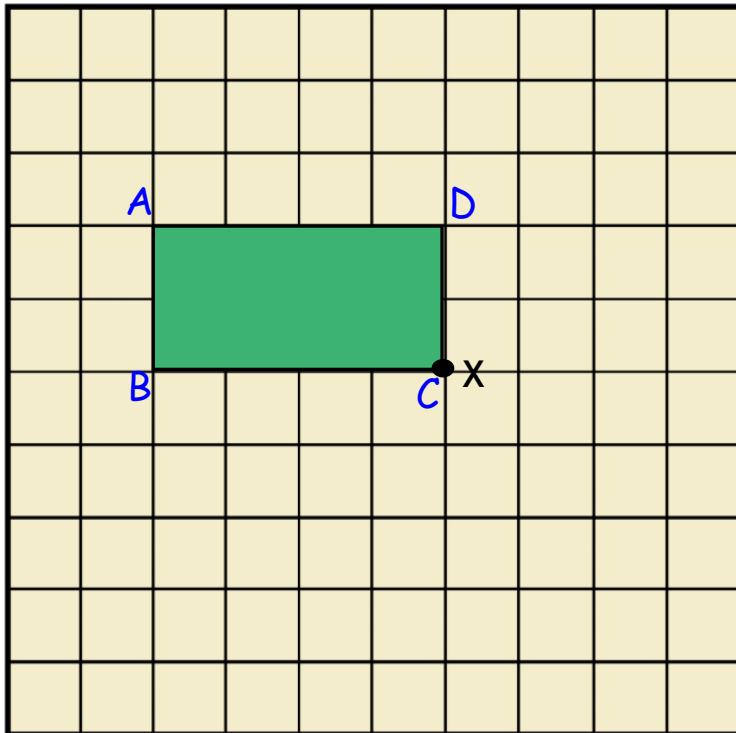


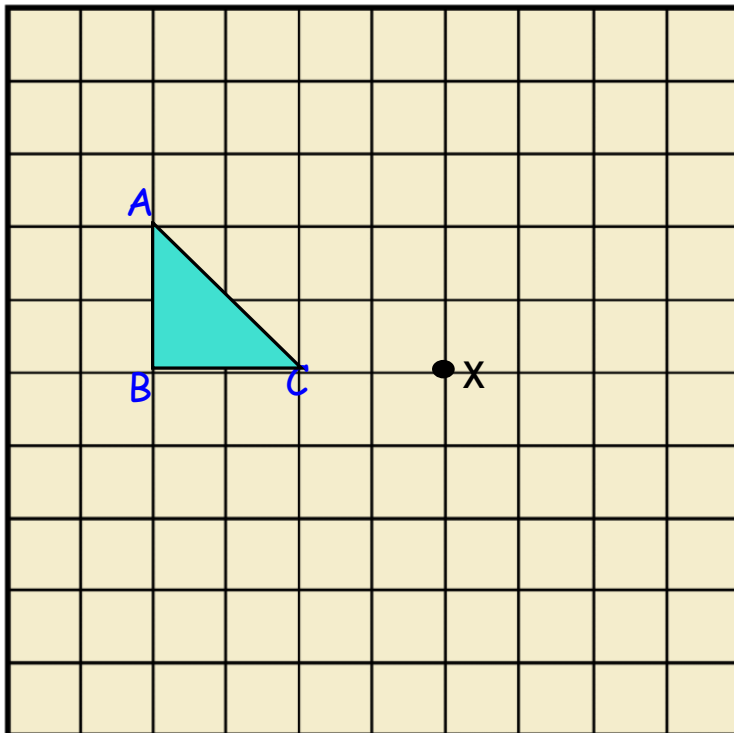
## Rotations on the Coordinate Axis

1)

