

Name Schlansky
Mr. Schlansky

Reflection: line of reflection = line of symmetry
Rotation: center of rotation = center of shape

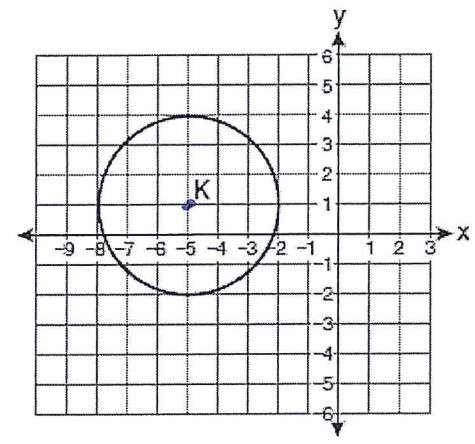
Date _____
Geometry

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

center of rotation = center of shape

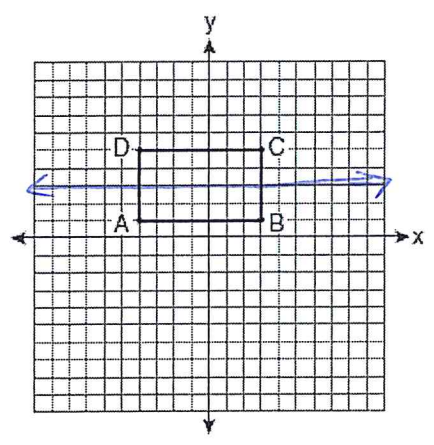


2. On the set of axes below, Geoff drew rectangle $ABCD$.

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

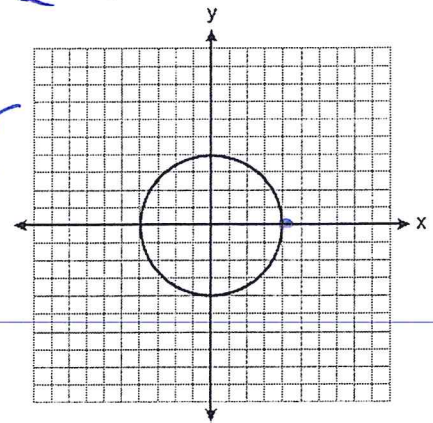
line of reflection = line of symmetry



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 $x = 0$

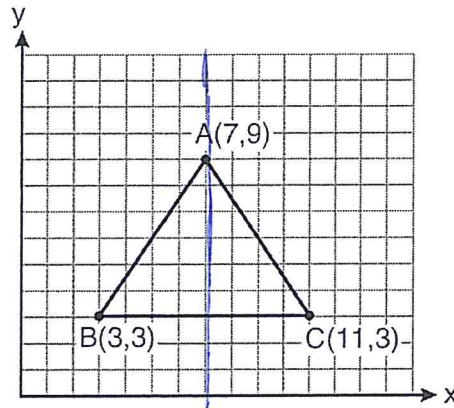
not center of shape



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

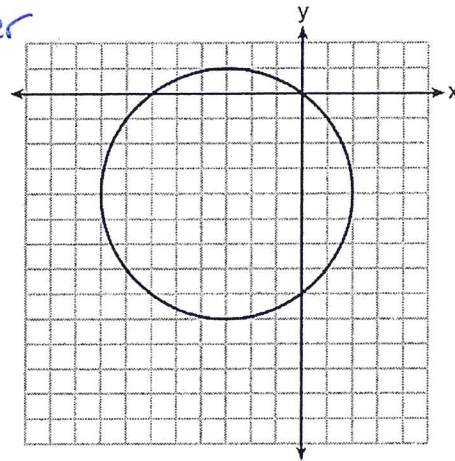
Which transformation will map $\triangle ABC$ onto itself?

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



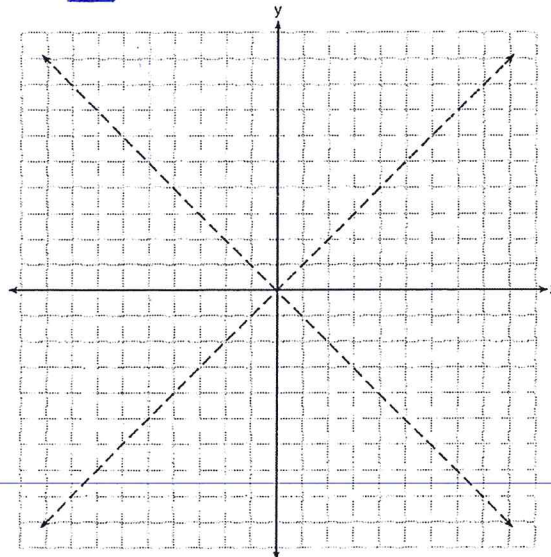
5. Which transformation does not map the circle in the diagram below onto itself?

- 1) Rotation of 90° centered at the origin *not the center of the shape*
- 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?

