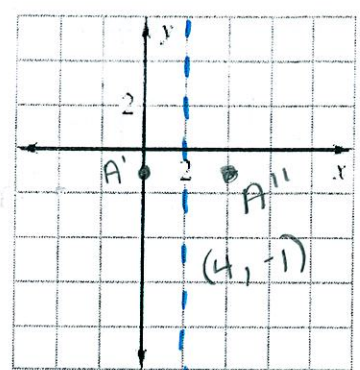
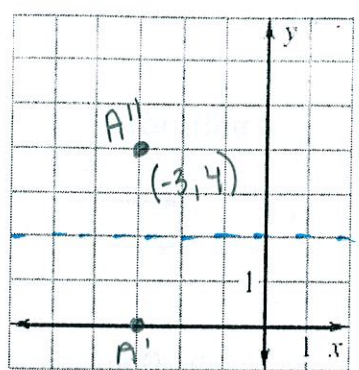
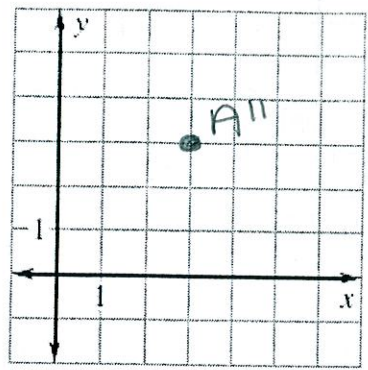


# Worksheet 4.5 Composite Transformations Prep Name \_\_\_\_\_

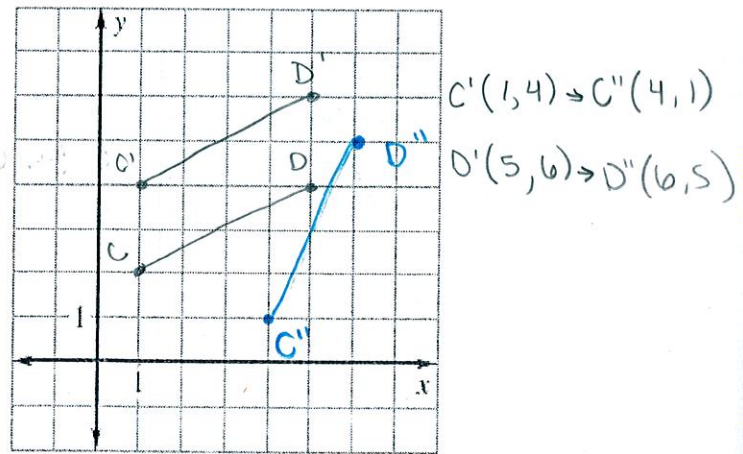
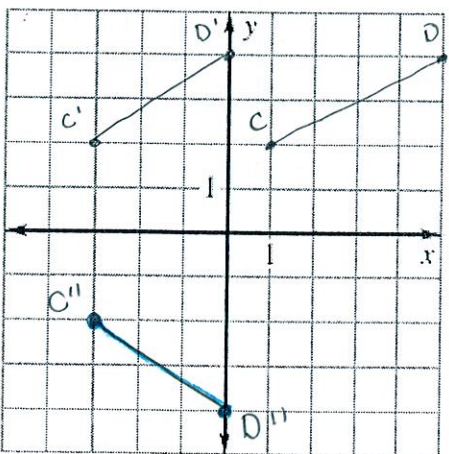
Graph the image of  $A(1, -3)$  after the described glide reflection.

- 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  $x = 2$   
 $A'(3, -3) \rightarrow A''(3, 3)$                        $A'(-3, 0)$                        $A'(-2, -1)$

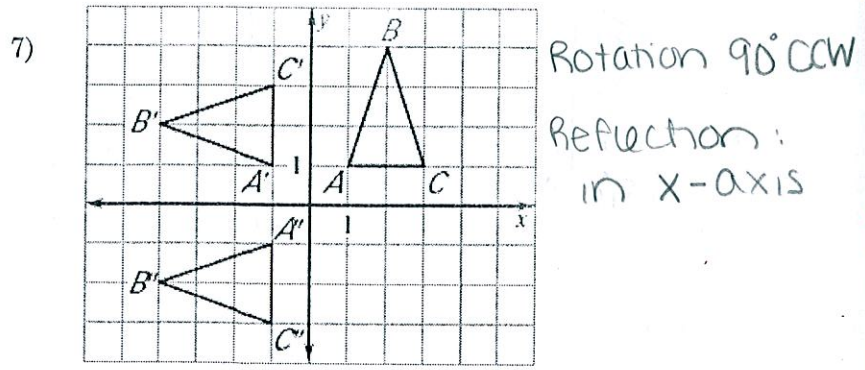
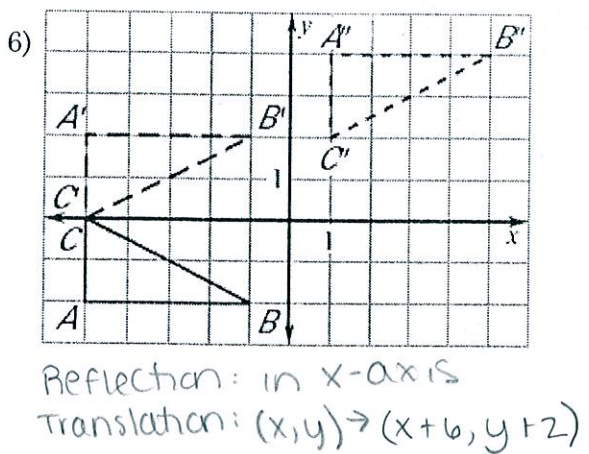


The endpoints of  $\overline{CD}$  are  $C(1, 2)$  and  $D(5, 4)$ . Graph the image of  $\overline{CD}$  after the glide reflection.

