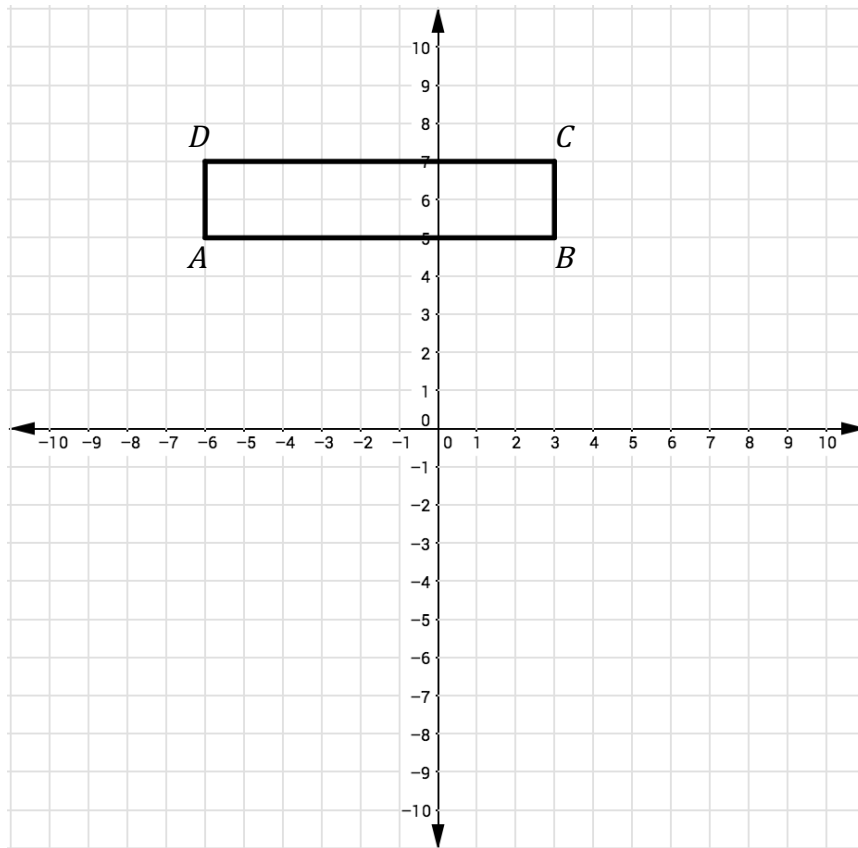


Introduction to Polygons – Part 1
Rotation of Polygons – Part 1
Independent Practice

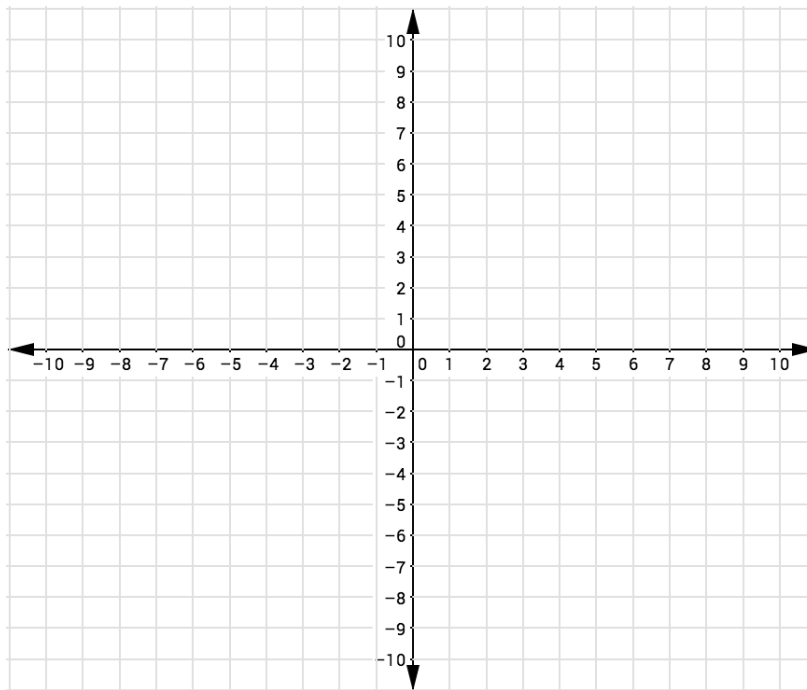
1. Consider polygon $ABCD$ shown below.