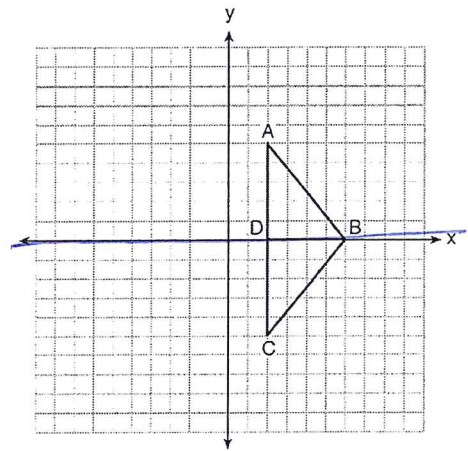
- 1) Rotation of 90° centered at the origin
- 2) Rotation of 180° centered at the origin
- 3) Reflection over the x axis
- 4) Translation 1 up and 1 to the right



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

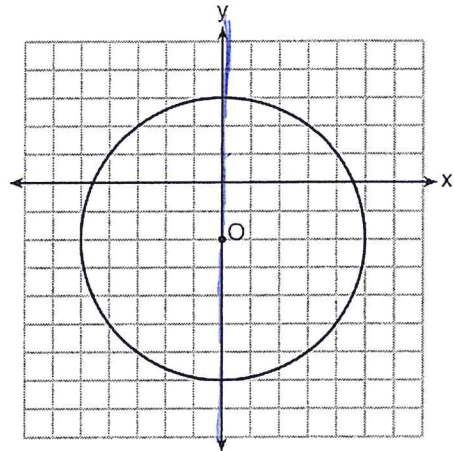
Which transformation will map ABCD onto itself?

- 1) Reflection over the y-axis
- 2) Rotation of 180 centered at the origin
- 3) Reflection over the line $y = 0$ *line of reflection = line of symmetry*
- 4) Rotation of 180 centered at (4,0)



8. Which transformation will map circle O onto itself?

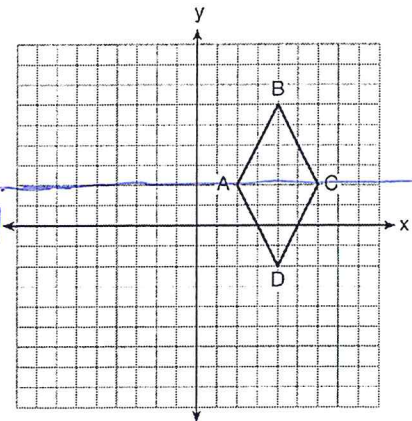
- 1) Reflection over the x-axis
- 2) Translation 2 units up
- 3) Reflection over the y-axis *line of reflection = line of symmetry*
- 4) Rotation of 90 centered at the origin



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

Which transformation maps quadrilateral ABCD onto itself?

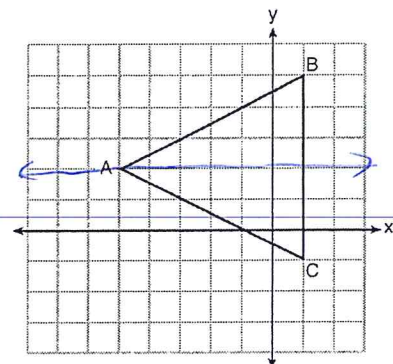
- 1) Reflection over the x-axis
- 2) Reflection over the y-axis
- 3) Reflection over $x = 2$ *line of reflection = line of symmetry*
- 4) Reflection over $y = 2$



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

Which transformation maps $\triangle ABC$ onto itself?

- 1) Reflection over the x-axis
- 2) Reflection over $x = 2$ *line of reflection = line of symmetry*
- 3) Reflection over $y = 2$ *line of reflection = line of symmetry*
- 4) Reflection over $x = -2$



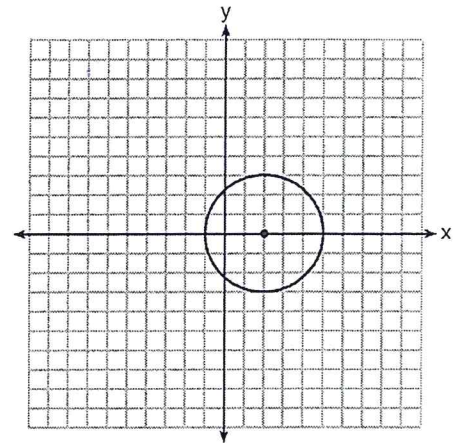
11. Which transformation does not map the circle below onto itself?

1) Reflection over the x-axis

2) Reflection over the y-axis *not a line of symmetry*

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.

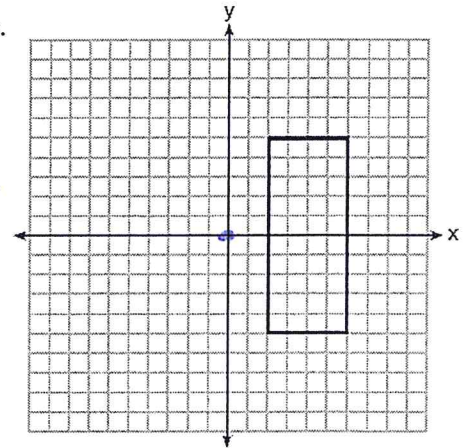
Which transformation would not map the rectangle onto itself?

1) a reflection over the x-axis

2) a reflection over the line $x = 4$

3) a rotation of 180° about the origin *not the center of the shape*

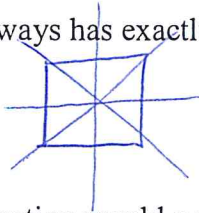
4) a rotation of 180° about the point $(4, 0)$



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

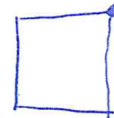
14. Which transformation would not carry a square onto itself?

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 *not the center of the shape*

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 $y = -x$ *not a line of symmetry*

3) a rotation of 90° counterclockwise about the origin

4) a rotation of 180° counterclockwise about the origin

