Name:_____

Transformations Unit Review

I. **Matching:** Match the terms in the left column with the correct definitions or examples in the right column.

1. _____	Reflection	a. (x, y)
2. _____	Translation	b. where the x and y axes intersect (0 ,0)
3. _____	Rotation	c. a turn that moves 1 quadrant
4. _____	X axis	d. the same direction as a clock
5. _____	Y axis	e. moving a figure by *flipping* it in a coordinate grid
6. _____	Origin	f. the vertical axis (up and down)
7. _____	Coordinate plane	g. a numbered grid with x and y axes
8. _____	90 degree rotation	h. moving a figure by *sliding* it in a coordinate grid
9. _____	Clockwise	i. the horizontal axis (across)
10. _____	Ordered Pair	j. moving a figure by *turning* it in a coordinate grid

II. Multiple Choice

_____ 1. Write a description of the rule $(x, y) \rightarrow (x+4, y-7)$.

(a) translation 4 units to the right and 7 units up
(b) translation 4 units to the left and 7 units down
(c) translation 4 units to the right and 7 units down
(d) translation 4 units to the left and 7 units up

_____2. Which of the following transformations ***<u>does not</u>*** result in a congruent figure?

(a) translation
(b) reflection
(c) rotation
(d) dilation

_____3. Point *X* (2, 1) is translated using the rule $(x, y) \rightarrow (x+3, y+4)$, then reflected over the y-axis. What is the coordinate of *X''*?

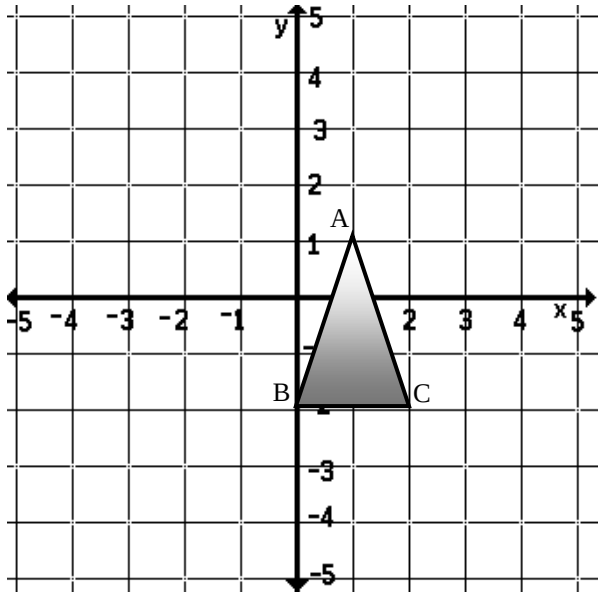
(a) (3,4) (b) (-5, 5) (c) (5, -5) (d) 5, 5)

III. **III. Application:**

- On the coordinate grids provided, transform the figures as directed.
- Use prime notation to label each point on the coordinate grid.
- Write the ordered pairs for the coordinates of the new image below for each problem.

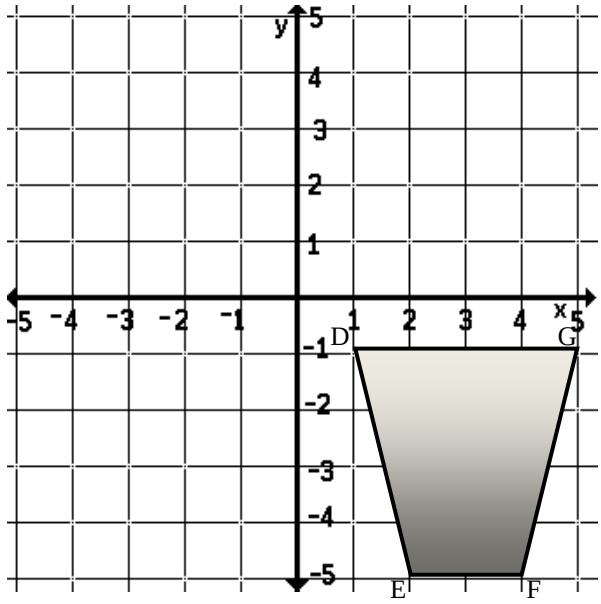
Plane 1 - **Translate** triangle ABC (*x-4, y+1)*.

A' _____ B' _____ C' _____



Plane 2 - **Reflect** trapezoid DEFG over the *x axis*.

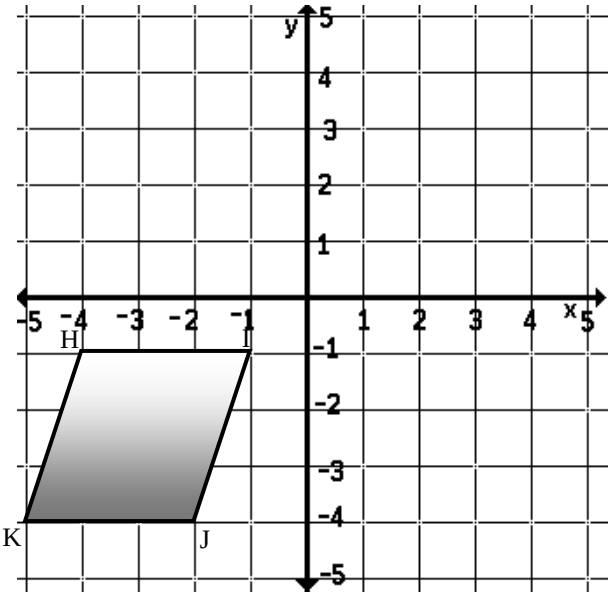
D' _____ E' _____ F' _____
G' _____



Plane 3 - **Rotate** parallelogram HIJK over the *180 degrees*.

