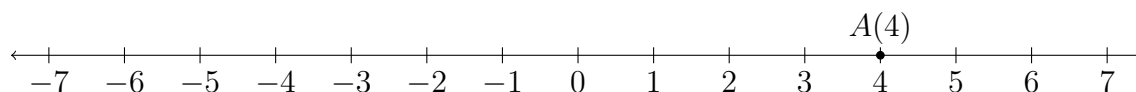


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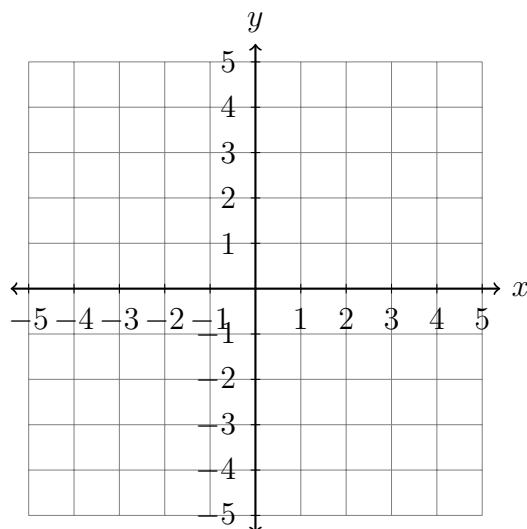
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5.2 Classwork: Reflection**CCSS.HSN.RN.A.2**

1. Reflect the point $A(4)$ across the origin. (flip the number line) Mark and label it A' .

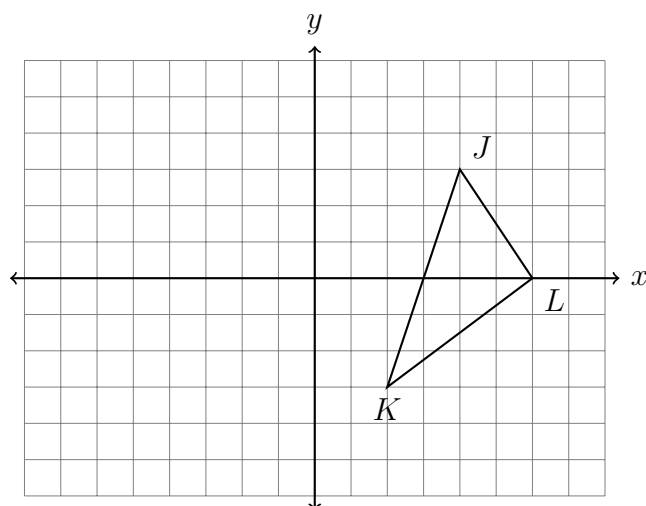


2. On the axes below, graph the point $P(-4, 3)$ and its image, P' , after a reflection across the x -axis. Mark P' and write it down as a coordinate pair.



3. A reflection maps $Q(4, 3)$ onto $Q'(4, -3)$. Is the reflection across the x -axis or the y -axis?

4. Reflect $\triangle JKL$ across the y -axis, labeling the image $\triangle J'K'L'$.



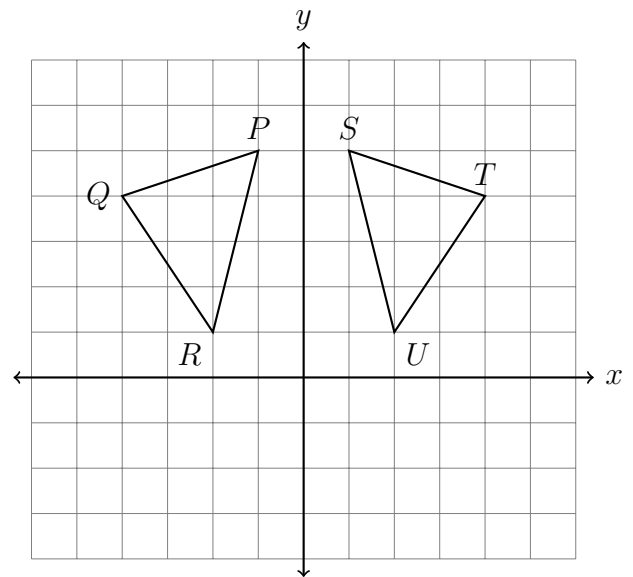
5. Triangle $A'B'C'$ is the image of triangle ABC after a reflection. Is triangle ABC congruent to $A'B'C'$? Explain why.

