BECA / Dr. Huson / Geometry   1
Unit 8: Congruence transformations   Name:
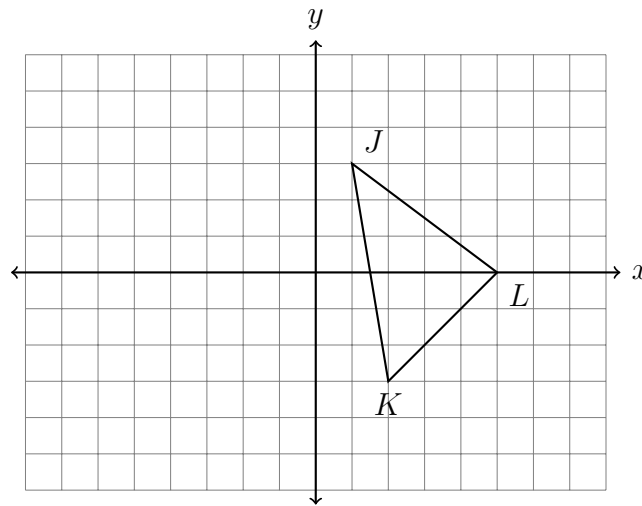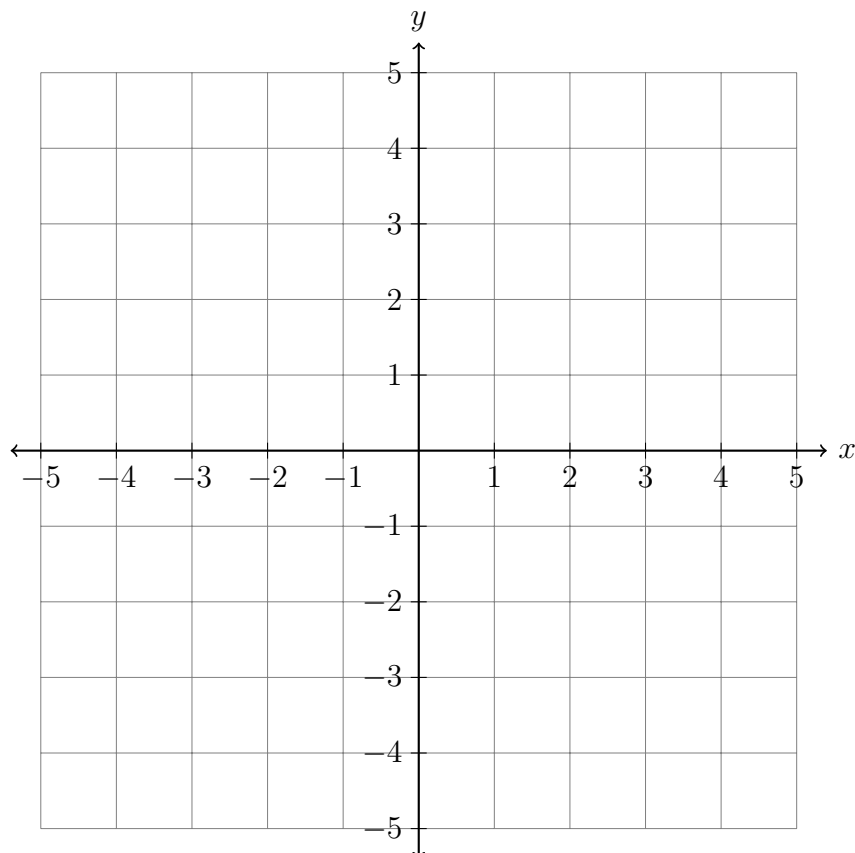5 January 2022

8.3 Classwork: Rotation   **CCSS.HSG.CO.A.5**

1. Do Now: Reflect $\triangle JKL$ across the y-axis, labeling the image $\triangle J'K'L'$.
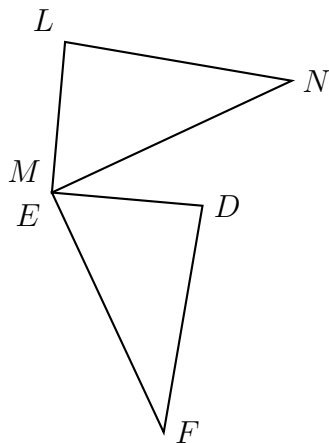
2. On the axes below, mark and label the origin, $O(0,0)$. Plot the point $P(4,1)$ and segment $\overline{OP}$. Graph its image, $\overline{O'P'}$, after a $90°$ counterclockwise rotation around the origin. Mark P' and write it down as a coordinate pair.

3. A rotation maps triangle DEF onto triangle LMN.

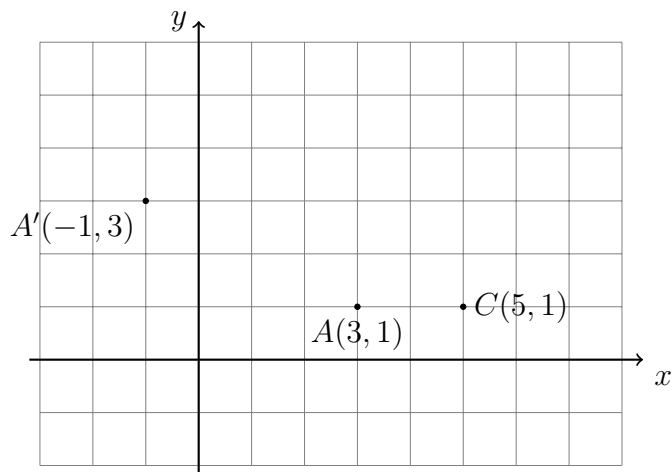   Write the letter or letters for each corresponding object.

