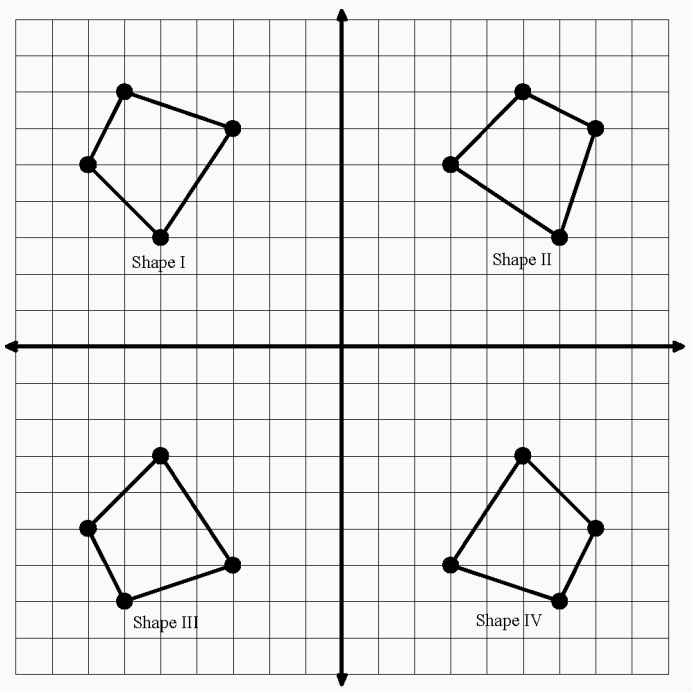
Math 2 Name _____ Period _____

Math 2 Honors: Unit 1 Review

Part I: Matching



Using the diagram above to match the Image/Pre-Image listed on the left with the transformation listed on the right.

_____ 1. Pre-image: Shape I
Image: Shape II

_____ 2. Pre-image: Shape II
Image: Shape III

_____ 3. Pre-image: Shape IV
Image: Shape II

_____ 4. Pre-image: Shape I
Image: Shape IV

_____ 5. Pre-image: Shape I
Image: Shape III

a. Rotated 180° around the point (0 , 0)

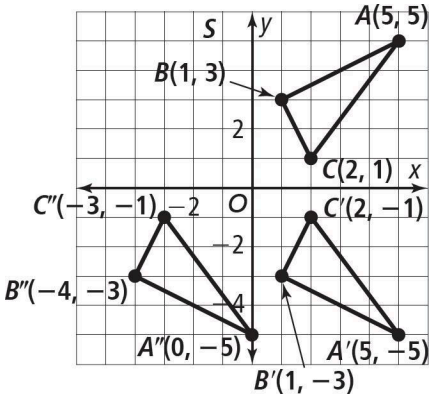
b. Reflected over the line $y = -1x + 0$

c. Rotated 270° counter-clockwise around the point (0 , 0)

d. Reflected over the line $y = 0$

e. Rotated 90° counter-clockwise around the point (0 , 0)

6. What composition would take ΔABC to $\Delta A''B''C''$? Describe in words and formal notation.



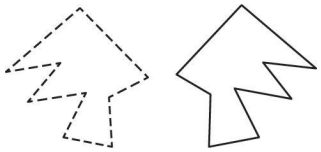
7. Using the rule (x, y) → (-y, x) find the image points:

A(2, 3) B(-5, 6) C (-1, -3) A' (,) B' (,) C' (,)

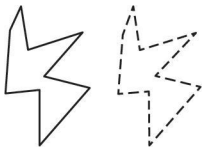
8. Using the rule (x, y) → (x, -y) find the image points:

A(2, 3) B(-5, 6) C (-1, -3) A' (,) B' (,) C' (,)

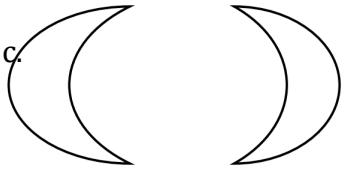
9. For a-c, What rigid motion maps the solid-line figure onto the dotted line figure?

a. 

_____

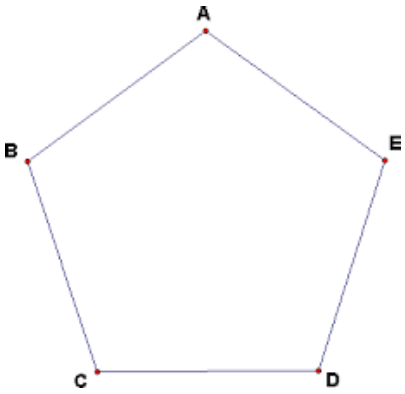


_____

c. 

