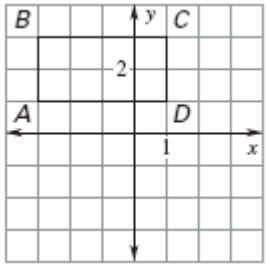
Geometry H
Rotations Practice WS

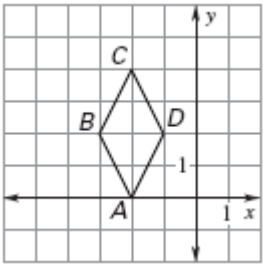
Name: _____
Date: _____ Period: _____

Rotate the figure the given number of degrees about the origin. List the coordinate of the vertices of the image.

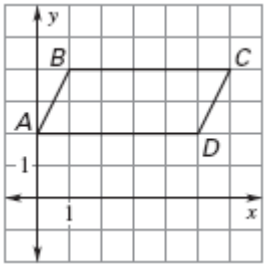
1. 90°



2. 180°

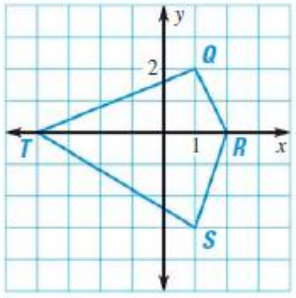


3. 270°



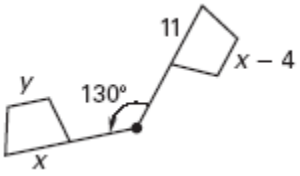
4. Suppose quadrilateral QRST is rotated 180° about the origin. In what quadrant is Q'?

(A) I (B) II (C) III (D) IV

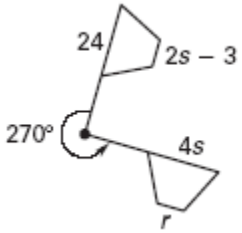


Find the value of each variable in the rotation.

5.

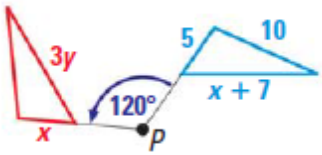


6.



7. What is the value of y in the rotation about point P?

(A) 4 (B) 5 (C) $\frac{17}{3}$ (D) 10

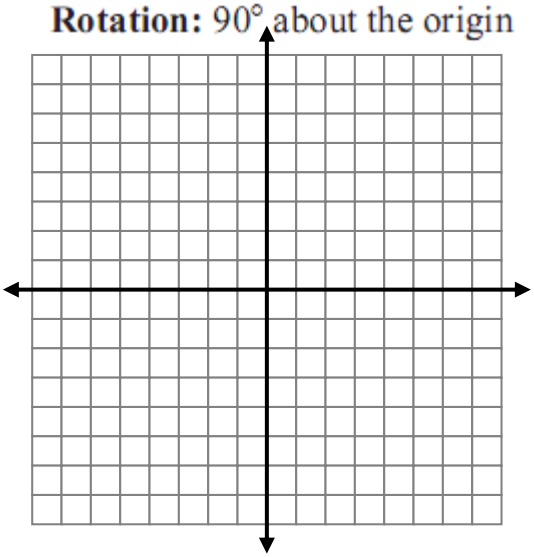


8. The vertices of ΔABC are A(2,0), B(3,4), and C(5,2). Please fill in the table below which will show the vertices of each image after the rotations listed. After you fill in the chart, please predict the coordinates of A' after a 1,890° rotation. Explain how you got your answer.

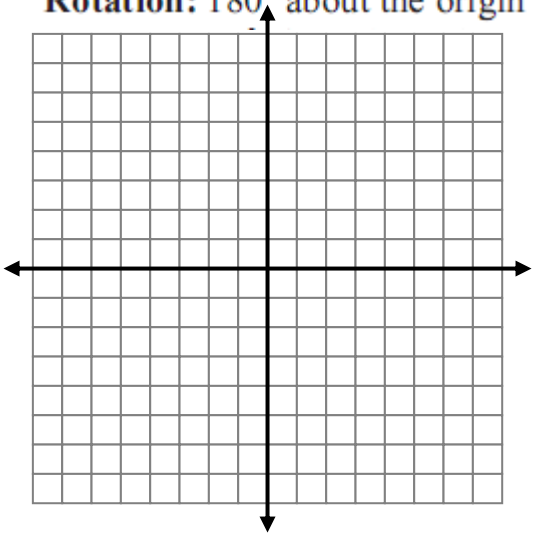
Rotation	A'	B'	C'
90°			
180°			
270°			
360°			
450°			
540°			
630°			
720°			

The endpoints of $\overline{CD}$ are $C(2, 1)$ and $D(4, 5)$. Graph $\overline{C'D'}$ and $\overline{C''D''}$ after the given rotations.

