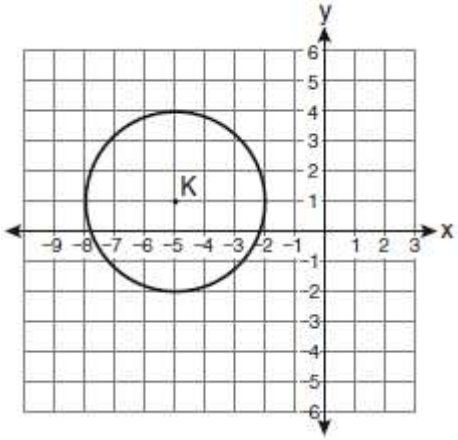
Name _____ Date _____
Mr. Schlansky Geometry

Mapping Shapes Onto Themselves

1. Circle *K* is shown in the graph below.
Which of the following transformations map circle K onto itself?



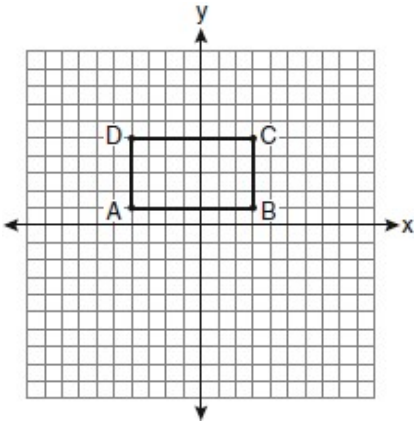
1) Reflection over the line $x - axis$

2) Reflection of the $y - axis$

3) Rotation of 90 centered at the origin

4) Rotation of 90 centered at K

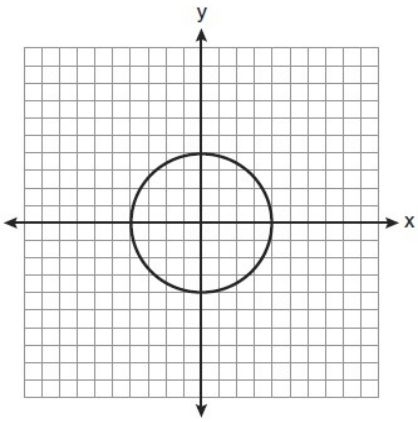
2. On the set of axes below, Geoff drew rectangle *ABCD*.



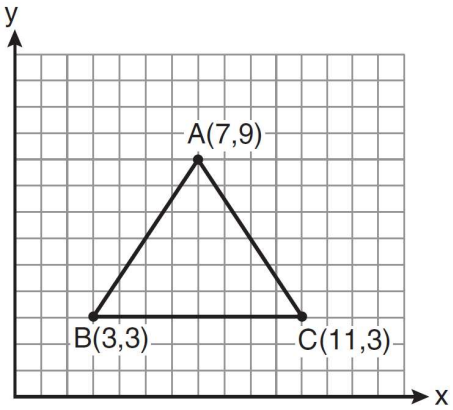
What of the following transformations would map the rectangle onto itself?
1) Reflection of the y axis
2) Reflection over the line $y = 3$
3) Rotation of 180 centered at the origin
4) Translation one unit to the right

3. In the diagram below, which transformation does *not* map the circle onto itself?

1) Rotation of 80 centered at the origin
2) Reflection over the line $y = x$
3) Rotation of 180 centered at (4,0)
4) Reflection of the line $x = 0$



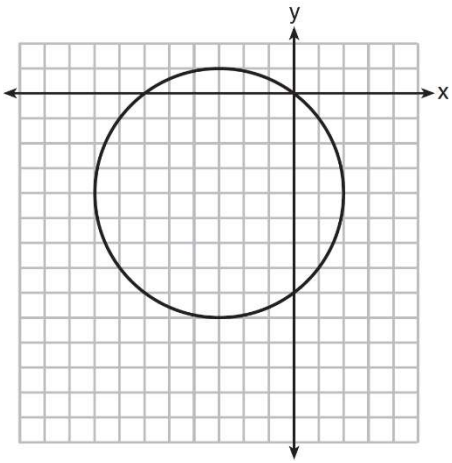
4. The vertices of the triangle in the diagram below are $A(7,9)$, $B(3,3)$, and $C(11,3)$.