_____

For questions 10- 12, use the figure below.



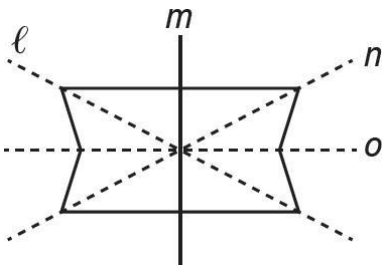
10. What is the name of the shape on the left?

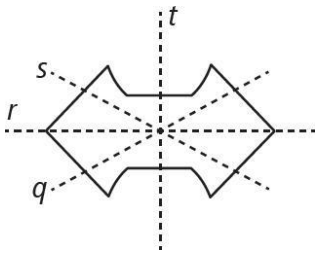
11. How many lines of symmetry are there on the shape to the left?

12. List **all** of the degrees of rotational symmetry for the shape to the left.

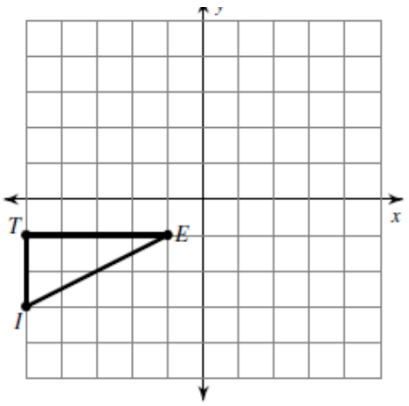
13. For a-d: Do the following words have horizontal symmetry? (yes or no)		14. For a-d, Do the following capital letters have one or more lines of symmetry? (yes or no)	
a. BOOK	c. POP	a. V	c. M
b. . CHECK	d. SUCCEED	b. N	d. O

15. For a-b, List all the lines of symmetry for the following shapes:

a. 

b. 

16. Transform the pre-image using the rule **(x,y) → (-x, -y)**
Draw and label the image on the graph)



a) Provide the coordinates for the pre-image and image.

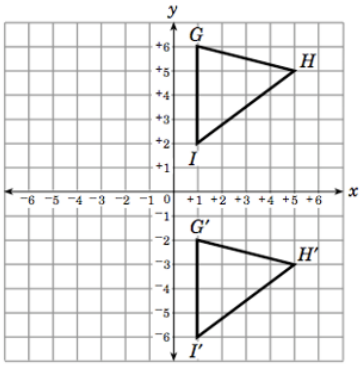
T (,) I (,) E (,)

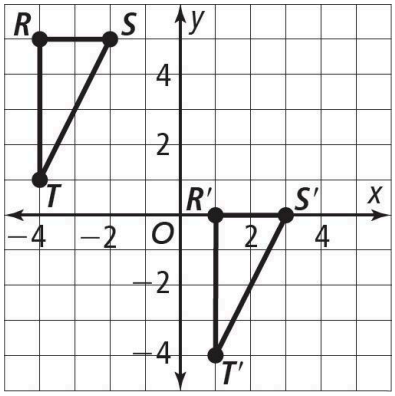
T' (,) I' (,) E'(,)

b) What transformation was performed? (Be specific!)

_____

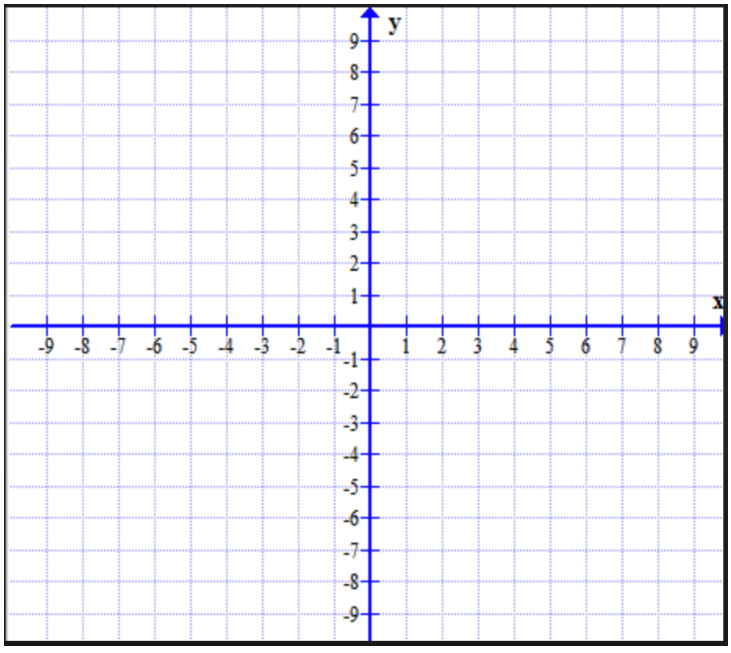
17. Describe the transformations that have occurred on the graphs below.





