Geometry – H   Name: _____
Transformation Quiz Practice

                                                                Date: _____ Period: _____

Part I: Multiple Choice.

1) The point A(–7, 3) is translated onto A' by the translation $x,y \rightarrow x+5, y-4$. The coordinates of A' are

   _____.

      [A] (–2,–1)   [B] (–12,7)   [C] (2, –7)   [D] (5, –4)

2) The point (5, -9) is the **image** under the translation $x,y \rightarrow x+3, y+2$. What is the preimage?

      [A] (2,–11)   [B] (8,–7)   [C] (2, –7)   [D] (8, –11)

3) What is the reflection image of (5, -3) across the line y = -x?

      [A] (–3, 5)   [B] (–3,–5)   [C] (3, –5)   [D] (–5, 3)

4) The vertices of $\triangle PQR$ are P(3, -1), Q(-2, 7) and R(6, 5). Find the reflection of $\triangle P'Q'R'$ in the line y = x.

5) The graph of $\overleftrightarrow{MN}$ below represents the equation $y = \dfrac{2}{3}x - 2$. If $\overleftrightarrow{MN}$ is rotated counterclockwise 270°

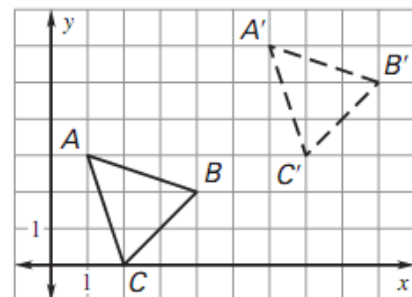   about the origin, what will be the new coordinates of point N?
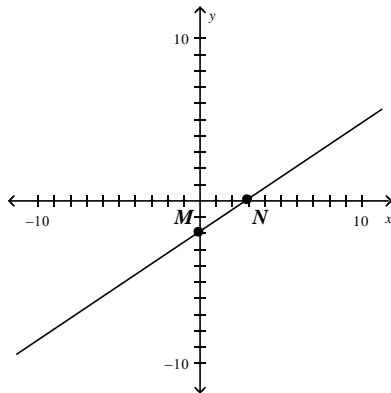
      [A] (-3, 0)   [B] (0, 3)

      [C] (3, 0)   [D] (0, -3)
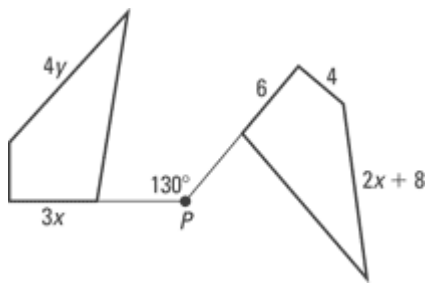
Part II: Skills Check.
6) $\triangle A'B'C'$ is the image of $\triangle ABC$ after a translation.
      a) Write the rule for the translation.
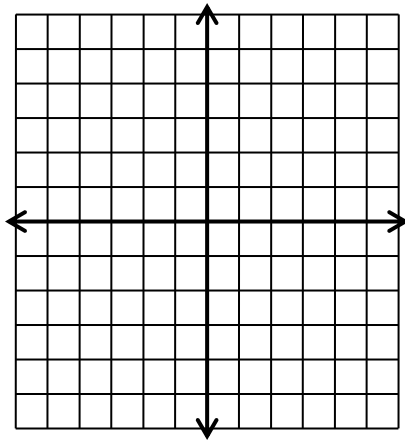

      b) Suppose $\triangle ABC$ is translated using the rule
         $x,y \rightarrow x-5, y+1$. What are the coordinates of
         the vertices of its image?

7) In the diagram, the quadrilateral is rotated about point P. What is the value of y?

8) Line p passes through points J(2,5) and K(-14,13). Line q is the image of line p after line p is reflected in the x-axis. Find the slope of line q.

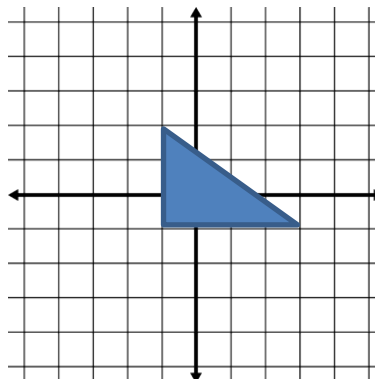9) Identify the coordinates of (-1, 3) after a 180° counter-clockwise rotation about the origin and then a 90° clockwise rotation about the origin.

