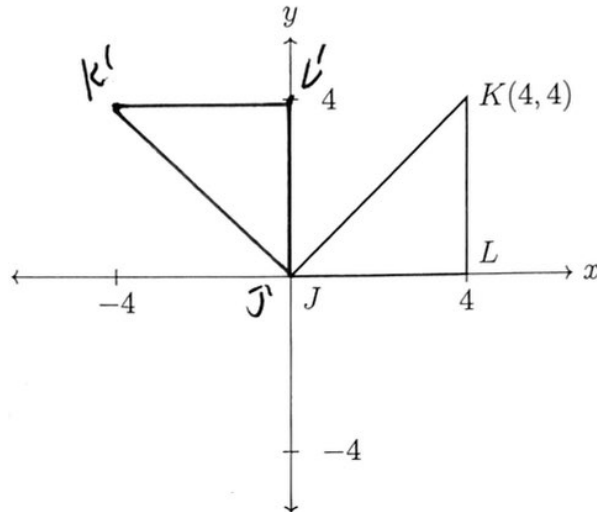


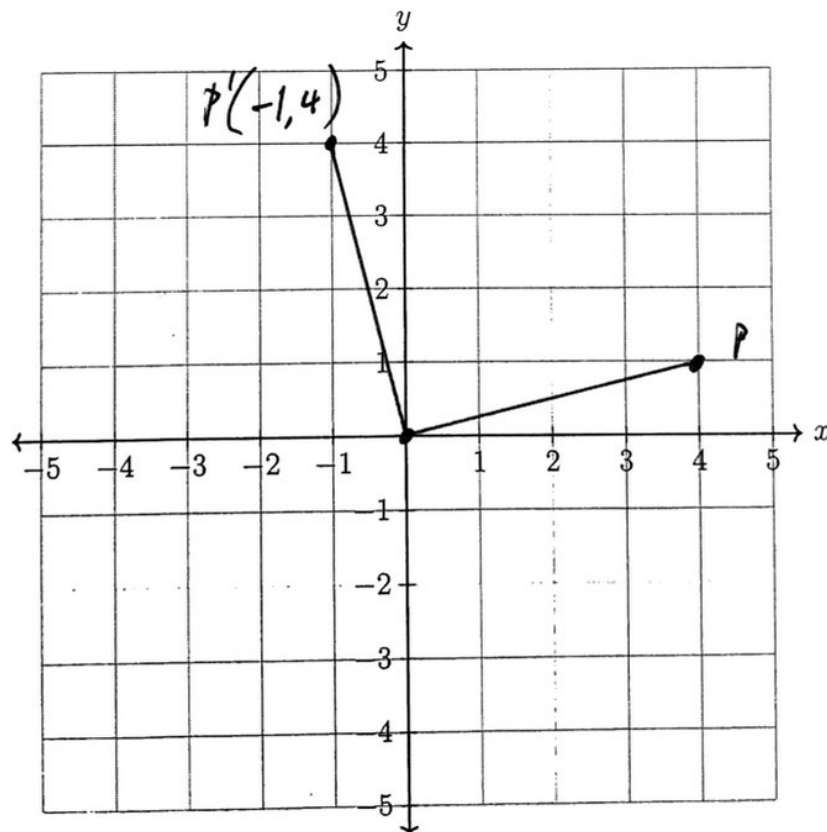
7.3 Classwork: Rotation

CCSS.HSG.CO.A.5

1. Rotate  $\triangle JKL$  counterclockwise  $90^\circ$  around the origin, labeling the image  $\triangle J'K'L'$ .

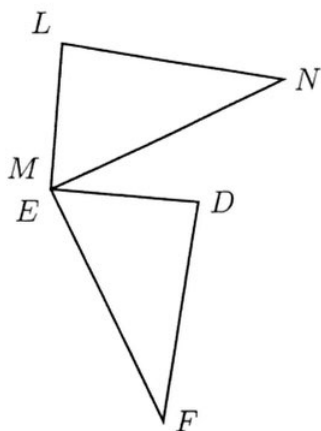


2. On the axes below, mark and label the origin,  $O(0,0)$ . Plot the point  $P(4,1)$  and segment  $\overline{OP}$ . Graph its image,  $\overline{O'P'}$ , after a  $90^\circ$  counterclockwise rotation around the origin. Mark  $P'$  and write it down as a coordinate pair.



