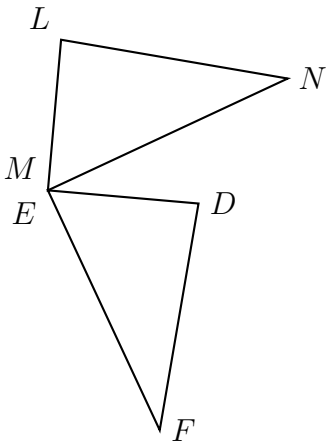
5.9 Prequiz: Transformations

1. Do Now: A rotation maps triangle DEF onto triangle LMN.

   Write the letter or letters for each corresponding object.



(a) $E \rightarrow$

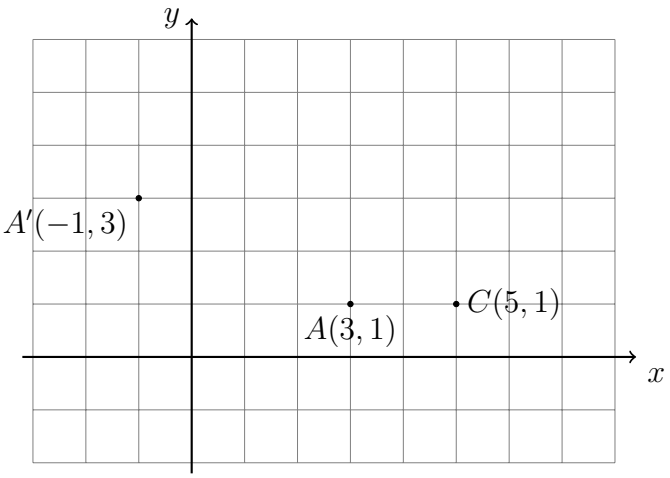
(b) $F \rightarrow$

(c) $DF \rightarrow$

2. Do Now: 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



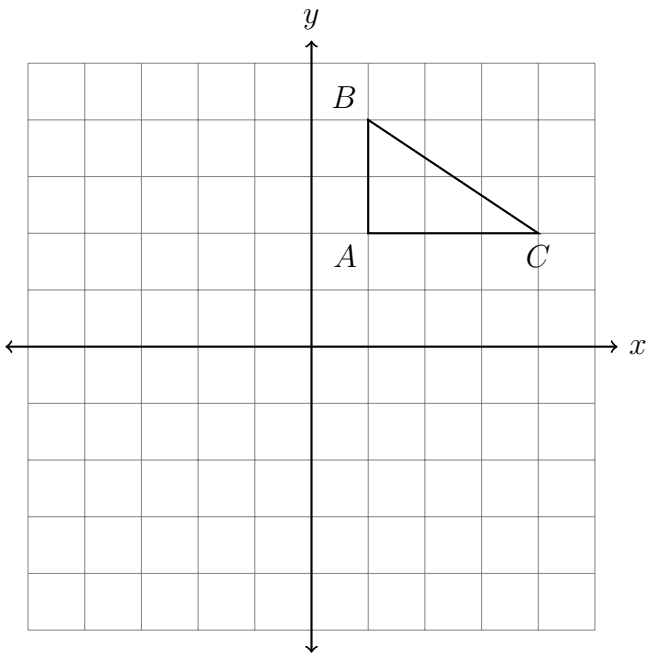
(b) If the same translation is applied to $C(5,1) \to C'(x,y)$, plot and label the point C' as an ordered pair.

