

LEVEL: EMERGING

1) Determine the coordinates of point P' after the indicated glide reflection.

a) $P(-5,9)$ is translated -4 units horizontally and reflected across the x -axis.

P' : _____

b) $P(-1,-9)$ is translated -7 units horizontally and reflected across the y -axis.

P' : _____

c) $P(1,-1)$ is translated -10 units vertically and reflected across the y -axis.

P' : _____

d) $P(8,-2)$ is translated 8 units vertically and reflected across the x -axis.

P' : _____

e) $P(-3,1)$ is translated 4 units vertically and reflected across the x -axis.

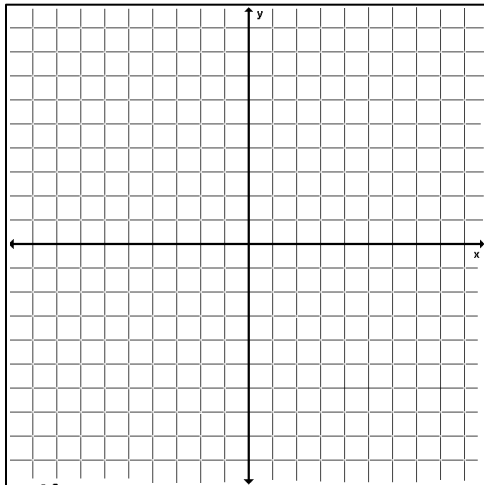
P' : _____

f) $P(2,5)$ is translated 2 units horizontally and reflected across the x -axis.

P' : _____

LEVEL: PROFICIENT

2) Line segment \overline{AB} has the coordinates of $A(5,2)$ and $B(1,-4)$. The line segment is first reflected over the y -axis. Then the line segment is rotated 90° clockwise about the origin. Find the coordinates of B'' . Then add the coordinates.

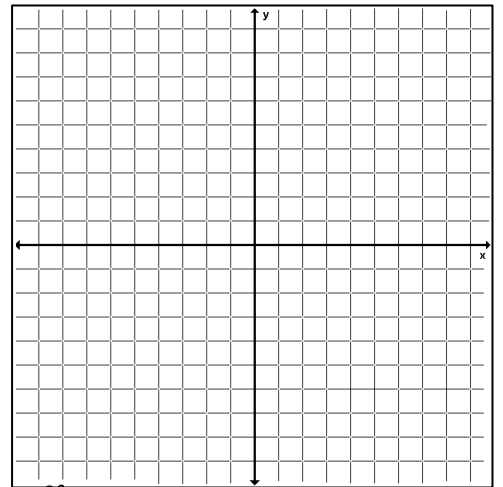


B'' x-coordinate: _____

B'' y-coordinate: _____

Sum: _____

3) Line segment \overline{MN} has the coordinates of $M(-3,5)$ and $N(6,3)$. The line segment is translated by the rule $(x,y) \rightarrow (x-3,y-1)$. Then the line segment is reflected over the x -axis. Find the coordinates of M'' . Then add the coordinates.

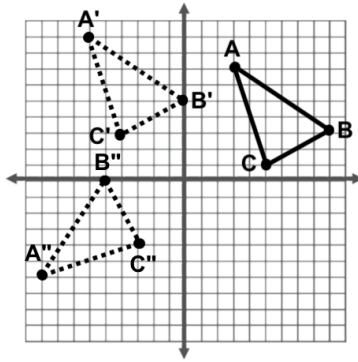


M'' x-coordinate: _____

M'' y-coordinate: _____

Sum: _____

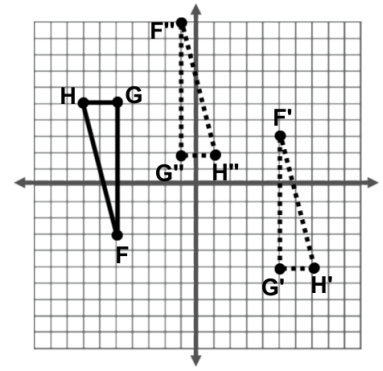
4) Write a rule for the given composition of transformations.