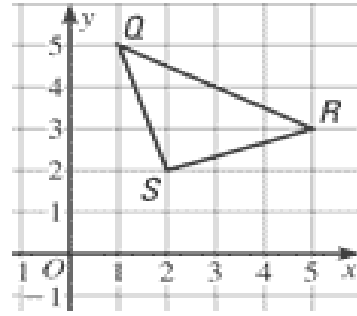10) What is the degree of rotation on the minute hand of a clock after 20 minutes have passed?

11) Draw the figure rotated about the origin 90°.
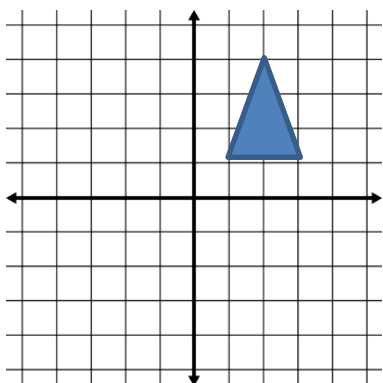
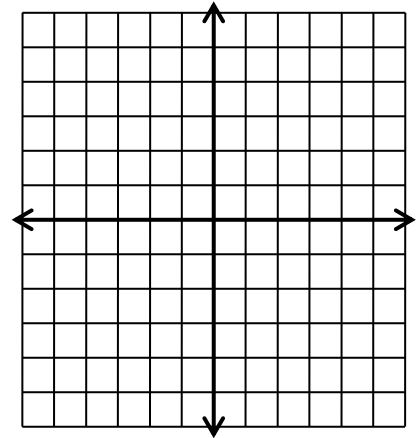12) Draw the figure reflected over y =3.

13) What are the coordinates of the image of ΔQRS if the triangle is first reflected over the x-axis and then rotated 180°?

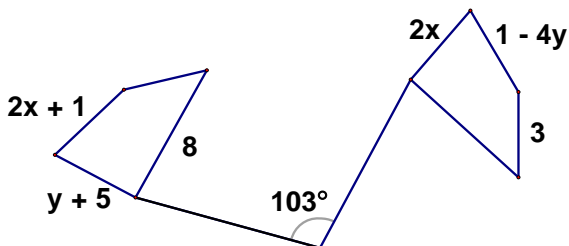14) The vertices of ΔABC are A(-4,4) , B(-5,0), and C(-1,3). What are the coordinates of the image when ΔABC is first translated using the rule $(x, y) \rightarrow (x+6, y-1)$ and is then reflected over the y-axis?