6. In the graph below, a transformation maps $\triangle PQR$ onto $\triangle STU$.

- (a) Completely identify the transformation.

- (b) What point corresponds to T ?

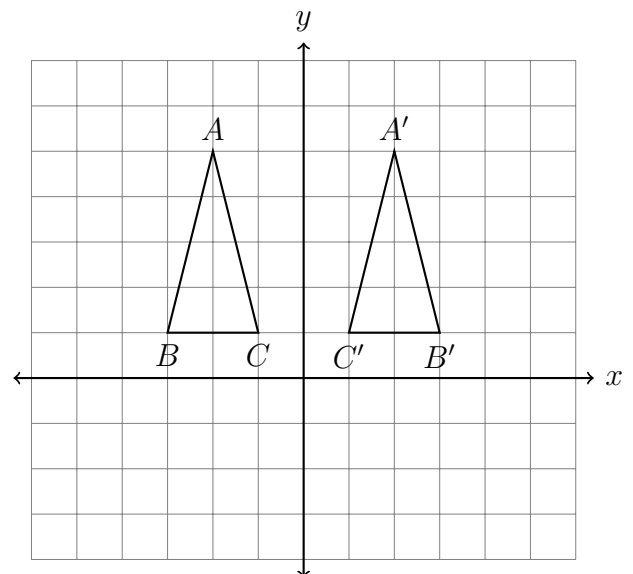
- (c) Is R the image of U , or its preimage?



7. In the graph below, a transformation maps $\triangle ABC \rightarrow \triangle A'B'C'$.

Angie says the triangle must have been reflected across the y -axis. Robbie says it might have been reflected, but it could also have been translated to the right.

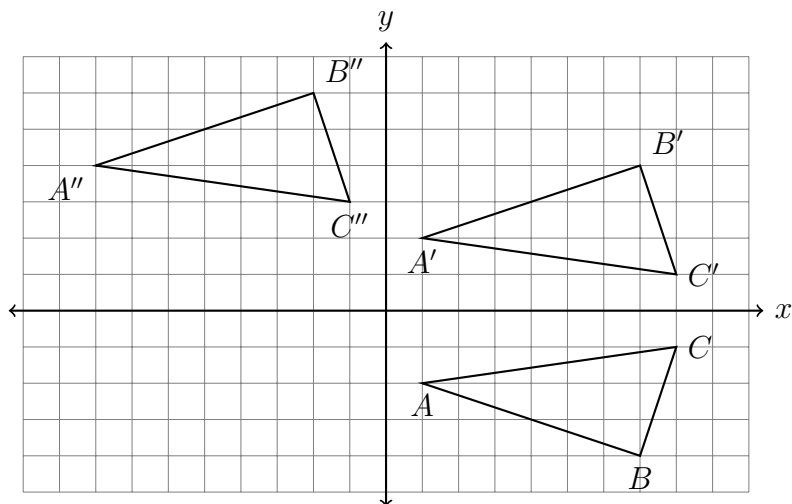
Who is correct? Justify your answer.



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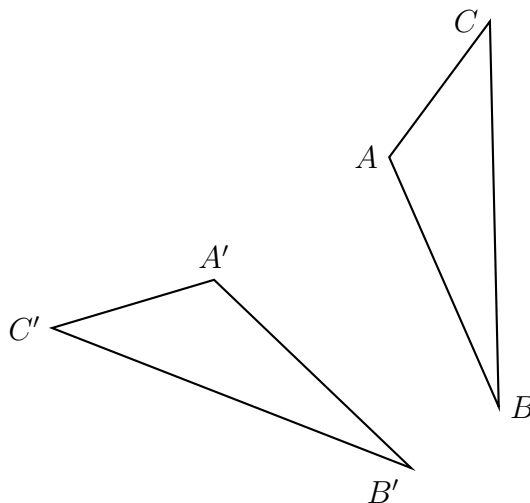
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8. Two transformations have been applied to a triangle in the diagram below, $\triangle ABC \rightarrow \triangle A'B'C' \rightarrow \triangle A''B''C''$. Fully characterize each transformation.



