Geometry Honors
Unit 2: Transformations
2.2C Reflections

Mathematician: _____
Period:_____

LEVEL: EMERGING

1) The axis of symmetry of a figure is a…

(a) Value
(b) Point
(c) Line
(d) Plane

2) How many different axes of symmetry does an isosceles triangle have?

(a) 0
(b) 1
(c) 2
(d) 3

3) How many different axes of symmetry are there for a square?

(a) 0
(b) 1
(c) 2
(d) 4

4) What are the coordinates of the reflection of the point (-9,6) over the line $y = 3$?

x −coordinate: _____

y −coordinate: _____

Sum: _____

5) What are the coordinates of the reflection of the line segment $\overline{AB}$, with points at A(2,-3) and B(4,9), over the $y - axis$?

A' coordinate: _____

B' coordinate: _____

6) What are the coordinates of the reflection of ΔMNO, with points at M(4,-2), N(8,-5), and O(4,0), over the line $y = 0$?

M' coordinate: _____

N' coordinate: _____

O' coordinate: _____

LEVEL: PROFICIENT

Directions: Reflect the pre-image over the given line of reflection to find the coordinates of the image.

7) a) Over the line $x = -1$.

Pre-Image *Image*

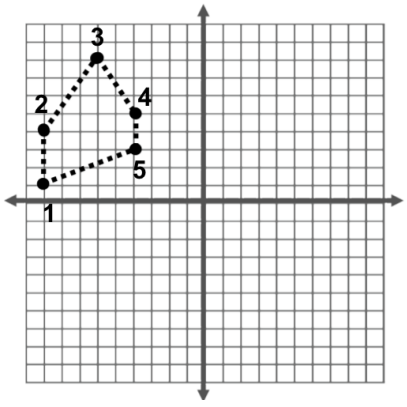
1 ( ) 1' ( )

2 ( ) 2' ( )

3 ( ) 3' ( )

4 ( ) 4' ( )

5 ( ) 5' ( )



b) What do you notice about the corresponding coordinates of the pre-image and the image? Write your observations here.

8) a) Over the line $y = x$.

Pre-Image *Image*

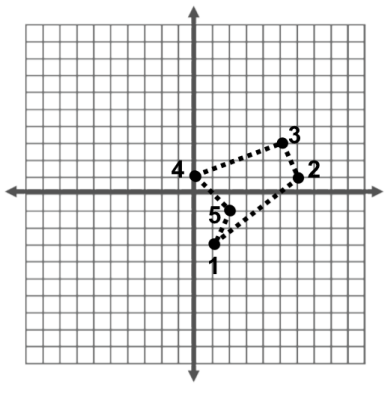
1 ( ) 1' ( )

2 ( ) 2' ( )

3 ( ) 3' ( )

4 ( ) 4' ( )

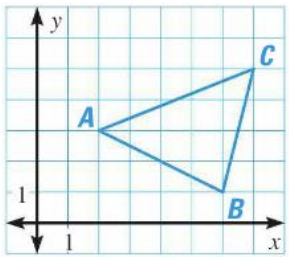
5 ( ) 5' ( )



b) What do you notice about the corresponding coordinates of the pre-image and the image? Write your observations here.

Directions: Identify the coordinates of the image after the reflection. Then graph the reflection of the figure.

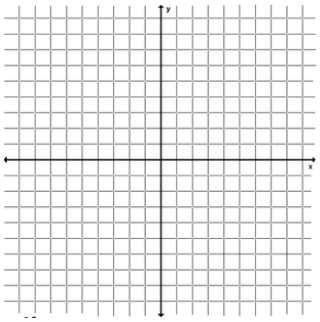
9) $x-axis$



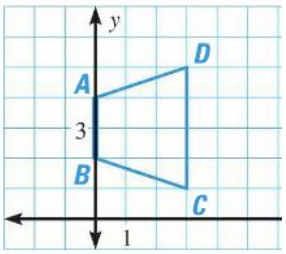
A'

B'

C'



10) $y-axis$

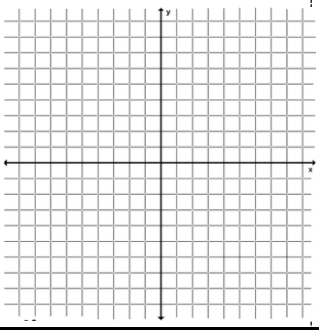


A'

