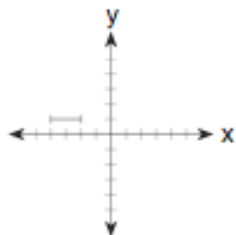


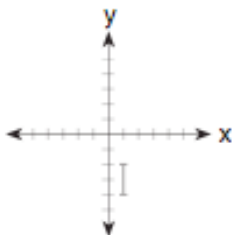
1. Which of the following is not an isometry?
 (1) line reflection (3) dilation
 (2) point reflection (4) glide reflection

3. Which of the following words has point symmetry?
 (1) pop (3) mom
 (2) pod (4) oz

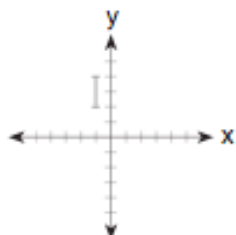
2. Which graph represents Γ after a transformation defined by $r_{y=x} \circ R_{90^\circ}$?



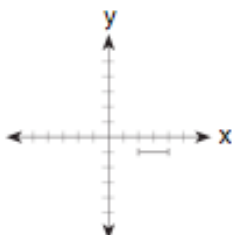
(1)



(3)



(2)



(4)

4. What are the coordinates of $r_{x=4} \circ r_{y=3}(2, 5)$?

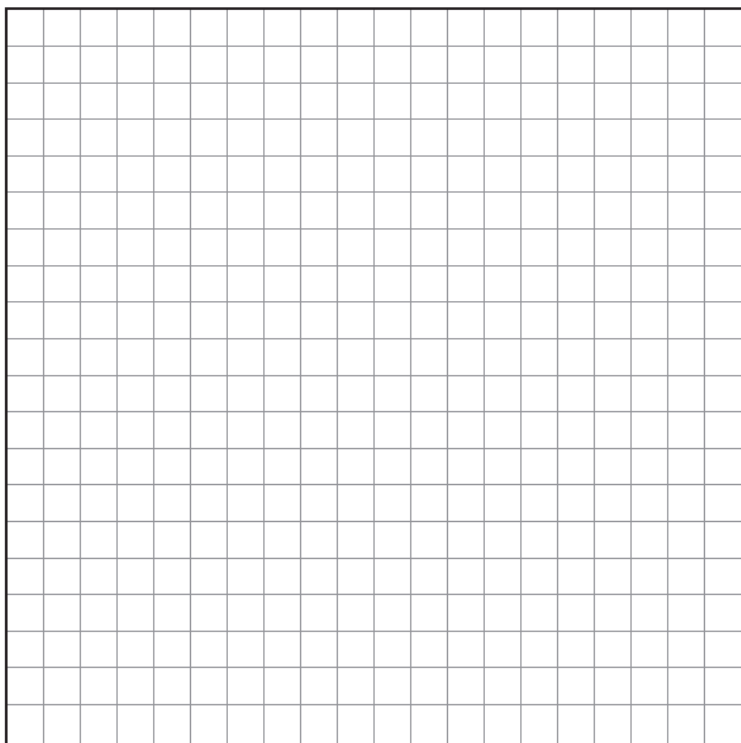
5. If the point $(0, -4)$ is rotated 90° clockwise about the origin, its image is on the line

- (1) $y = x$ (3) $x = 0$
 (2) $y = -x$ (4) $y = 0$

6. a) Sketch the graph of $\frac{(x-3)^2}{4} + \frac{(y+2)^2}{9} = 1$

b) Reflect the given graph in the x -axis and write its new equation.

c) Translate the given graph by $T_{-4,6}$ and state the new equation.



7. Which transformation is an opposite isometry?

- (1) dilation (3) rotation of 90°
(2) line reflection (4) translation

9. The composite transformation that reflects point P through the origin, the x -axis, and the line $y = x$, in the order given, is equivalent to which rotation?

- (1) R_{90° (3) R_{270°
(2) R_{180° (4) R_{360°

8. The domain of the relation $y = \frac{4}{\sqrt{x-1}}$ is the set

- (1) $\{x|x > 1\}$ (3) $\{x|x < 1\}$
(2) $\{x|x \geq 1\}$ (4) $\{x|x > 2\}$

10. State the sum of the roots and the product of the roots for the given equation: $9x^2 - 4x = 5$

11. Solve for x and express in simplest radical form: $\frac{4}{x} - \frac{3}{x+1} = 7$.

12. a) On the accompanying grid, graph the equation $2y = 2x^2 - 4$ in the interval $-3 \leq x \leq 3$ and label it a .

b) On the same grid, sketch the image of a under $T_{5,-2} \circ r_{x\text{-axis}}$ and label it b .

