Study Guide

Name: Key

Transformations Review

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

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

II. 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*. left 4 and up 1

A' $(-3, 2)$ B' $(-4, -1)$ C' $(-2, -1)$

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

D' $(1, 1)$ E' $(2, 5)$ F' $(4, 5)$ G' $(5, 1)$

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

H' $(4, 1)$ I' $(1, 1)$ J' $(2, 4)$ K' $(5, 4)$

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

$L(-1, 0)$ $M(1, 0)$ $N(1, -2)$ $O(-1, -2)$

L' $(-2, 0)$ M' $(2, 0)$ N' $(2, -4)$ O' $(-2, -4)$

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

P' $(4, -1)$ Q' $(4, -3)$ R' $(1, -3)$ S' $(1, -1)$

Plane 6 - **Dilate** square TUVW ~~180~~ *by a scale factor of ½* .

$T(-4, 4)$ $U(-2, 4)$ $V(-2, 2)$ $W(-4, 2)$

T' $(-2, 2)$ U' $(-1, 2)$ V' $(-1, 1)$ W' $(-2, 1)$

Plane 7 - **Plot** triangle XYZ on the coordinate grid using the following coordinates:
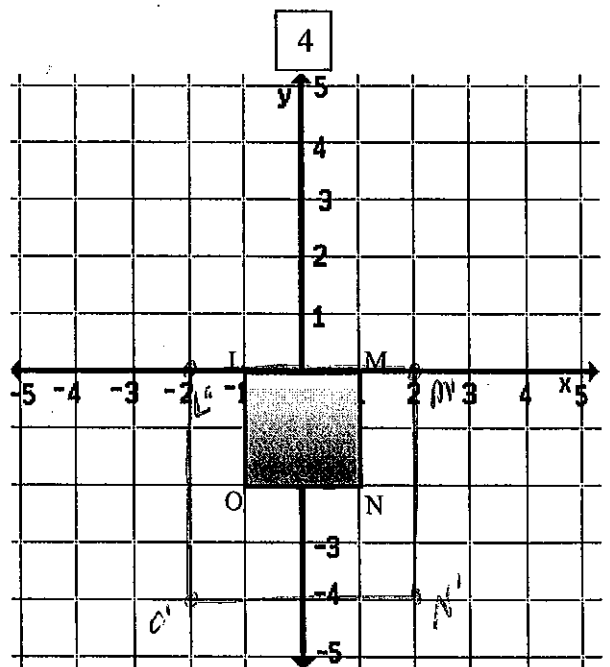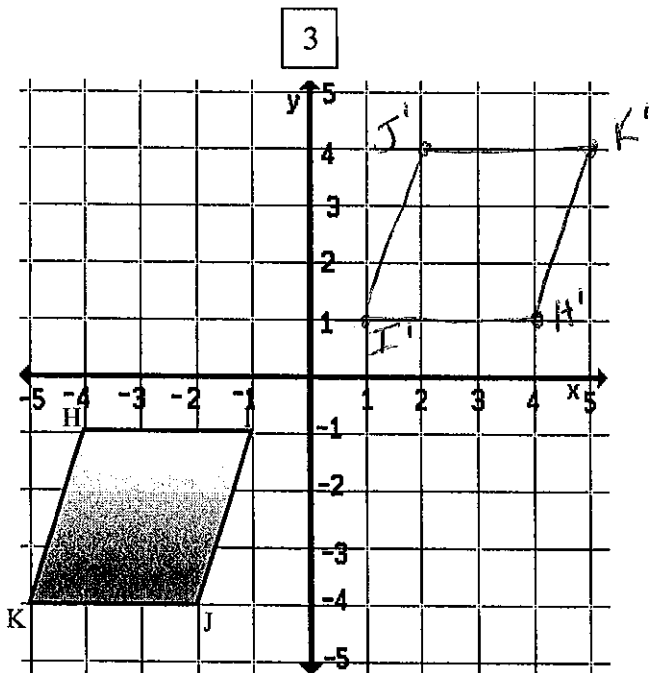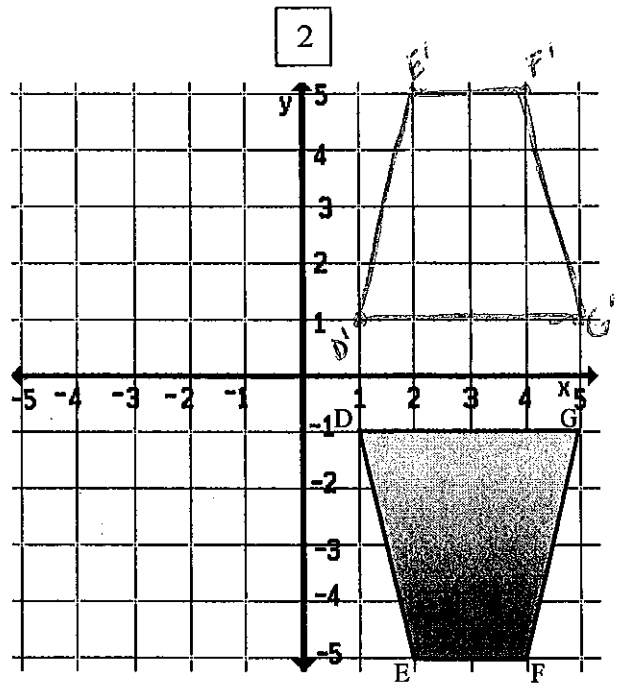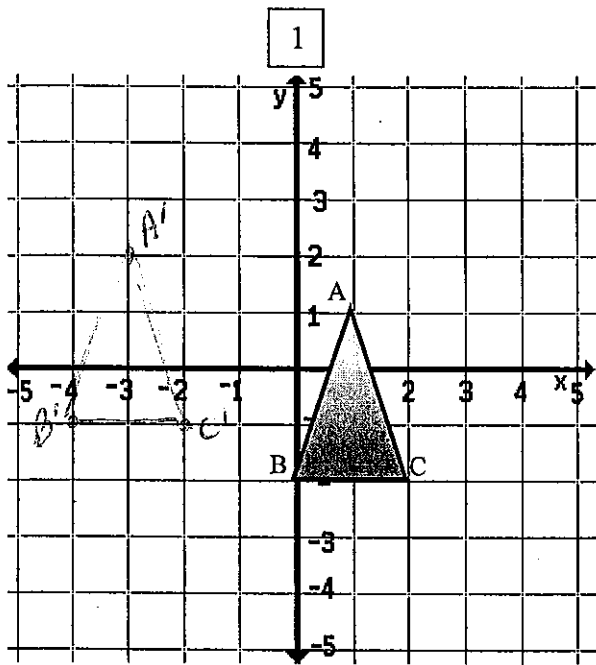
X (-4, 4)   Y (-4, -2)   Z (-1, -2)

