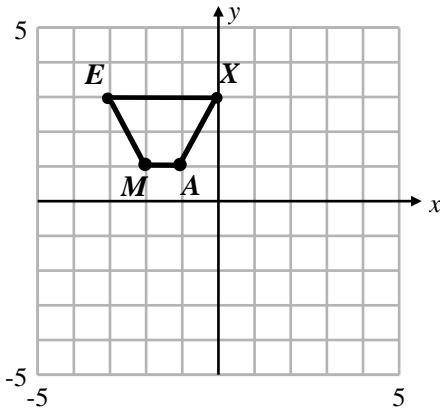




## Composition of Transformations #2

1. Sketch the graph  $E'X'A'M'$  and  $E''X''A''M''$  of each of the following series of transformations below using the Figure *EXAM*.

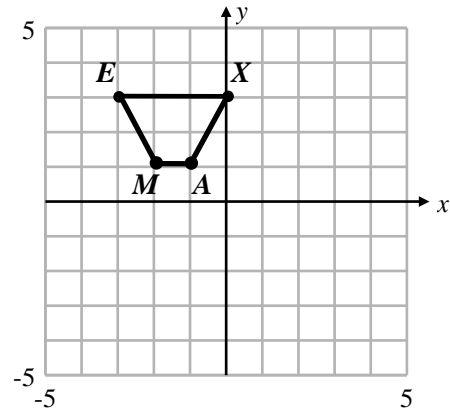
**A. Reflect figure *EXAM* over the  $x$ -axis; then rotate it  $90^\circ$  counter clockwise about the origin.**



$E'$  \_\_\_\_\_  $X'$  \_\_\_\_\_  $A'$  \_\_\_\_\_  $M'$  \_\_\_\_\_

$E''$  \_\_\_\_\_  $X''$  \_\_\_\_\_  $A''$  \_\_\_\_\_  $M''$  \_\_\_\_\_

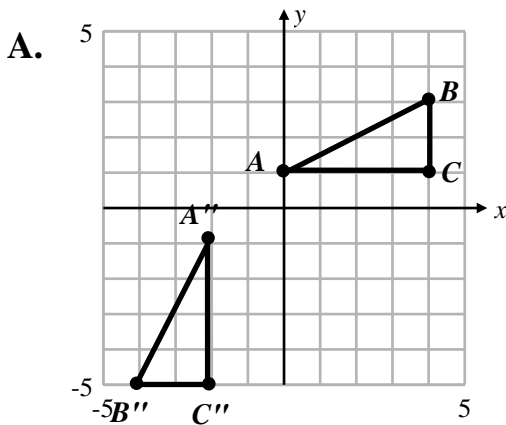
**B. Reflect figure *EXAM* over the  $y$ -axis; then reflect it over the  $x$ -axis.**



$E'$  \_\_\_\_\_  $X'$  \_\_\_\_\_  $A'$  \_\_\_\_\_  $M'$  \_\_\_\_\_

$E''$  \_\_\_\_\_  $X''$  \_\_\_\_\_  $A''$  \_\_\_\_\_  $M''$  \_\_\_\_\_

2. In the grids below determine the series of transformations that was performed on each pre-image to obtain each image. BE SPECIFIC. FOR EXAMPLE, IF THE PRE-IMAGE WAS ROTATED YOU MUST INCLUDE THE DEGREES AND THE DIRECTION. IF THE PRE-IMAGE WAS REFLECTED YOU MUST SAY OVER WHICH AXIS AND/OR EXPLAIN THE MOVEMENT BETWEEN QUADRANTS.



Transformation List:

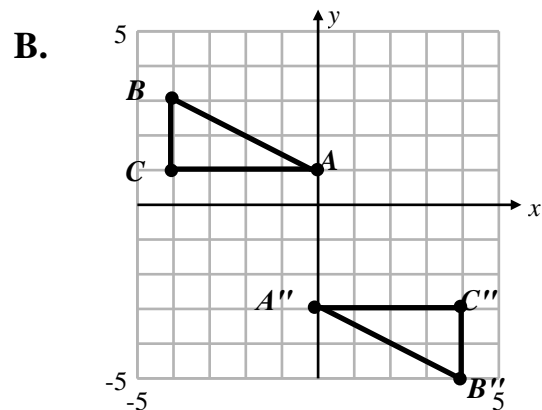
---



---



---



Transformation List:

---

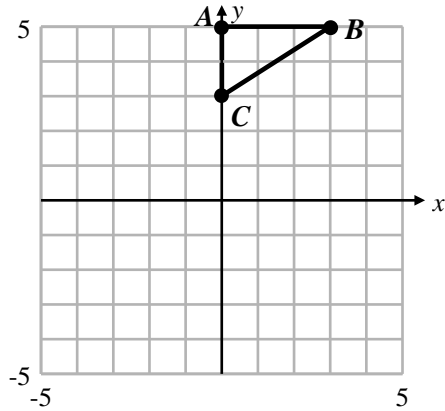


---

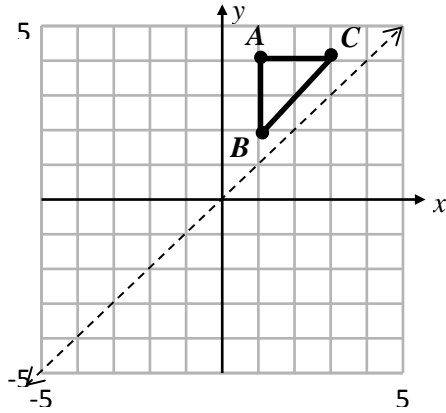


---

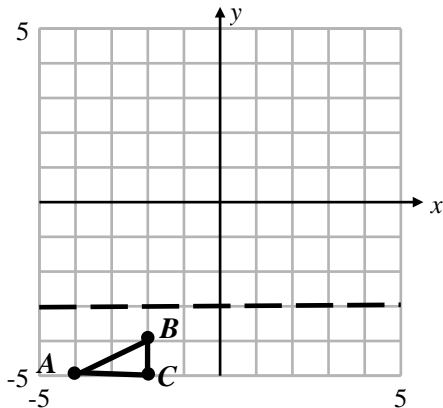
3. Graph the line  $y = x + 2$  then reflect the triangle over the line. List the coordinates of your final answer.



4. Reflect triangle  $ABC$  over the dashed line; then reflect it over the  $x$ -axis. List the coordinates of your final answer.



5a. Reflect triangle  $ABC$  over the dashed line, and then reflect it over the  $x$ -axis.



5b. Instead of doing two separate transformations, what one transformation could have been done to go directly from triangle  $ABC$  to triangle  $A''B''C''$ ?