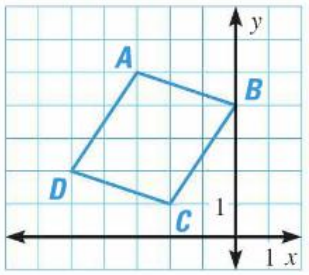
B'

C'

D'



11) $y=2$

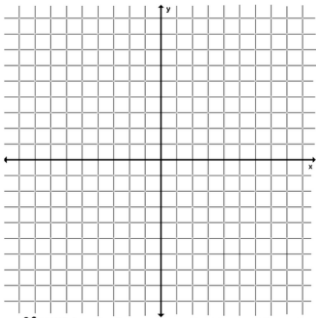


A'

B'

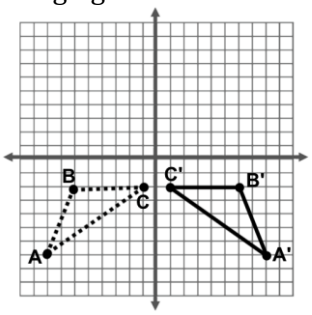
C'

D'



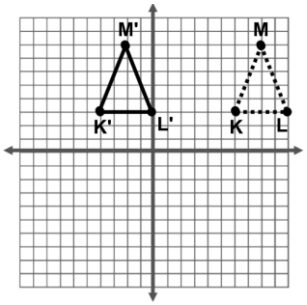
LEVEL: MASTERY

12) What is the axis of symmetry for the image and pre-image of the following figure?



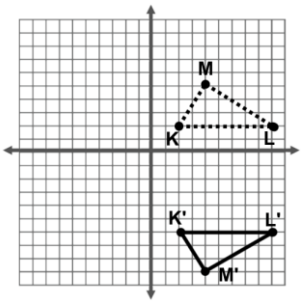
Axis of symmetry: _____

13) What is the axis of symmetry for the image and pre-image of the following figure?



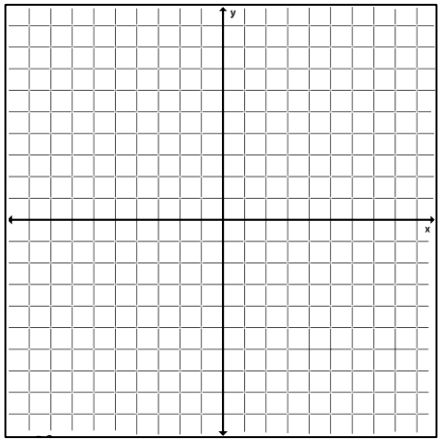
Axis of symmetry: _____

14) What is the axis of symmetry for the image and pre-image of the following figure?



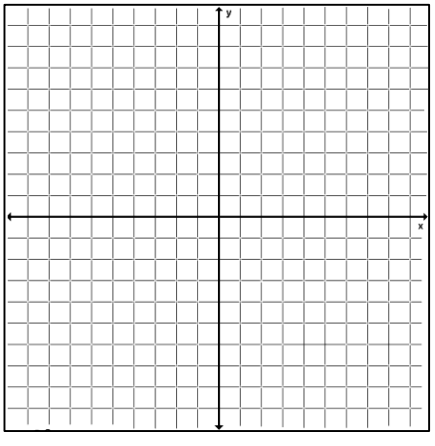
Axis of symmetry: _____

15) A line segment has endpoints A (4, -1) and B (5, -4). The line segment is reflected over x = 1. Find the coordinates of A' and B' and the sums of their coordinates.



A (4, -1)	B(5, -4)
A' (,)	B' (,)
Sum of A' =	Sum of B' =

16) ΔABC has vertices A (-3, 1), B (0, 4), and C (6,2). The triangle is reflected over y = -2. Find the coordinates of A', B', and C' and the sum of their coordinates.



A (-3, 1)	B(0, 4)	C(6,2)
A' (,)	B' (,)	C' (,)
Sum of A' =	Sum of B' =	Sum of C' =