Which transformation will map ΔABC onto itself?

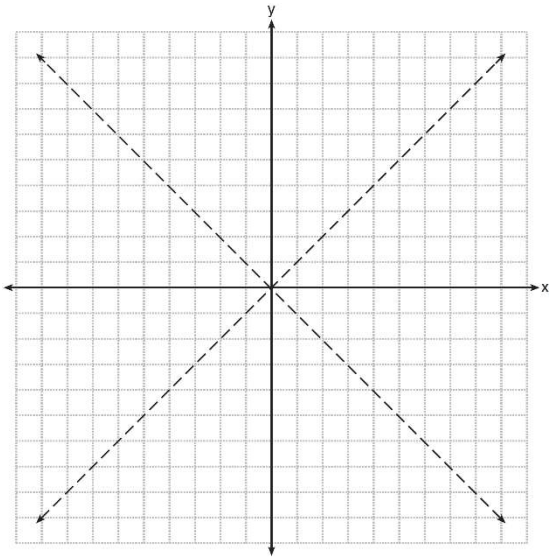
1) Rotation of 60 centered at (3,3)
2) Reflection over the line $y = 5$
3) Reflection over the line $x = 7$
4) Translation 3 units up

5. Which transformation does not map the circle in the diagram below onto itself?



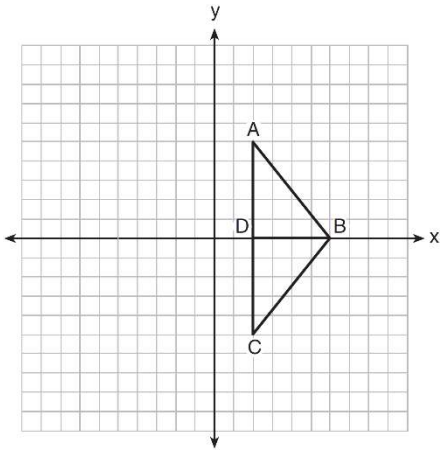
1) Rotation of 90 centered at the origin
2) Reflection over the line $x = -3$
3) Rotation of 90 centered at $(-3,-4)$
4) Reflection over the line $y = -4$

6. In the diagram below, which transformation does not map the dashed lines onto themselves?



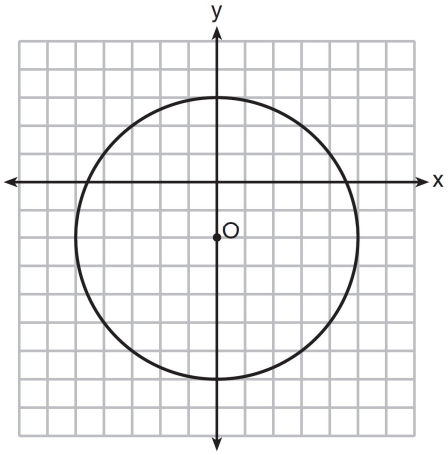
1) Rotation of 90 centered at the origin
2) Rotation of 180 centered at the origin
3) Reflection over the x axis
4) Translation 1 up and 1 to the right

7. In the diagram below, quadrilateral ABCD is graphed.



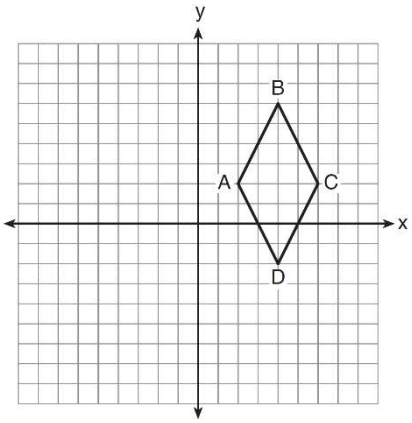
Which transformation will map ABCD onto itself?
1) Reflection over the y-axis
2) Rotation of 180 centered at the origin
3) Reflection over the line $y = 0$
4) Rotation of 180 centered at (4,0)