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

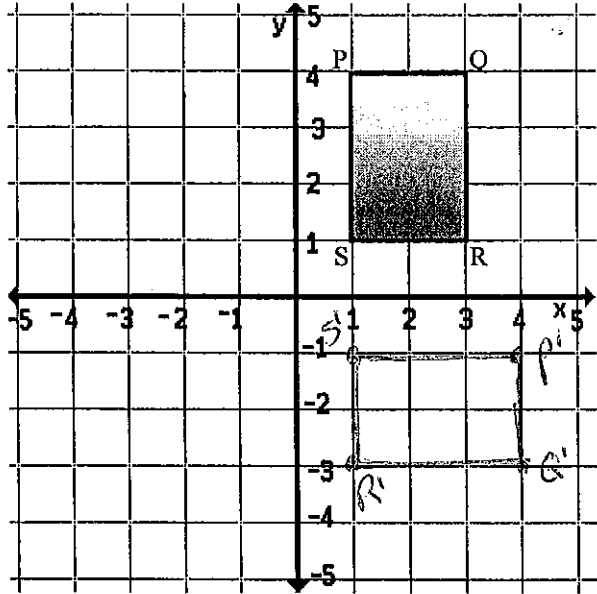|	Reflect	Trans
X $(-4, 4)$	$(4, 4)$	$(2, 5)$
Y $(-4, -2)$	$(4, -2)$	$(2, -1)$
Z $(-1, -2)$	$(1, -2)$	$(-1, -1)$

Plane 8 – The pre-image and image have been graphed. Explain the transformations that were applied to get to the image.
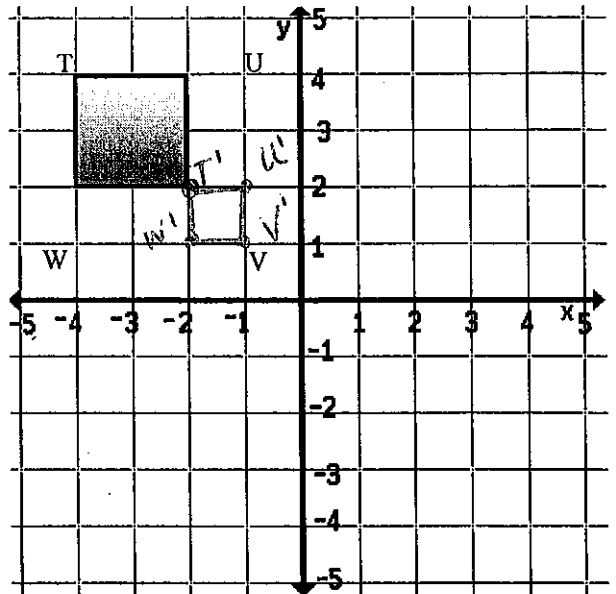
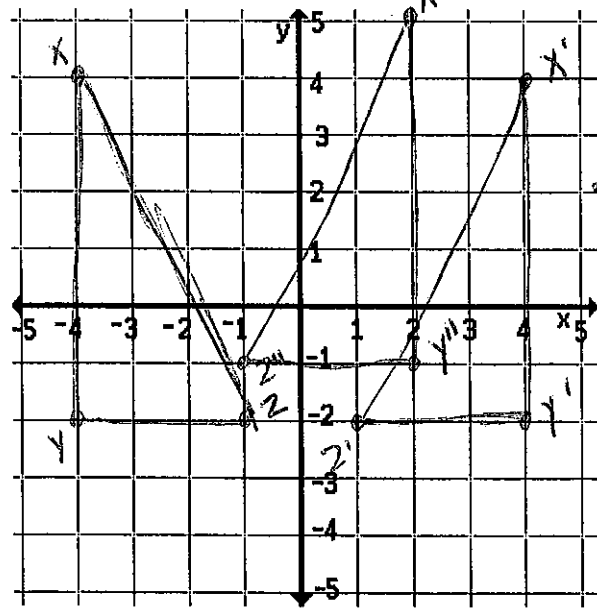reflect y, then x
1 right
1 up

5 right 1 down
reflect over x

1

A
B C
A'
D' C'

2

E' F'
D' C'
D G
E F

3

J' K'
I' H'
H I
K J

4

L' I M N'
C' O N N'

5

6

7

8

PRE-IMAGE

IMAGE