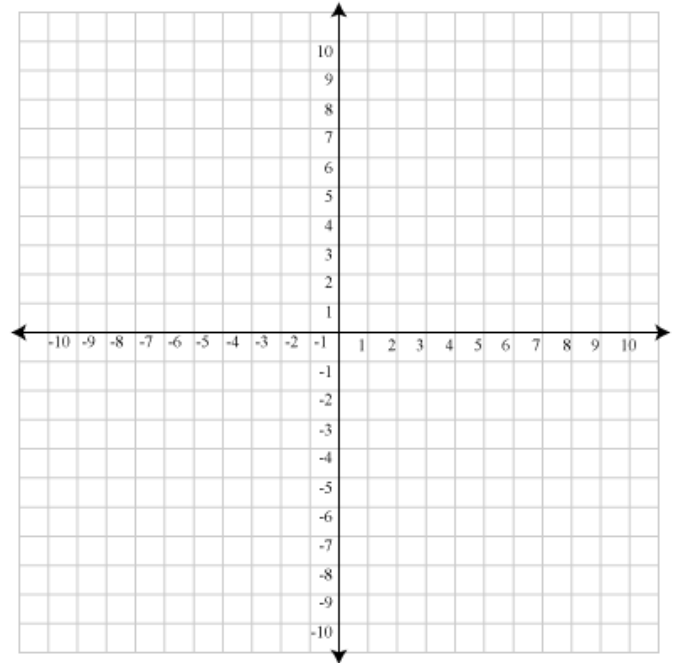15) Where is the image of point K(1,4) located if K is reflected in the line y = x and then reflected in the line x=2?
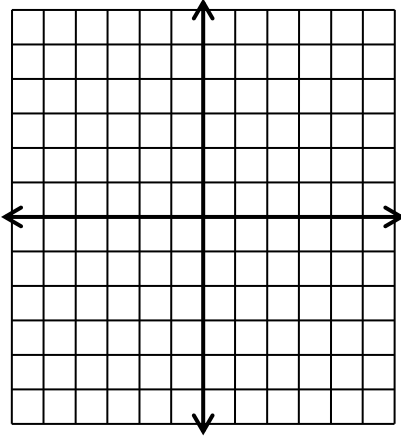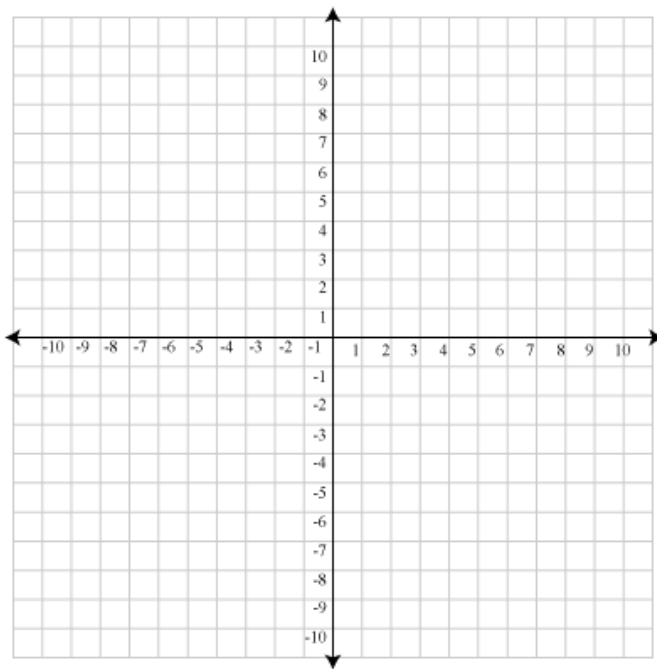
16) Please solve for x and y.

2x + 1

2x

1 - 4y

8

3

y + 5

103°

17) Rotate quadrilateral ABCD 90° **clockwise** with vertices A(-1,4) , B(0,2) , C(-3,1) , D(-5,3). Then rotate

quadrilateral A'B'C'D' 180° about the point (-2,0).

18) Reflect ΔDEF over the line y = -2 with vertices D(2,6) , E(-3,4) , and F(0,-1). Then rotate ΔD'E'F' 270° clockwise

about the point (2 , 0).

Answer Key :

1. A
2. A
3. C
4. $P'(-1,3)$

   $Q'(7,-2)$

   $R'(5,6)$
5. D
6. a. $(x, y) \rightarrow (x+5, y+3)$

   b. $A'(-4,4)$

   $B'(-1,3)$

   $C'(-3,1)$
7. x = 2 , y = 3
8. $J'(2,-5)$

   $K'(-14,-13)$

   $m = \dfrac{1}{2}$
9. $(-1,3) \rightarrow (1,-3) \rightarrow (-3,-1)$
10. 120°
11. Coordinates : $(-1,1),(-1,3),(-4,2)$
12. Coordinates : $(-1,4),(-1,7),(3,7)$
13. $S'(2,-2) \rightarrow S''(-2,2)$

    $Q'(1,-5) \rightarrow Q''(-1,5)$

    $R'(5,-3) \rightarrow R''(-5,3)$

14. $A'(2,3) \rightarrow A''(-2,3)$

    $B'(1,-1) \rightarrow B''(-1,-1)$

    $C'(5,2) \rightarrow C''(-5,2)$

15. $K'(4,1) \rightarrow K''(0,1)$
16. x = 2 , y = -1
17. $A'(4,1) \rightarrow A''(-8,-1)$

    $B'(2,0) \rightarrow B''(-6,0)$

    $C'(1,3) \rightarrow C''(-5,-3)$

    $D'(3,5) \rightarrow D''(-7,-5)$

18. $D'(2,-10) \rightarrow D''(12,0)$

    $E'(-3,-8) \rightarrow E''(10,-5)$

    $F'(0,-3) \rightarrow F''(5,-2)$