8. Which transformation will map circle *O* onto itself?



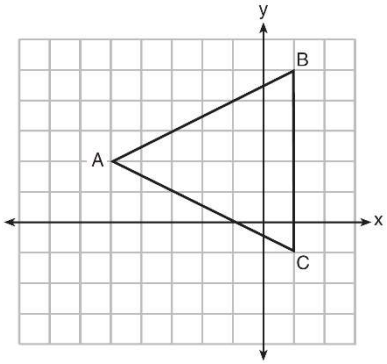
1) Reflection over the x-axis
2) Translation 2 units up
3) Reflection over the y axis
4) Rotation of 90 centered at the origin

9. Quadrilateral *ABCD* is graphed on the set of axes below.



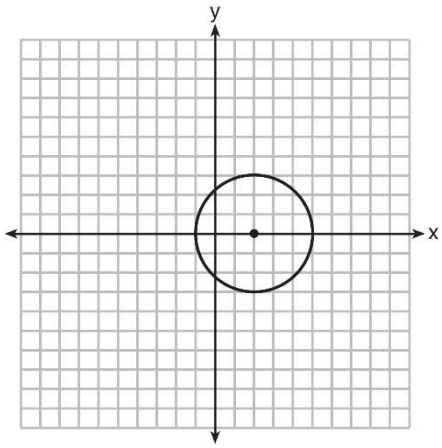
Which transformation maps quadrilateral ABCD onto itself?
1) Reflection over the x-axis
2) Reflection over the y-axis
3) Reflection over $x = 2$
4) Reflection over $y = 2$

10. Triangle *ABC* is graphed on the set of axes below.



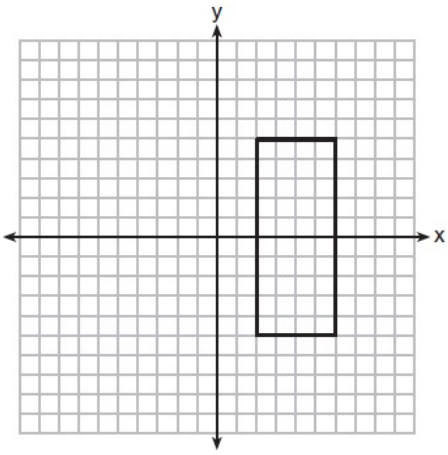
Which transformation maps ΔABC onto itself?
1) Reflection over the x-axis
2) Reflection over $x = 2$
3) Reflection over $y = 2$
4) Reflection over $x = -2$

11. Which transformation does *not* map the circle below onto itself?
1) Reflection over the x-axis
2) Reflection over the y-axis
3) Reflection over the line $x = 2$
4) Rotation of 40 centered at $(2, 0)$

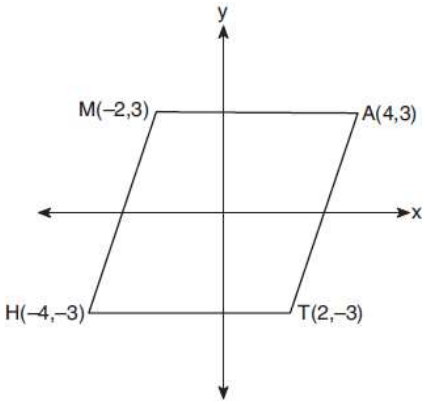


12. As shown in the graph below, the quadrilateral is a rectangle.

Which transformation would *not* map the rectangle onto itself?
1) a reflection over the *x*-axis
2) a reflection over the line $x = 4$
3) a rotation of 180° about the origin
4) a rotation of 180° about the point $(4, 0)$



13. Which figure always has exactly four lines of reflection that map the figure onto itself?
1) square
2) rectangle
3) regular octagon
4) equilateral triangle

14. Which transformation would *not* carry a square onto itself?
1) a reflection over one of its diagonals
2) a 90° rotation clockwise about its center
3) a 180° rotation about one of its vertices
4) a reflection over the perpendicular bisector of one side

15. Which transformation carries the parallelogram below onto itself?
1) a reflection over $y = x$
2) a reflection over $y = -x$
3) a rotation of 90° counterclockwise about the origin
4) a rotation of 180° counterclockwise about the origin