(a) $E \to$

(b) $F \to$

(c) $\overline{DF} \to$

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

   (a) Which correctly identifies the rotation?

   (A) Clockwise 180°

   (B) Counter clockwise 180°

   (C) Clockwise 90°

   (D) Counter clockwise 90°

   (E) None of the above

   (b) If the same translation is applied to $C(5,1) \to C'(x,y)$, plot and label the point C' as an ordered pair.
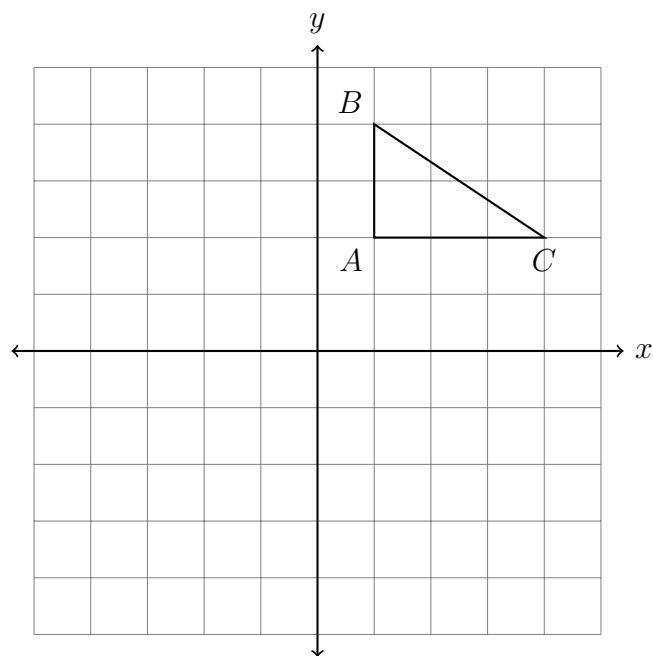
5. Rotate the triangle 90° clockwise around the origin, $\triangle ABC \to \triangle A'B'C'$. Complete the table of the coordinates and plot and label the image on the grid.
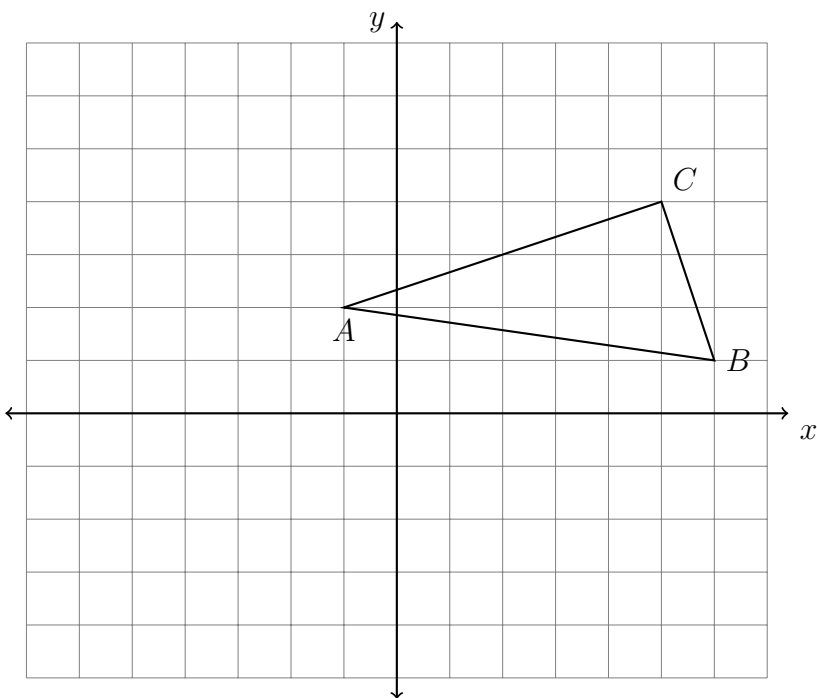
$A(1,2) \to$

$B(1,4) \to$
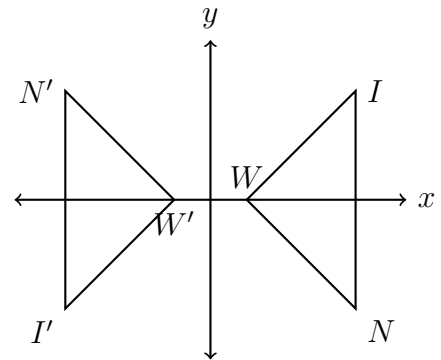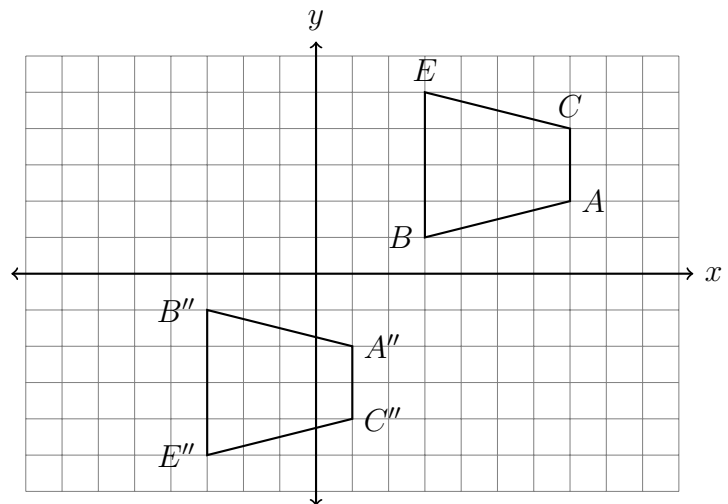
$C(4,2) \to$

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

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

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

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