9. A reflection maps $\triangle ABC \rightarrow \triangle A'B'C'$. Which triangle has the larger area, the preimage or the image (or neither)? Justify your answer.

10. Draw the line of reflection that would map $\triangle ABC$ onto $\triangle A'B'C'$.



11. Which of the following would map $\triangle CAT \rightarrow \triangle C'A'T'$?

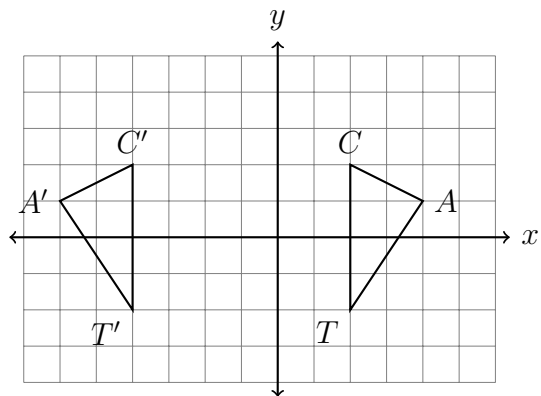
T F Reflected across the y -axis

T F Translated six to the left, down zero

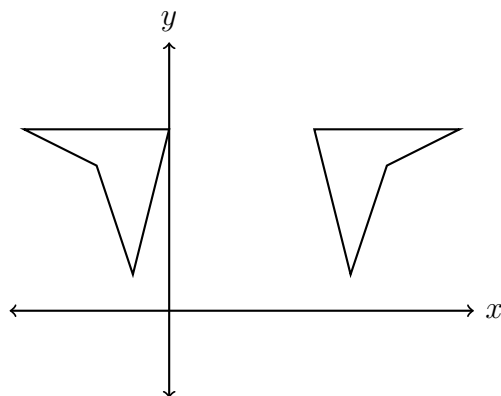
T F Reflected across the y -axis, then slid to the left two