3. A rotation maps triangle  $DEF$  onto triangle  $LMN$ .

Write the letter or letters for each corresponding object.



(a)  $E \rightarrow M$

(b)  $F \rightarrow N$

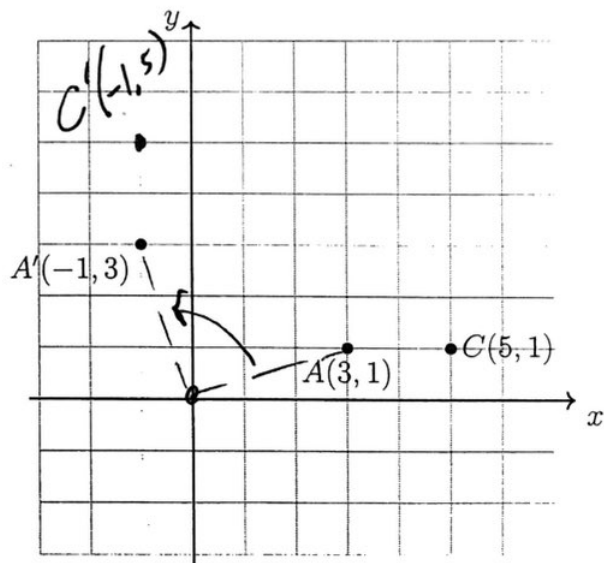
(c)  $\overline{DF} \rightarrow \overline{LN}$

4. A rotation centered at the origin maps  $A$  to  $A'$ , as shown,  $A(3, 1) \rightarrow A'(-1, 3)$ .

(a) Identify the rotation:

- (A) Clockwise  $180^\circ$
- (B) Counter clockwise  $180^\circ$
- (C) Clockwise  $90^\circ$
- ☒ (D) Counter clockwise  $90^\circ$
- (E) None of the above

- (b) Apply the same translation to  $C(5, 1) \rightarrow C'(x, y)$ . Plot and label the point  $C'$  as an ordered pair.



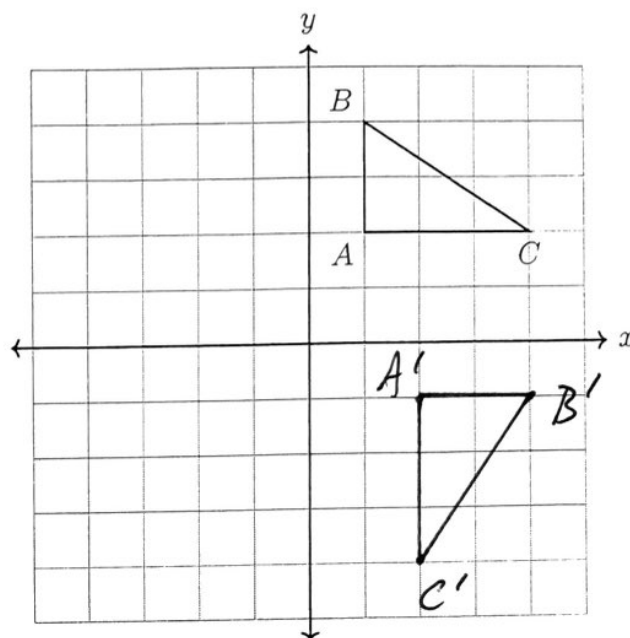
Name:

5. Rotate the triangle  $90^\circ$  clockwise around the origin,  $\triangle ABC \rightarrow \triangle A'B'C'$ . Complete the table of the coordinates and plot and label the image on the grid.

