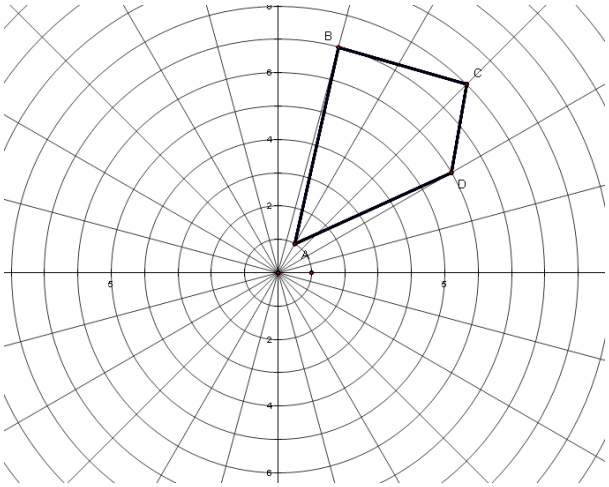
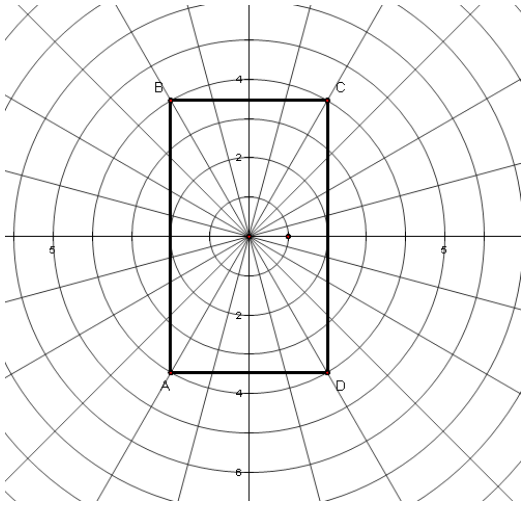
Name:_____Period:__ **9-3 Rotation**

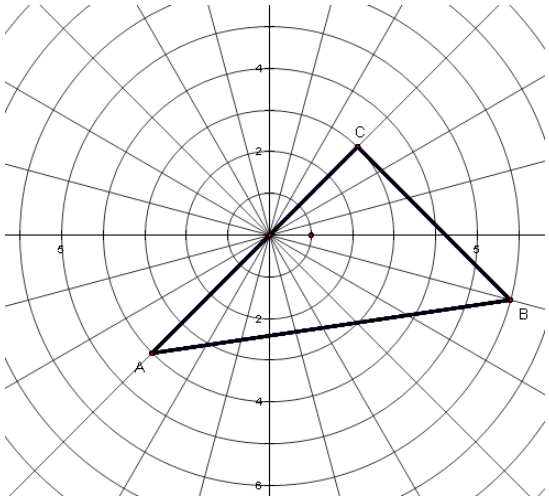
1. Rotate the image 60° about the origin



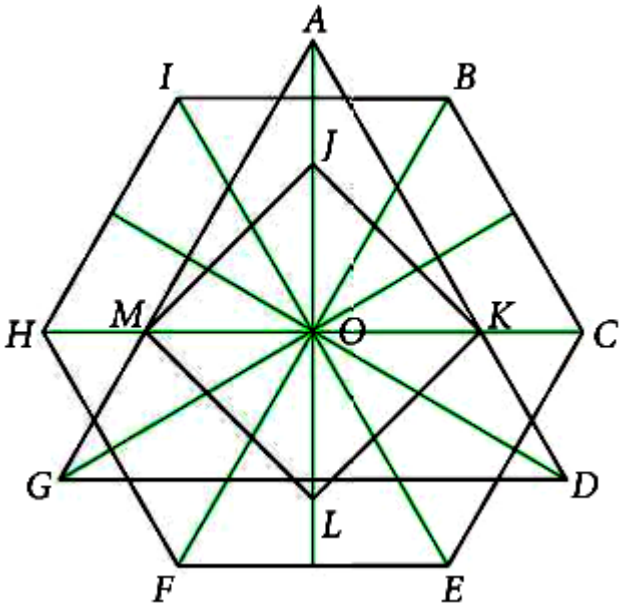
2. Rotate the image 90° about the origin



3. Rotate the image 180° about the origin



The large triangle, quadrilateral, and hexagon are regular. Find the image of each point or segment for the given rotation. (*Hint:* Green segments form 30° angles.)



