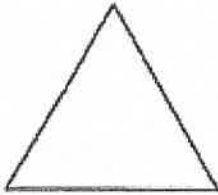
1)



2)



3)

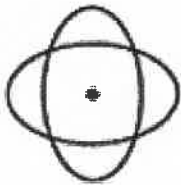


4)

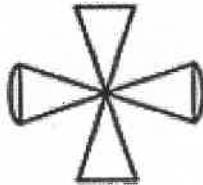


Determine the order and the angle(s) of symmetry for each figure if possible.

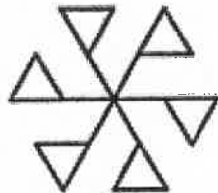
(1)



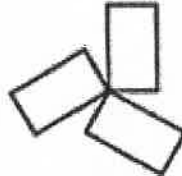
(3)



(2)



(4)



(5)



(6)



(7)

