M$5 Homework 53

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

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

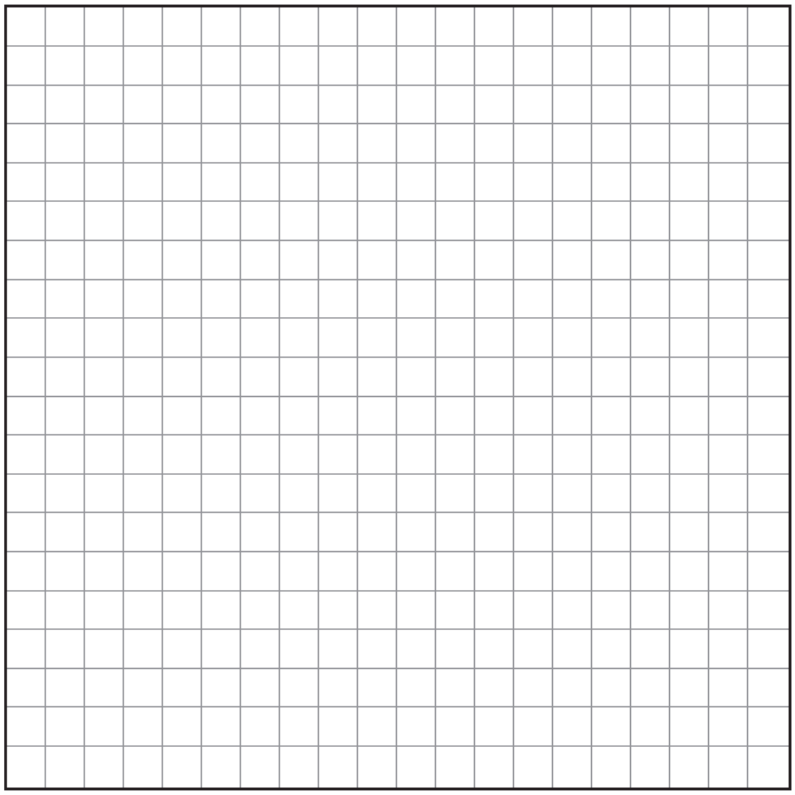
3. Which of the following transformations could map the point (1, 2) onto the point (3, 6)?
   (1) $T_{2,3}$ (3) D_3
   (2) $T_{3,2}$ (4) $r_{y=x}$

4. If the point (0, –4) is rotated 90º clockwise about the origin, its image is on the line
   (1) $y = x$ (3) $x = 0$
   (2) $y = -x$ (4) $y = 0$

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

   b) Graph the image of *a* under the composite $T_{-4,2} \circ r_{x\text{-axis}}$ and label it *b*.

   c) Write an equation for *b*.



6. Which transformation is an opposite isometry?
(1) dilation
(2) line reflection
(3) rotation of 90º
(4) translation

7. Which symbol has both point and line symmetry?
(1) ♣
(2) ♦
(3) ♥
(4) ♠

8. In which quadrant would the image of point (4, 5) fall after a dilation using a factor of –3?
(1) I
(2) II
(3) III
(4) IV

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

10. 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) $R_{90°}$
(2) $R_{180°}$
(3) $R_{270°}$
(4) $R_{360°}$

11. A transformation maps (1, 3) onto (–1, –3). This transformation is equivalent to
(1) $R_{90°}$
(2) $R_{-90°}$
(3) D_{-1}
(4) $T_{-1,-3}$