$$A(1, 2) \rightarrow A'(2, -1)$$

$$B(1, 4) \rightarrow B'(4, -1)$$

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

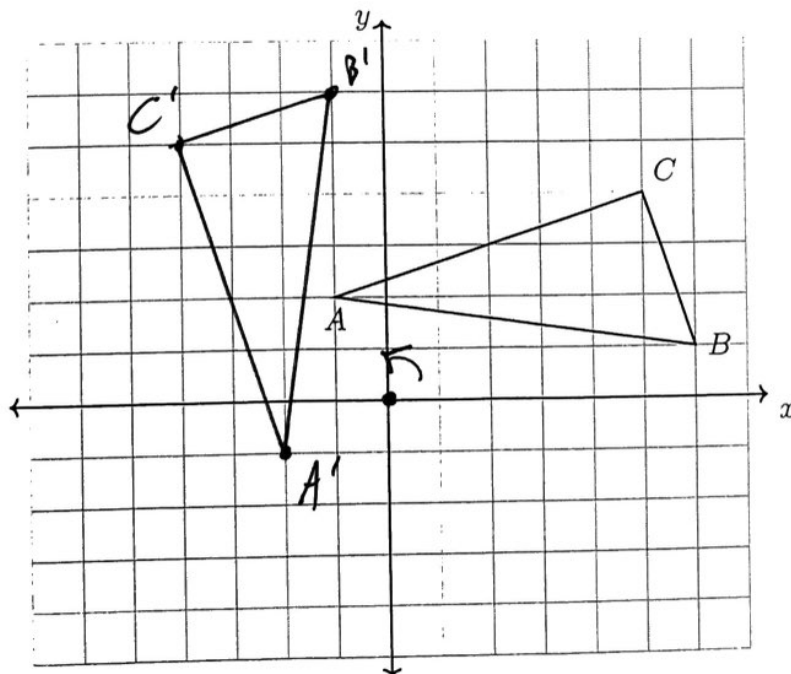


6.  $\triangle ABC$  is shown with vertices  $A(-1, 2)$ ,  $B(6, 1)$ , and  $C(5, 4)$ . Rotate the triangle  $90^\circ$  counter clockwise around the origin. Write down its coordinates in a table and label it on the graph.

$$A(-1, 2) \rightarrow A'(-2, -1)$$

$$B(6, 1) \rightarrow B'(-1, 6)$$

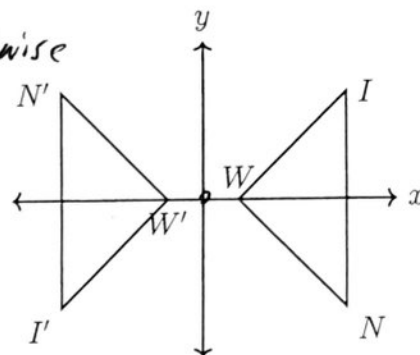
$$C(5, 4) \rightarrow C'(-4, 5)$$



7. Given  $\triangle WIN \cong \triangle W'I'N'$ . Describe the rigid motion mapping  $\triangle WIN \rightarrow \triangle W'I'N'$ .

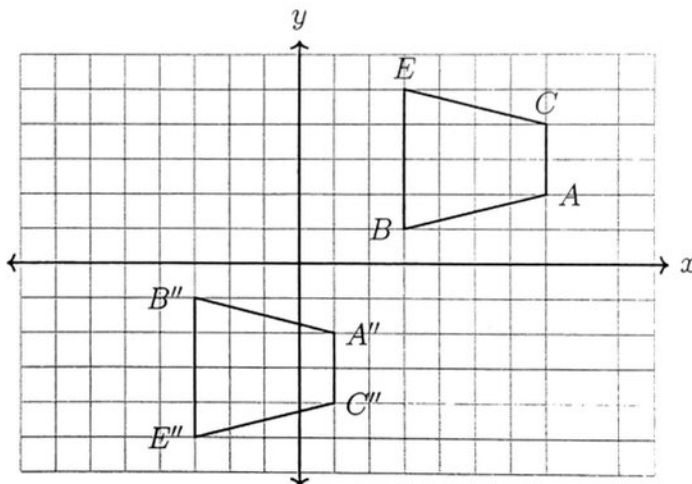
Rotation  $180^\circ$  counterclockwise  
around origin

(not reflection)



8. Determine and state the sequence of transformations applied to map  $BECA$  to  $B''E''C''A''$ .

Translate left 6  
reflect across  
x-axis



9. Determine and state the transformation mapping  $\triangle NOP$  onto  $\triangle QRP$ .

Rotation  $180^\circ$  clockwise  
around P