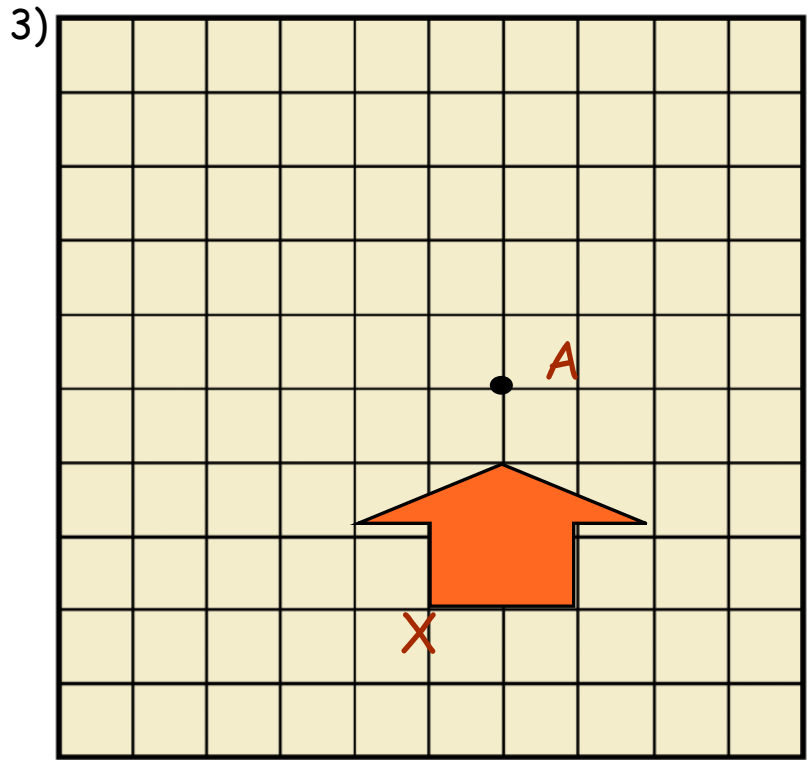


What are the coordinates for A?  
Rotate rectangle ABCD,  $90^\circ$  clockwise about Point X.  
Find the coordinates for A'.

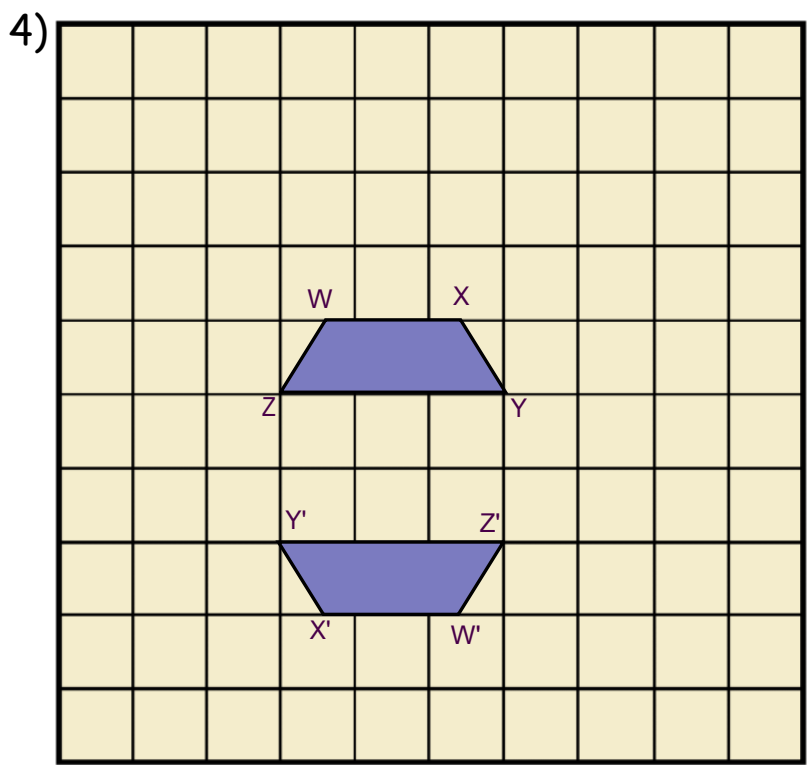
2)



The triangle ABC is rotated  $180^\circ$  clockwise about Point X.  
Find the new coordinates for the shape.