_____ _____

Use the graph to the side as needed to answer the following:



18. Point $P'(-3, 2)$ is the image of point $P(3, 8)$ under a translation. What is the image of B(0, −6) under the same translation?

_____

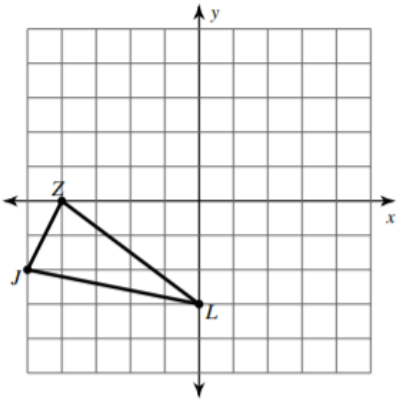
19. Point T is at (−6, 4). What are the coordinates of point T" after $R_{y\text{-axis}} \circ T_{(4,-5)}$?

_____

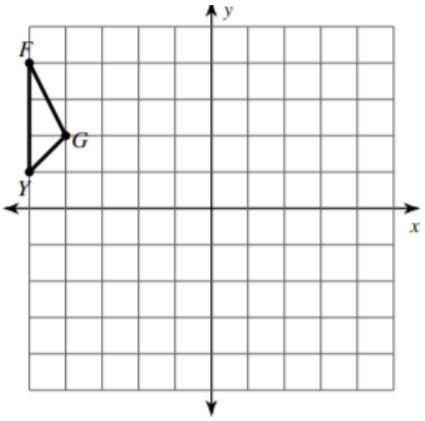
20. The rule $T_{\langle -4, 5\rangle}$ is used for point A(2, 4).
What quadrant is the translated point in the coordinate system?

_____

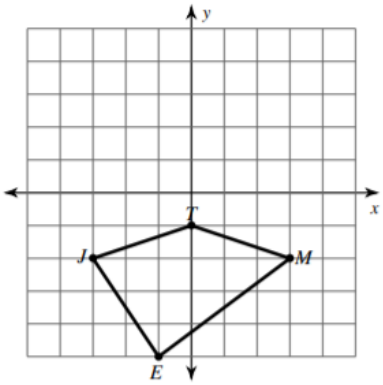
21. $r_{(270°, O)}(JZL)$



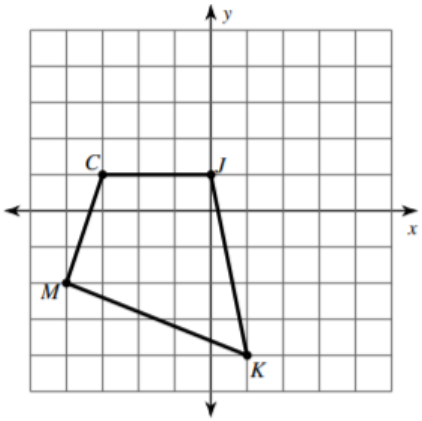
22. $(T_{(3, 6)} \circ R_{x\text{-axis}})(YFG)$



23. $T_{(-2, 4)}(JTME)$

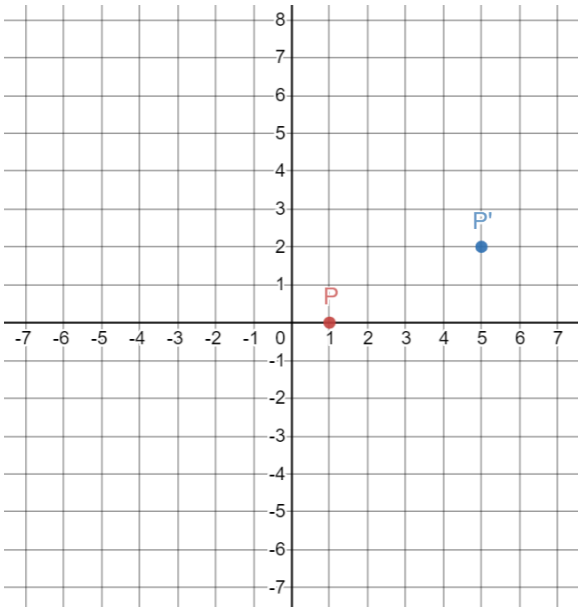


24. $R_{x\text{-axis}}(MCJK)$



25. Use the coordinate plane to the right.

a. Draw the line of reflection *clearly* between P and P' on the graph to the right



b. What is the equation of the line of symmetry?
(Write your equation in slope-intercept form)

y= _____