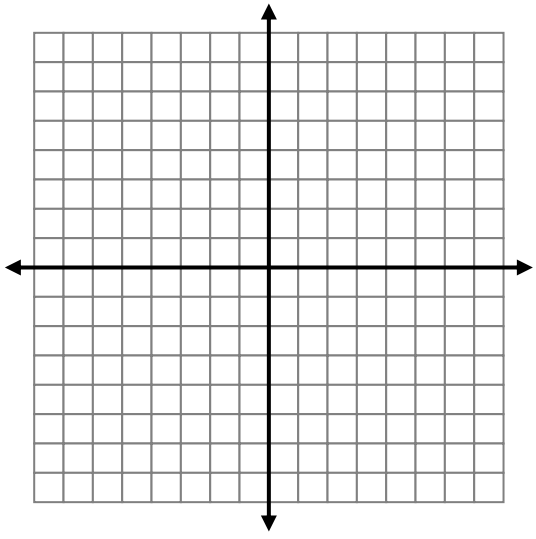
1. **Rotation:** 90° about the origin



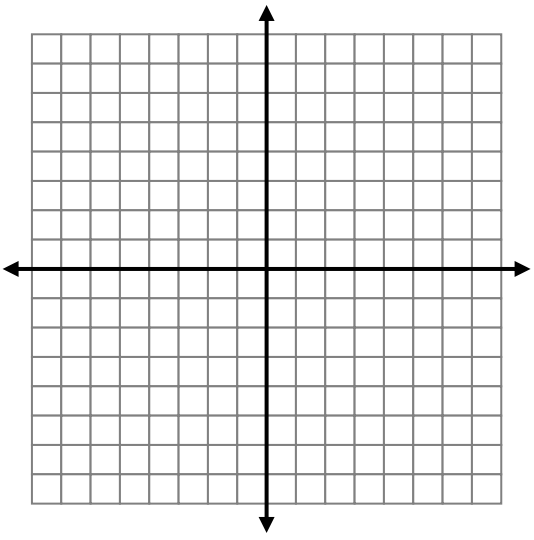
2. **Rotation:** 180° about the origin



3. **Rotation:** 270° about (2, 0)

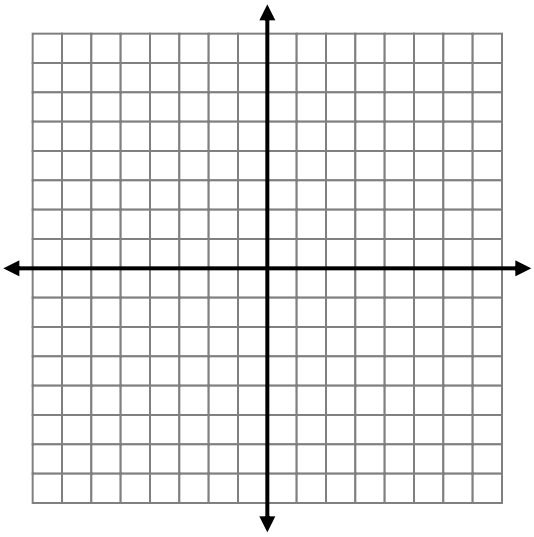


4. **Rotation:** 90° about $(0, -3)$

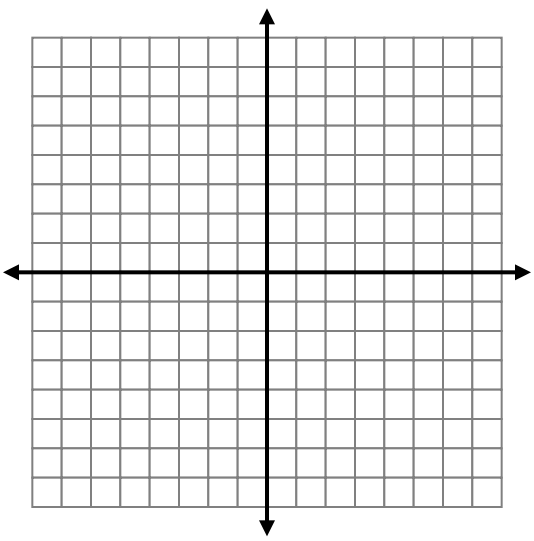


The endpoints of $\overline{CD}$ are $C(-2, 2)$ and $D(-6, 4)$. Graph $\overline{C'D'}$ and $\overline{C''D''}$ after the given rotations.