T F $(x, y) \rightarrow (x - 6, y + 0)$

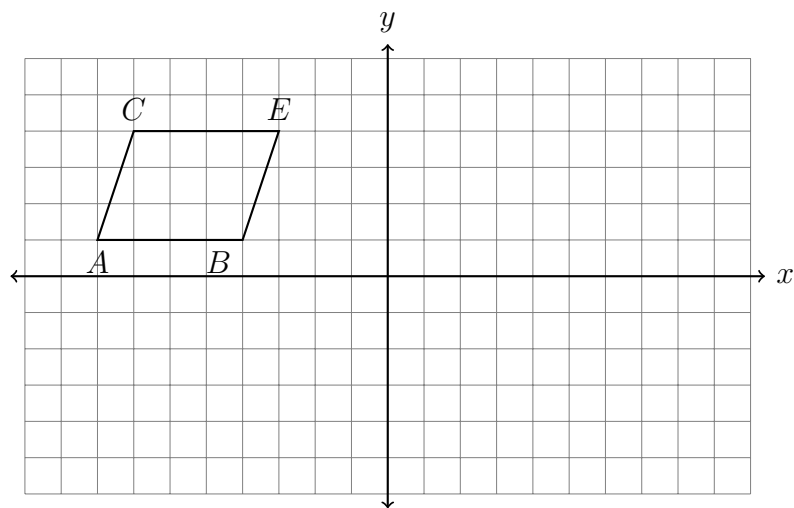
T F Reflected across the line $x = -1$



12. Draw the line of reflection for quadrilaterals in the diagram below.



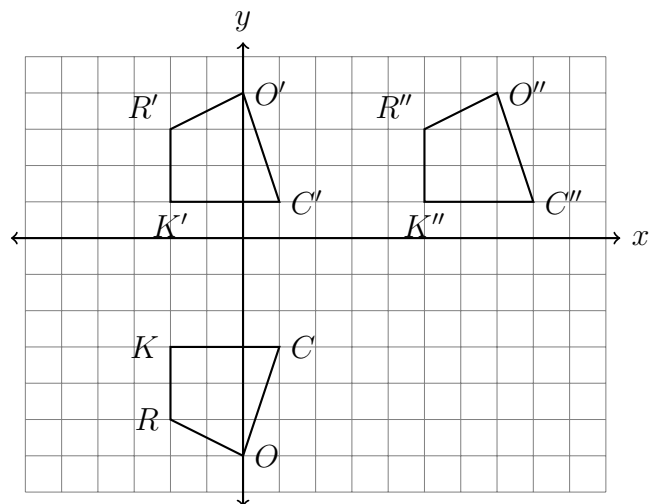
13. First reflect the trapezoid $BECA$ across the x -axis, then move it down 1 and right 7. Label the images $B'E'C'A'$ and $B''E''C''A''$.



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14. The quadrilateral $ROCK$ undergoes rigid motions, shown below. Describe the sequence of transformations applied.



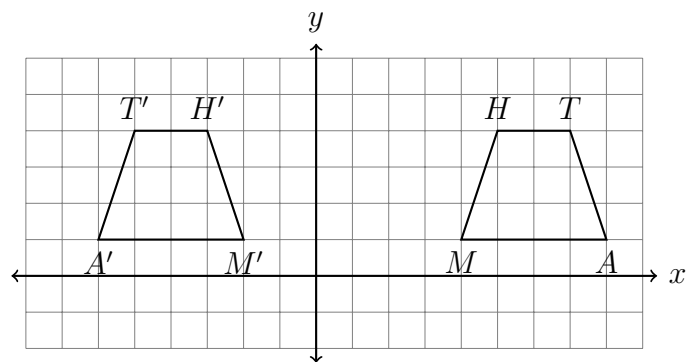
15. The quadrilateral $MATH$ is mapped to $M'A'T'H'$ by a rigid motion. What transformation has been applied?

(a) Dilation

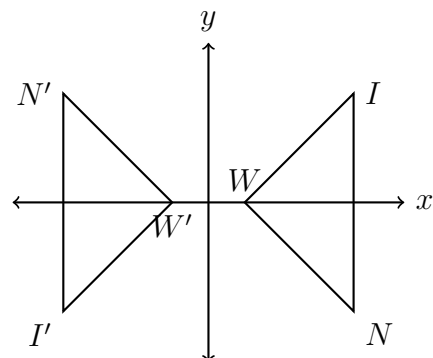
(b) Reflection

(c) Rotation

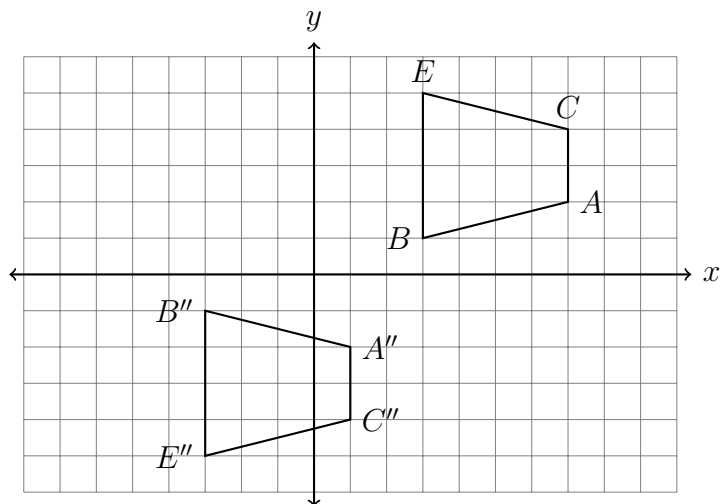
(d) Translation



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



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



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