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

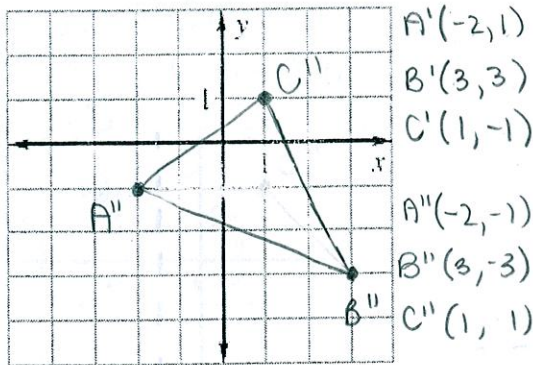


Describe the composition of the transformations.

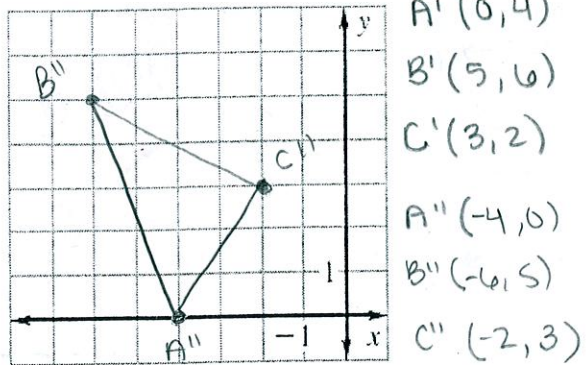


The vertices of  $\triangle ABC$  are  $A(2,4)$ ,  $B(7,6)$ , and  $C(5,2)$ . Graph the image of  $\triangle ABC$  after a composition of the transformations in the order they are listed.

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



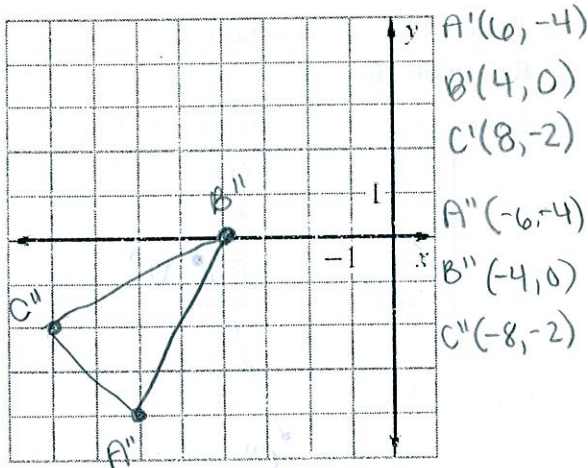
- 9) Translation:  $(x,y) \rightarrow (x-2,y)$   
Rotation:  $90^\circ$  about the origin



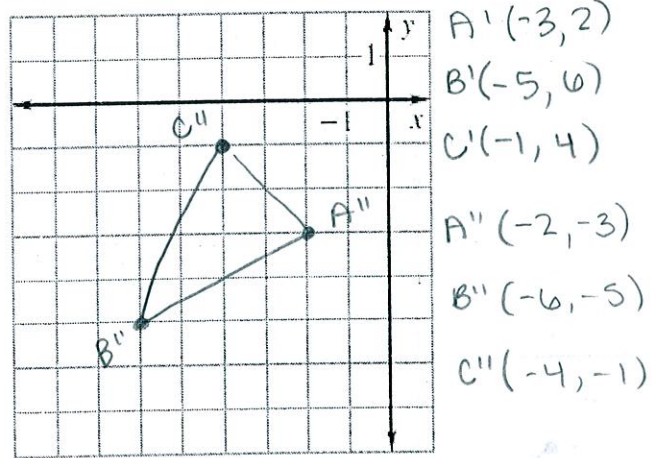
no direction given means CCW

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

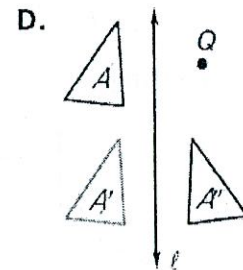
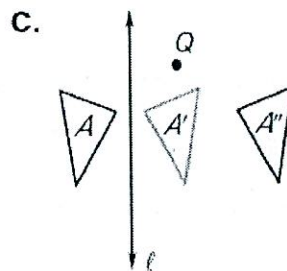
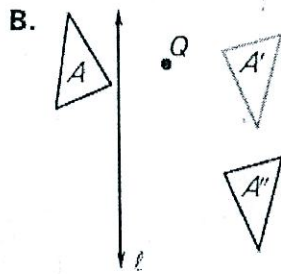
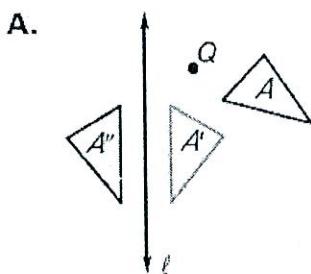


- 11) Translation:  $(x,y) \rightarrow (x-6,y+1)$   
Rotation:  $90^\circ$  about the origin



No direction means CCW

Match the composition with the diagram.



- 12) Translate parallel to  $\ell$  then reflect in  $\ell$ .

D

- 13) Rotate about  $Q$ , then translate parallel to  $\ell$ .

B

- 14) Rotate about  $Q$ , then reflect in  $\ell$ .

A

- 15) Reflect in  $\ell$ , then translate perpendicular to  $\ell$ .

C