4. 120° rotation of B about O

5. 60° rotation of E about O

6. 240° rotation of G about O

7. 120° rotation of F about H

8. 270° rotation of L about O

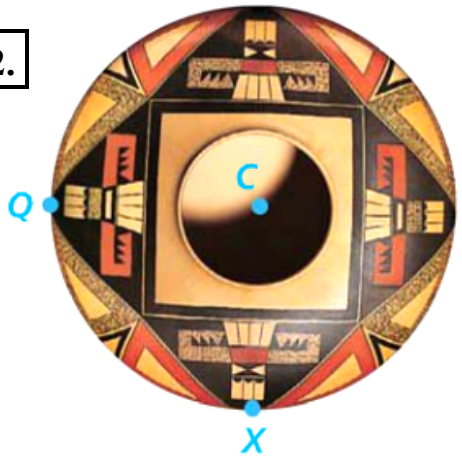
9. 300° rotation of $\overline{IB}$ about O

10. 180° rotation of $\overline{JK}$ about O

11. 270° rotation of M about L

Native American Art **Find the angle of rotation about C that**

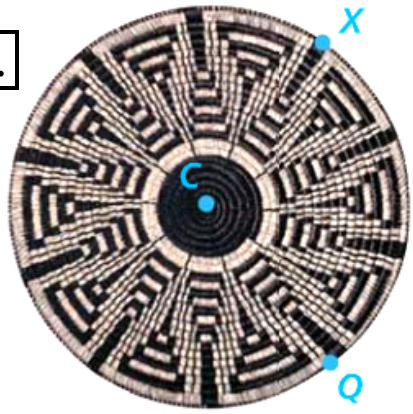
12.



(a) maps Q to X

(b) maps X to Q.

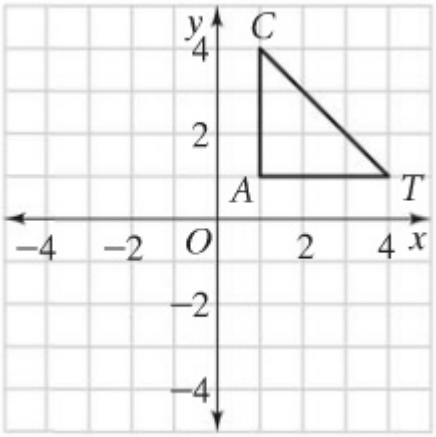
13.



(a) maps Q to X

(b) maps X to Q.

14. If triangle CAT is rotated 180 degrees about the origin, what are the coordinates of C'?



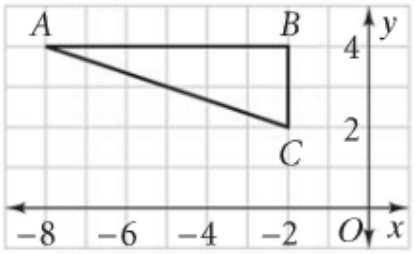
(A) $(1, -4)$

(B) $(-1, -4)$

(C) $(-4, -1)$

(D) $(-1, 4)$

15. Which set of points describes the vertices for a reflection of triangle ABC across the x-axis?



(A) $A'(2, 4), B'(8, 4), C'(8, 2)$

(B) $A'(8, 4), B'(2, 4), C'(2, 2)$

(C) $A'(-8, -4), B'(-2, -4), C'(-2, -6)$

(D) $A'(-8, -4), B'(-2, -4), C'(-2, -2)$

16. **$\triangle BIG$ has vertices $B(-4, 2)$, $I(0, -3)$, and $G(1, 0)$. Draw $\triangle BIG$ and then its reflection image across the** y-axis