3. Rotate the triangle 90° 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.

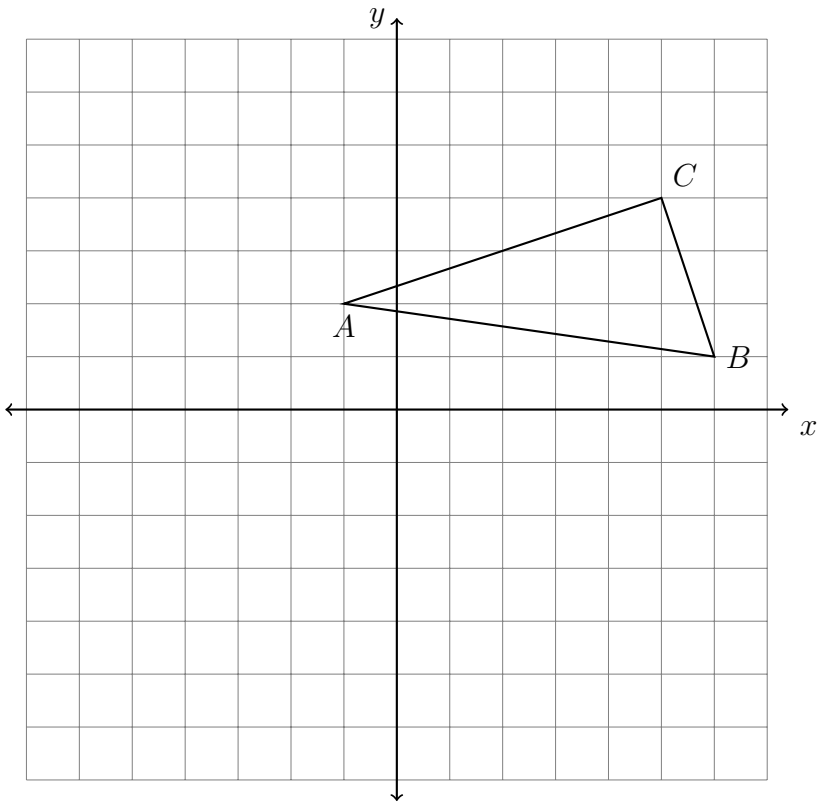
$A(1, 2) \rightarrow$

$B(1, 4) \rightarrow$

$C(4, 2) \rightarrow$

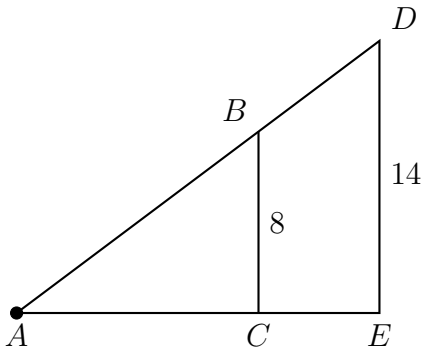


4. $\triangle ABC$ is shown with vertices $A(-1, 2)$, $B(6, 1)$, and $C(5, 4)$. Rotate the triangle $90°$ counter clockwise around the origin. Write down its coordinates in a table and plot and label it on the graph.



5. Do Now: A dilation centered at A maps $\triangle ABC \to \triangle ADE$. Given that $BC = 8$, $DE = 14$.

   Write the value of the scale factor k in the box.



6. Each transformation we study–translation, dilation, rotation, and reflection–have specific details that must be stated to *fully characterize* the transformation. Match the required details with the transformation.

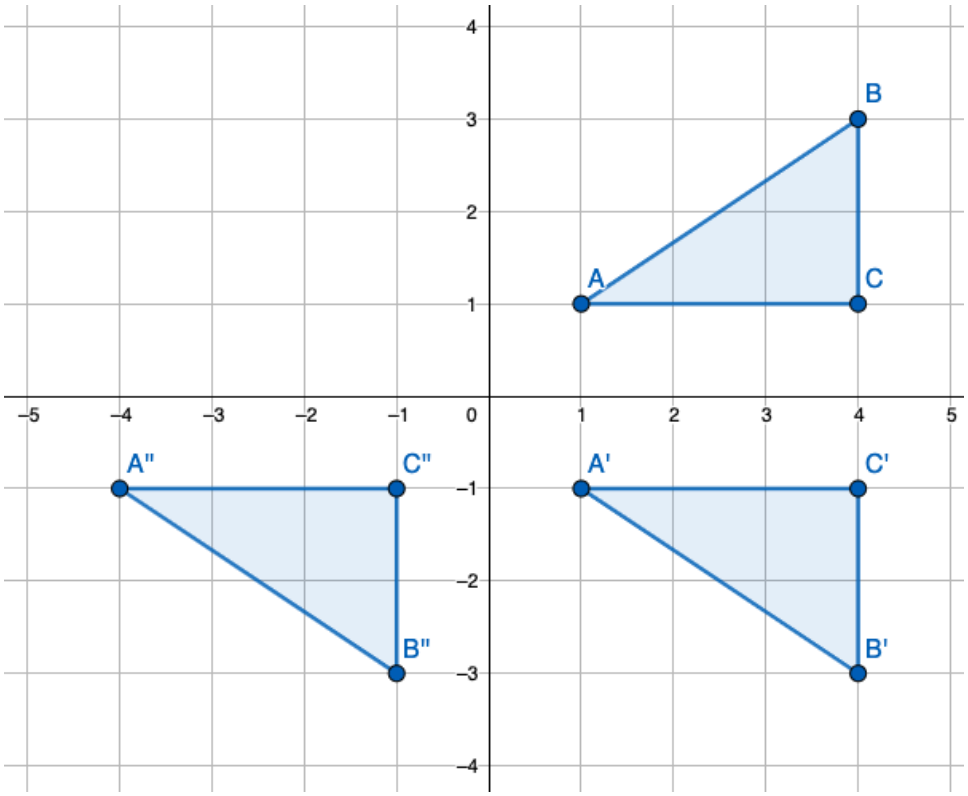
   (a) The center, the degree measure and direction

   (b) The line over which it is performed

   (c) The horizontal and vertical distances

   (d) The center and the scale factor k

7. A composition of two transformations is applied to $\triangle ABC$, shown in the diagram. Fully characterize the two transformations, in order.



8. A point labeled A and vector $(-3, 1)$ are shown Geogebra/classic. Identify the following objects and tools.

   (a) Circle the vector

   (b) Make an "X" where to click for the menu "Name & Value" that will label point A as an ordered pair.

   (c) Mark with an arrow the menu where the "Translate by vector" tool is found.