Suppose this polygon is rotated 90° , 180° , 270° , and 360° clockwise about the origin. Complete the following table.

Vertices of $ABCD$	Vertices of 90° rotation	Vertices of 180° rotation	Vertices of 270° rotation	Vertices of 360° rotation
$(-6, 5)$				
$(3, 5)$				
$(3, 7)$				
$(-6, 7)$				

2. Consider the following coordinate plane.

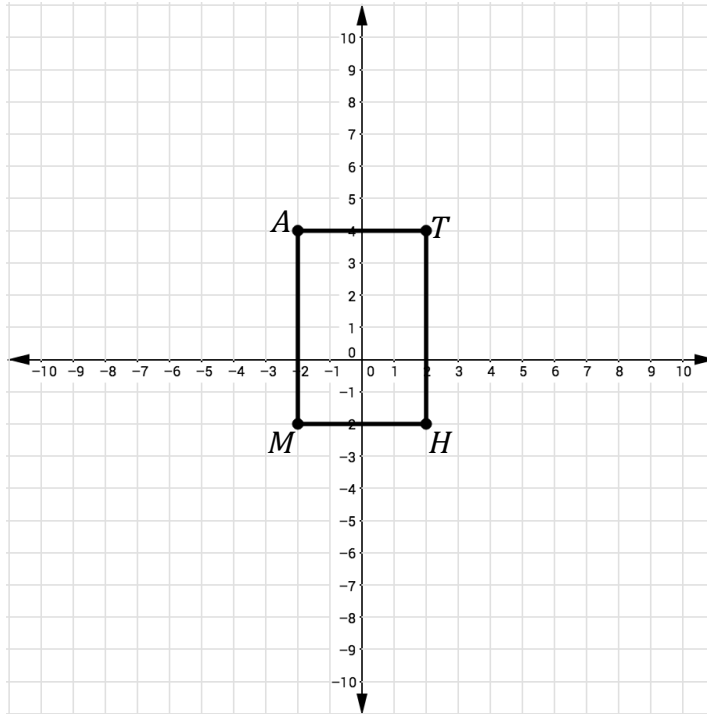


Part A: Sketch the polygon $SUMO$ with vertices at $S(10, -4)$, $U(6, -5)$, $M(4, 1)$, $O(8, 2)$ in the coordinate plane above.

Part B: Rotate $SUMO$ 270° counterclockwise about the origin. What are the coordinates of $S'U'M'O'$?

Part C: Sketch the polygon $S'U'M'O'$ in the coordinate plane above.

3. Consider Quadrilateral $MATH$ on the figure below.



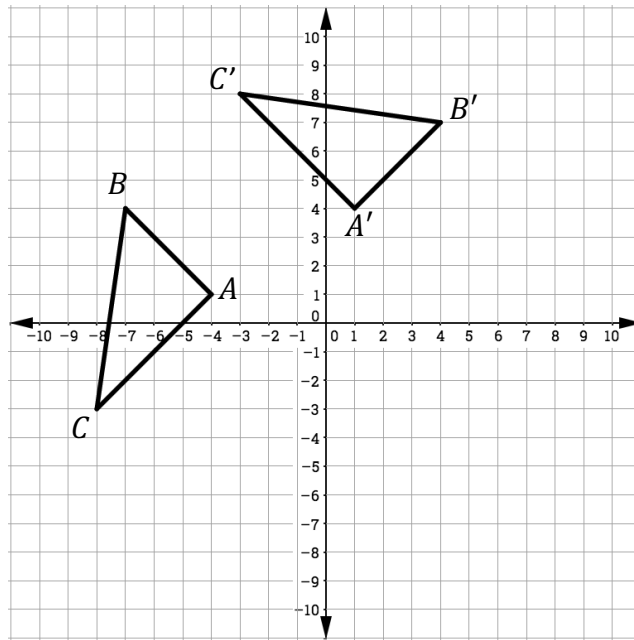
Explain why when you rotate $MATH$ 90° counterclockwise about the origin vertex M' share the same location as vertex H .

4. Samuel rotated $PLUTO$ 90° clockwise about the origin to generate $P'L'U'T'O'$ with vertices at $P'(2, -3)$, $L'(-2, -5)$, $U'(-6, -1)$, $T'(-2, 3)$, and $O'(1, 1)$.

What is the sum of all x -coordinates of $PLUTO$?



5. Sakura rotated polygon ABC 180° clockwise about the origin. The following figure shows her work.



Is Sakura's work correct? Justify your answer.