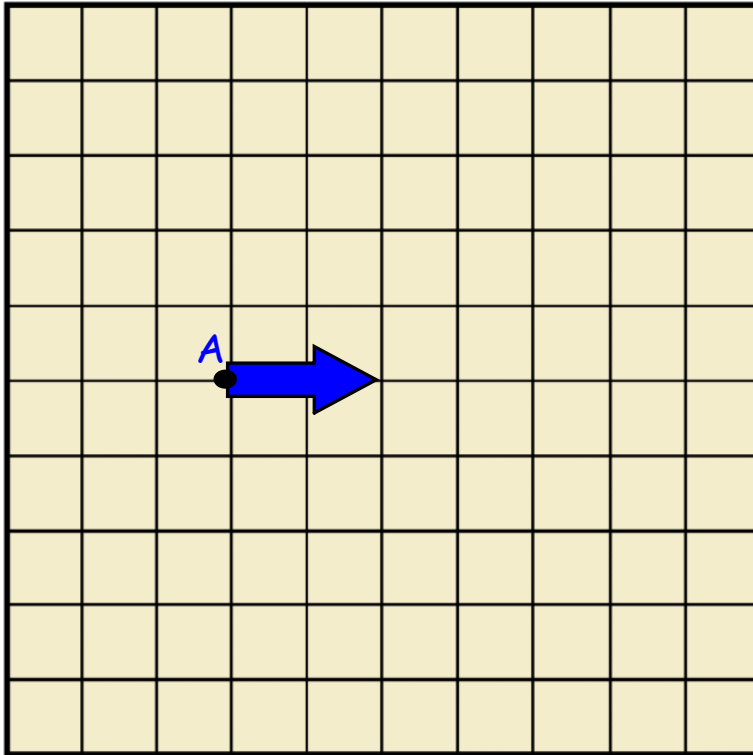


What are the coordinates for point X?  
 Rotate the shape  $90^\circ$  counter-clockwise about Point A.  
 What are the coordinates for point X'?



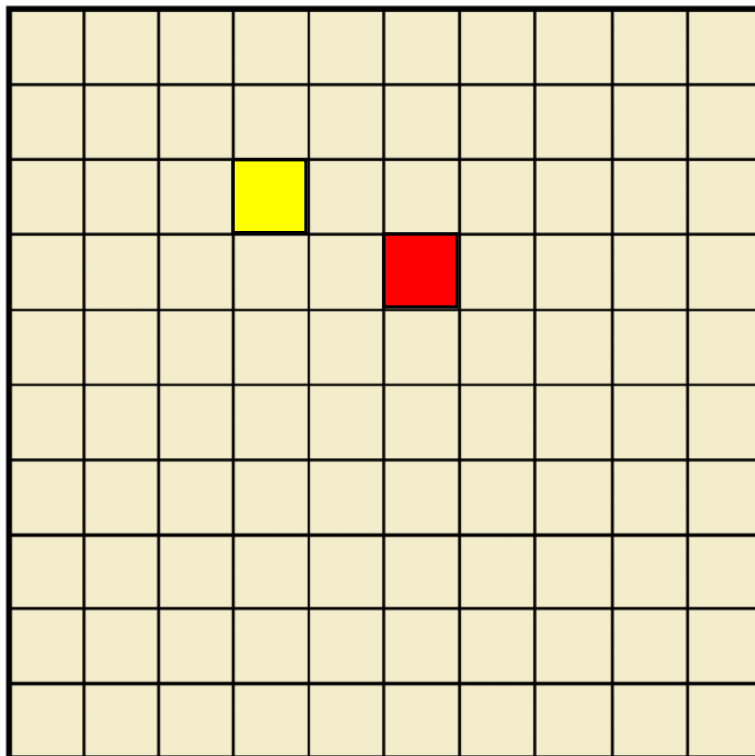
Trapezoid WXYZ is rotated so that its image, W'X'Y'Z' is shown on the graph.  
 Describe the rotation that has occurred.

5)



The tip of the arrow lies at (5,5)  
After the arrow is rotated  $90^\circ$  clockwise about Point A, where will the tip of the arrow be?  
How would you get the tip of the arrow to lie at (1,5)?

6)



The yellow square above is rotated **twice**.  
It ends up in a new position, shown in red.  
What rotations occurred?