Transformation #1:

Transformation #2:

5) Write a rule for the given composition of transformations.



Transformation #1:

Transformation #2:

6) Line segment \overline{XY} has the coordinates of $X(-11,0)$ and $Y(-4,-5)$. The line segment is first translated up 3 units and right 6 units. Then the line segment is rotated 270° clockwise. Find the coordinates of Y'' . Then add the coordinates.

x-coordinate: _____ y-coordinate: _____

sum: _____

7) Line segment \overline{AB} has the coordinates of $A(-3,-9)$ and $B(2,-5)$. The line segment is first rotated 180° counter-clockwise about the origin. Then the line segment is reflected over the line $x = -1$. Find the coordinates of A'' . Then add the coordinates.

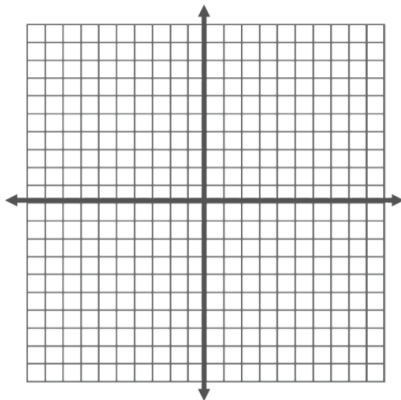
A'' x-coordinate: _____ A'' y-coordinate: _____

sum: _____

LEVEL: MASTERY

8) The vertices of $\triangle ABC$ are $A(-1,-6)$, $B(-4,-1)$, and $C(-5,-8)$. Find the image of $\triangle ABC$ after the given transformations.

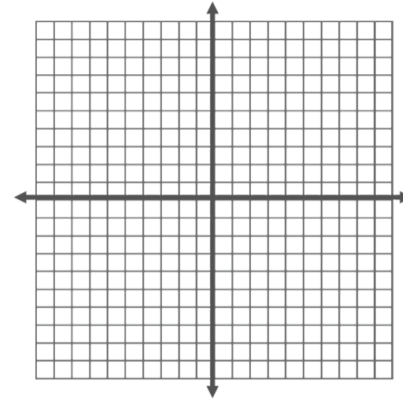
Transformation #1: Reflect over the line $x = 0$.
Transformation #2: Rotate $\triangle ABC$ 90° clockwise about the origin.



A' () B' () C' ()
 A'' () B'' () C'' ()

9) The vertices of $\triangle ABC$ are $A(5,9)$, $B(3,4)$, and $C(1,9)$. Find the image of $\triangle ABC$ after the given transformations.

Transformation #1: Translate $(x, y) \rightarrow (x - 4, y - 5)$
Transformation #2: Reflect the figure over the x-axis.



A' () B' () C' ()
 A'' () B'' () C'' ()

Unit 2.3 Day 2 Worksheet Answers

1.
 - a. (-9,-9)
 - b. (8,-9)
 - c. (-1,-11)
 - d. (8,-6)
 - e. (-3,-5)
 - f. (4,-5)
2. x-coordinate = -4, y-coordinate = 1, SUM = -3
3. x-coordinate = -6, y-coordinate = -4, SUM = -10
4. Transformation #1 - $(x,y) \rightarrow (x - 9, y + 2)$
Transformation #2 - 90° ccw rotation
5. Transformation #1 - 180° ccw or cw rotation
Transformation #2 - $(x,y) \rightarrow (x - 6, y + 7)$
6. x-coordinate = 2, y-coordinate = 2, SUM = 4
7. x-coordinate = -4, y-coordinate = 9, SUM = 5
8. $A'(1,-6), B'(4,-1), C'(5,-8)$
 $A''(-6,-1), B''(-1,-4), C''(-8,-5)$
9. $A'(1,4), B'(-1,-1), C'(-3,4)$
 $A''(1,-4), B''(-1,1), C''(-3,-4)$