H' _____ I' _____ J' _____

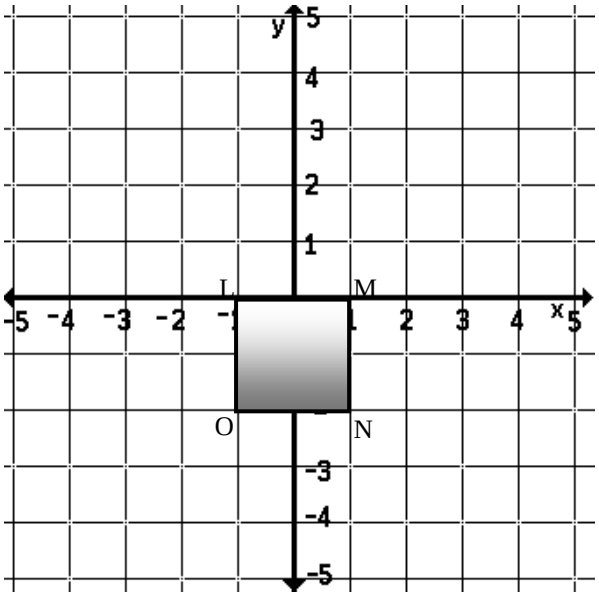
K' _____



Plane 4 - **Dilate** square LMNO by a scale factor of 2.

L' _____ M' _____ N' _____

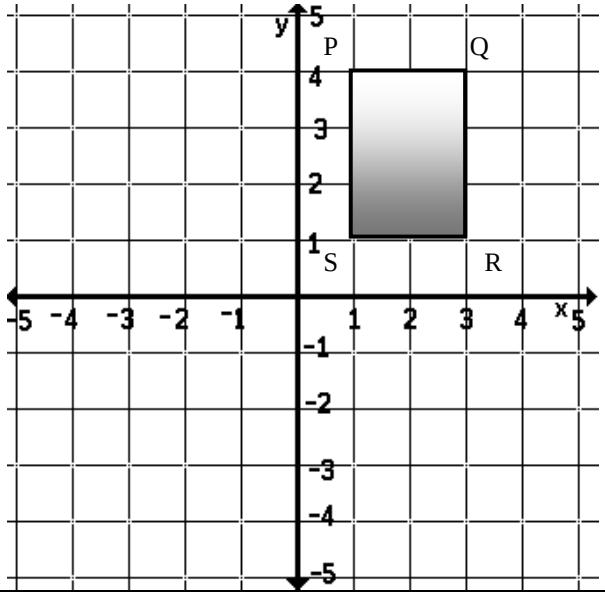
O' _____



Plane 5 - **Rotate** rectangle PQRS *90 degrees clockwise* about the origin.

P' _____ Q' _____ R' _____

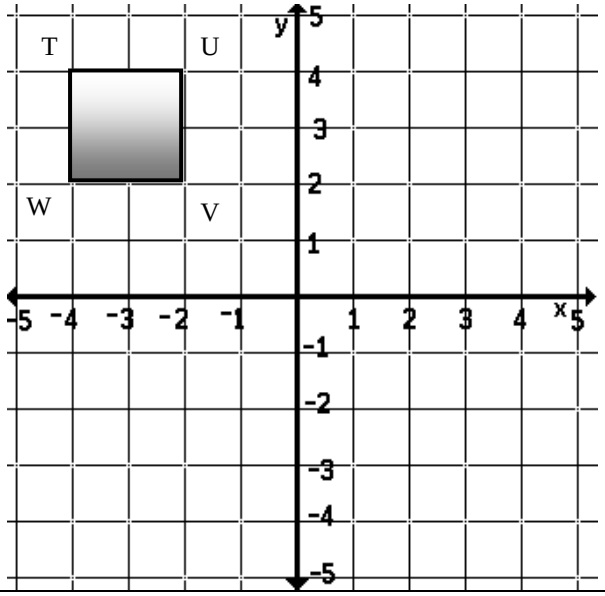
S' _____



Plane 6 - **Dilate** square TUVW *by a scale factor of ½* .

T' _____ U' _____ V' _____

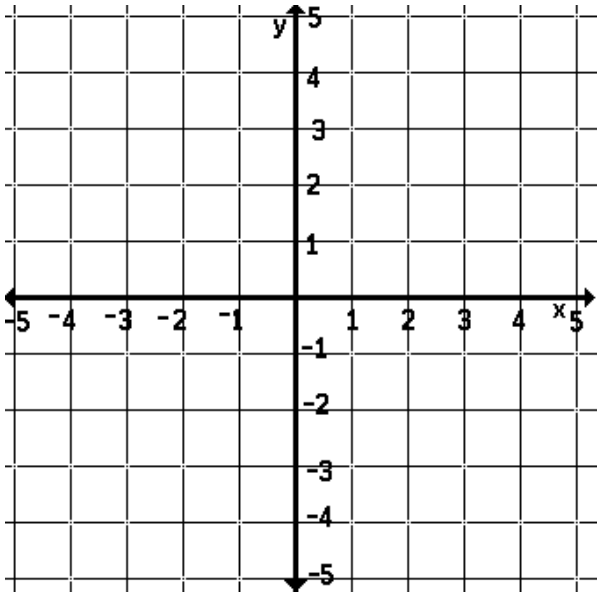
W' _____



Plane 7 - **Plot** triangle XYZ on the coordinate grid using the following coordinates:

X (-4, 4) Y (-4, -2) Z (-1, -2)

Reflect the figure over the y-axis, then translate (x-2, y+1).



Plane 8 – The pre-image and image have been graphed. Explain the transformations that were applied to get to the image.