Geometry: Transformations Skill/Task 3 Name_____Per___

SLO: I can identify and perform reflections. Problems worthy of attack prove their worth by fighting back. —Piet Hein THE ROAD TO WISDOM? Well, it's plain and simple to express. Err and err and err again, but less and less and less. — Piet Hein.

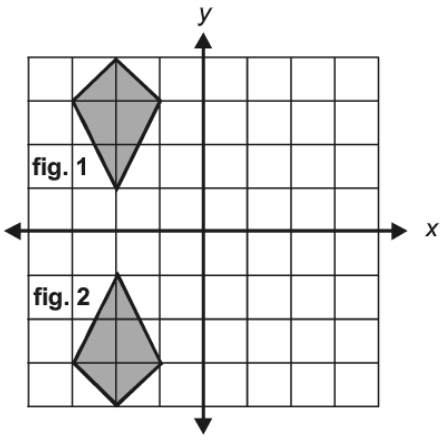
VOCABULARY (have your vocabulary sheet out EVERY day)

(1) TO DO: Use the links on my website to define and illustrate the following terms on the vocabulary sheet. If you do not have access to the website, use a geometry textbook (glossary and index) to define and illustrate them.

Reflection

(2) TO DO: For each diagram, (A) describe the transformation (include prime notation and the words translation, image and pre-image) (B) Write the coordinate notation, and (C) Write the short notation.

EXAMPLE

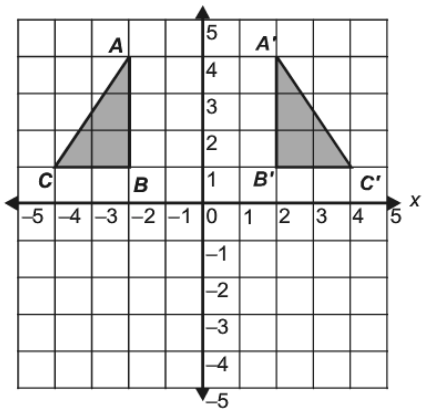


(A) The preimage, figure 1, was reflected across the x-axis resulting in the image, figure 2.

(B) (x , – y) preimage image

(C) $r_{x\text{-axis}}$ (-3, 3) (-3, -3)
(-2, 4) (-2, -4)
(-1, 3) (-3, -3)
(-2, 1) (-2, -1)

1)



(A) _____

_____

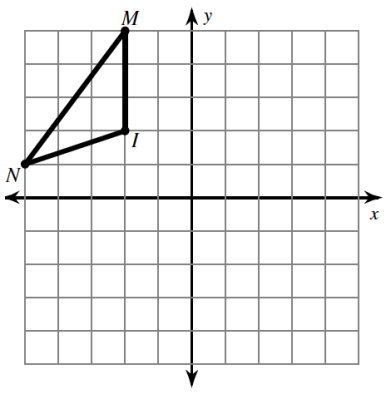
_____

_____

(B) _____ preimage image

(C) _____

2)) reflection across the x-axis



(A) _____

_____

_____

_____

(B) _____ preimage image

(C) _____

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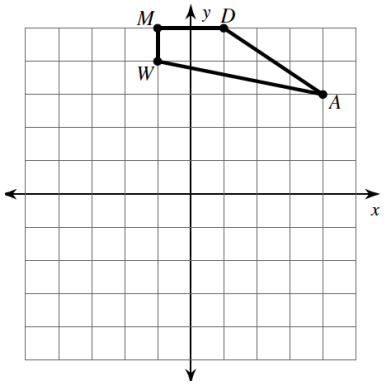
3) reflection across the x-axis



(A) _____

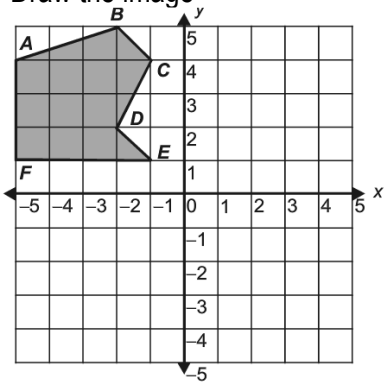
_____

_____

(B) _____ preimage image

(C) _____

4) Draw the image



(A) _____

_____

_____

(B) _____ preimage image

(C) $r_{y\text{-axis}}$

5) Answer each regents question

327 Quadrilateral $MNOP$ is a trapezoid with $\overline{MN} \parallel \overline{OP}$. If $M'N'O'P'$ is the image of $MNOP$ after a reflection over the x-axis, which two sides of quadrilateral $M'N'O'P'$ are parallel?

1 $\overline{M'N'}$ and $\overline{O'P'}$
2 $\overline{M'N'}$ and $\overline{N'O'}$
3 $\overline{P'M'}$ and $\overline{O'P'}$
4 $\overline{P'M'}$ and $\overline{N'O'}$

310 Point A is located at $(4,-7)$. The point is reflected in the x-axis. Its image is located at

1 $(-4,7)$
2 $(-4,-7)$
3 $(4,7)$
4 $(7,4)$

311 What is the image of the point $(2,-3)$ after the transformation $r_{y-\text{axis}}$?

1 $(2,3)$
2 $(-2,-3)$
3 $(-2,3)$
4 $(-3,2)$

6) Construct perpendiculars to line *m* through points A, B, and C. Find points A'B'C' on the perpendiculars you constructed such that A'B'C' is a reflection of ABC across line *m*. Compare the distances to *m* from ABC and from A'B'C'.