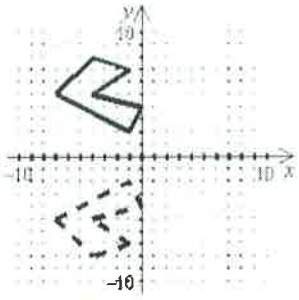
Geometry A
Transformation Review

Name: Key
Date: _____ Period: _____

1. The change in position from the solid figure to the dotted figure is best described as a .

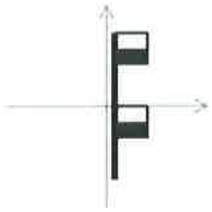


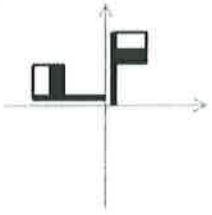
a.reflection b.rotation c.translation d.dilation

2. Which picture shows the flag rotated about the origin?

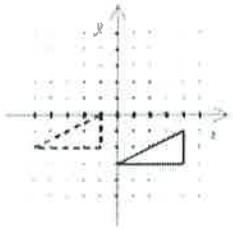
a.

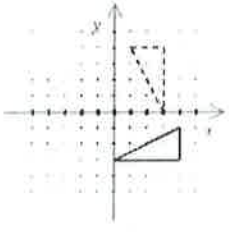

b.

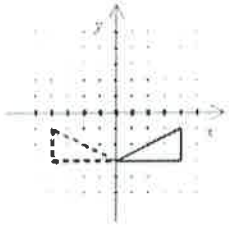

c.


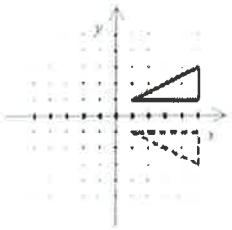
d.


3. Which graph represents a reflection in the y-axis?

a.


b.


c.


d.


4. A point P has coordinates (6, -4). What are its new coordinates after point P is reflected over the y-axis?

a. (6, 4) b. (-6, 4) c. (6, -4) (d.) (-6, -4)

Rule for y-axis: $(x,y) \to (-x,y)$

$(6,-4) \to (-6,-4)$

5. What is the translation image of (-3, -6) after the translation $(x, y) \to (x+4, y+3)$?

a. (-7, -9) b. (1, -9) c. (-7, -3) (d.) (1, -3)

$(x,y) \to (-3+4, -6+3) \to (1,-3)$

6. Identify the coordinates of (-5, -3) after a 180° counter-clockwise rotation about the origin.

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

Rule for 180°: $(x,y) \to (-x,-y)$

$(-5,-3) \to (5,3)$

7. Identify the coordinates of (10, -20) after a 270° counter-clockwise rotation about the origin.

(a.)(-20, -10) b.(10, 20) c.(-20, 10) d.(-10, 20)

Rule for 270°: $(x,y) \to (y,-x)$

$(10,-20) \to (-20,-10)$

8. Identify the coordinates of (-1, 3) after a 180° counter-clockwise rotation about the origin and then a 90° clockwise rotation about the origin.

same as → 270° CCW

$(-1,3) \to$ 180°: $(-x,-y)$ $(1,-3) \to$ 90° CW: $(y,-x)$ $(3,-1)$

$\boxed{(3,-1)}$

9. What is the pre-image (the original location) of the image (-2, 3), if it was translated by the coordinate rule $(x, y) \to (x + 5, y - 1)$?

do the opposite operations: $(-2-5, 3+1)$

$= \boxed{(-7,4)}$

10. Write the rule for the translation that shifted (8, -2) to (1, -7).

x-values: 8 to 1 : x-7

y-values: -2 to -7 : y-5

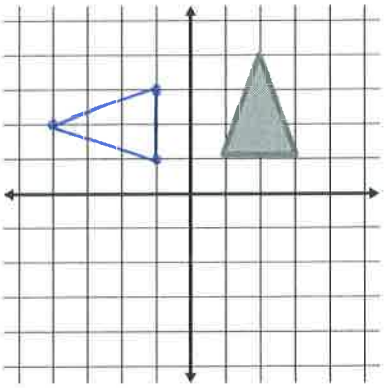
$\Rightarrow \boxed{(x,y) \to (x-7, y-5)}$

11. What are the three congruence transformations, and why are they called that?

Rotations, Reflections and Translations because they remain the same size and shape

12. Draw the figure rotated about the origin 90°.

$(x,y) \rightarrow (-y,x)$



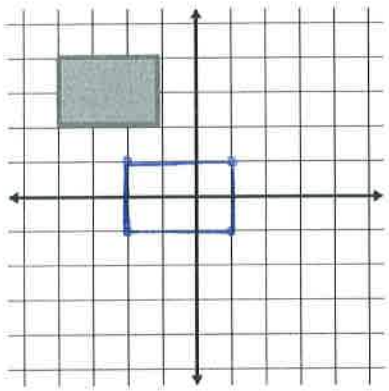
$(1,1) \rightarrow (-1,1)$

$(2,4) \rightarrow (-4,2)$

$(3,1) \rightarrow (-1,3)$

13. Draw the figure translated by

$(x, y) \rightarrow (x + 2, y - 3)$



$(x+2, y-3)$

$(-1,2) \rightarrow (1,-1)$

$(-1,4) \rightarrow (1,1)$

$(-4,2) \rightarrow (-2,-1)$

$(-4,4) \rightarrow (-2,1)$

14. On the grid provided, draw the reflection of ΔABC in the y-axis and then translate the function using the rule (x , y) → (x - 3 , y – 2).

A (-3,4) A′ (3,4) A″ (0,2)

B (-1,2) B′ (1,2) B″ (-2,0)

C (-4,-1) C′ (4,-1) C″ (1,-3)