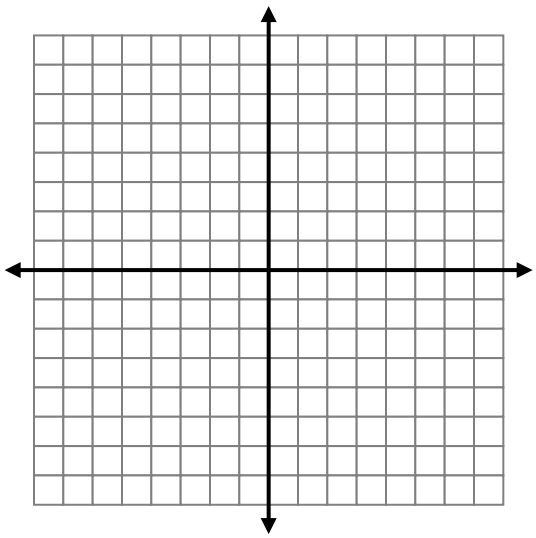
5. **Rotation:** 90° about the origin



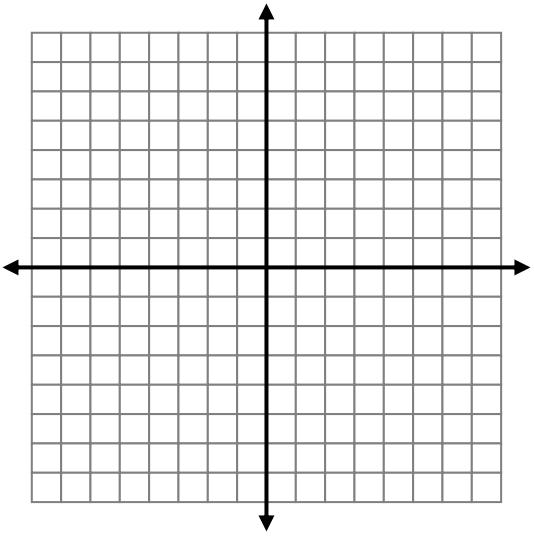
6. **Rotation:** 270° about the origin



7. **Rotation:** 180° about $(-2, 0)$



8. **Rotation:** 90° about $(2, 0)$



Answer Key :

1) A’ (-1 , -3) , B’ (-3 , -3) , C’ (-3 , 1) , D’ (-1 , 1)
2) A’ (2 , 0) , B’ (3 , -2) , C’ (2 , -4) , D’ (1 , -2)
3) A’ (2 , 0) , B’ (4 , -1) , C’ (4 , -6) , D’ (2 , -5)
4) C : Quadrant 3
5) x = 11 , y = 7
6) s = 6 , r = 9
7) A : 4
8)

Rotation	A’	B’	C’
90^o	(0 , 2)	(-4 , 3)	(-2 , 5)
180^o	(-2 , 0)	(-3 , -4)	(-5 , -2)
270^o	(0 , -2)	(4 , -3)	(2 , -5)
360^o	(2 , 0)	(3 , 4)	(5 , 2)
450^o	(0 , 2)	(-4 , 3)	(-2 , 5)
540^o	(-2 , 0)	(-3 , -4)	(-5 , -2)
630^o	(0 , -2)	(4 , -3)	(2 , -5)
720^o	(2 , 0)	(3 , 4)	(5 , 2)

1) C’ (-1 , 2) , D’ (-5 , 4)
2) C’ (-2 , -1) , D’ (-4 , -5)
3) C’ (3 , 0) , D’ (7 , -2)
4) C’ (-4 , -1) , D’ (-8 , 1)
5) C’ (-2 , -2) , D’ (-4 , -6)
6) C’ (2 , 2) , D’ (4 , 6)
7) C’ (-2 , -2) , D’ (2 , -4)
8) C’ (0 , -4) , D’ (-2 , -8)