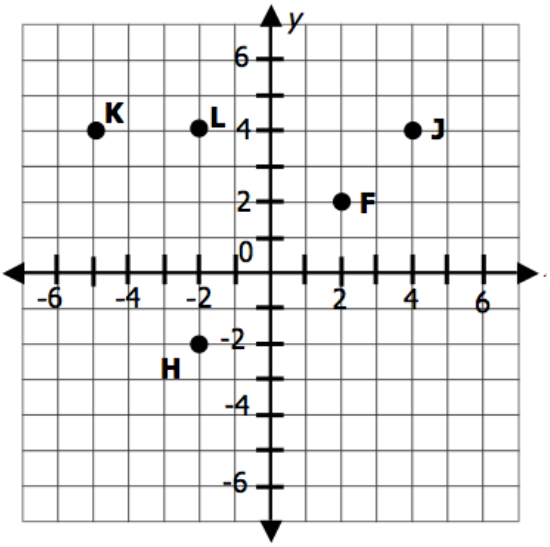
# P.S. #6.4 - Translations

Name: _____ Class: _____

*Use the figure to the right to answer questions 1 – 4.*




1.) Which point is the image of J after it is translated 9 units left?

(A) K (B) L (C) F (D) H

2.) Which point is the image of H after it is translated 6 units up?

(A) L (B) F (C) K (D) H

3.) Point J is translated using the following rule: $(x, y) \rightarrow (x-2, y-2)$. Which point is the image of J?

(A) L (B) F (C) K (D) H

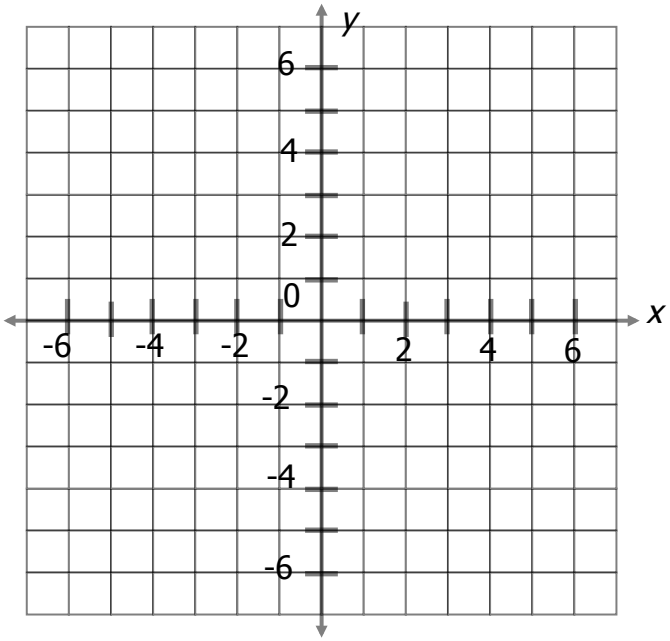
4.) Which describes how point K is translated to point F?

(A) 7 units right and 2 units down
(B) 7 units right and 2 units up
(C) 7 units left and 2 units down
(D) 7 units left and 2 units up

5.) Describe the translation $T_{5,-1}$ in words.

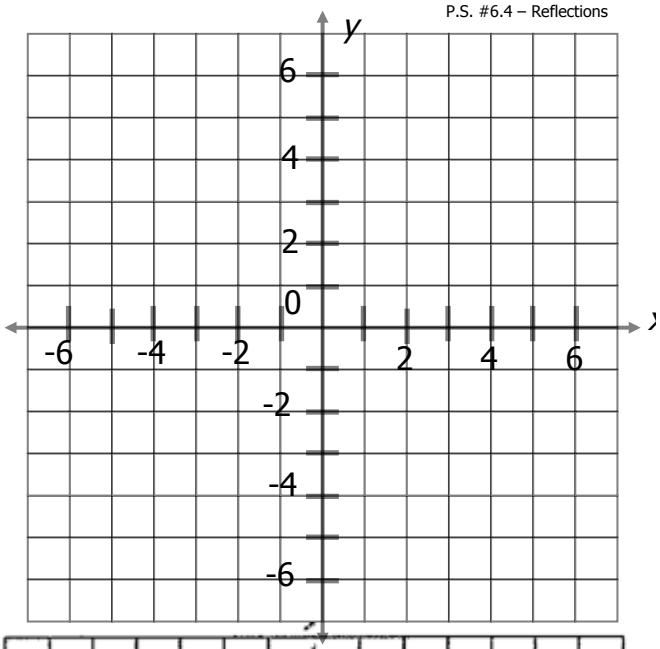
(A) 5 units right and 1 unit up
(B) 5 units right and 1 unit down
(C) 5 units left and 1 unit up
(D) 5 units left and 1 unit down

6.) Graph triangle ABC with coordinates A(-4,6), B(4,7), and C(0,3). Then, translate the figure six units down and two units to the right. Draw and label the translation of ΔABC in the coordinate plane. What are the coordinates of ΔA'B'C'?

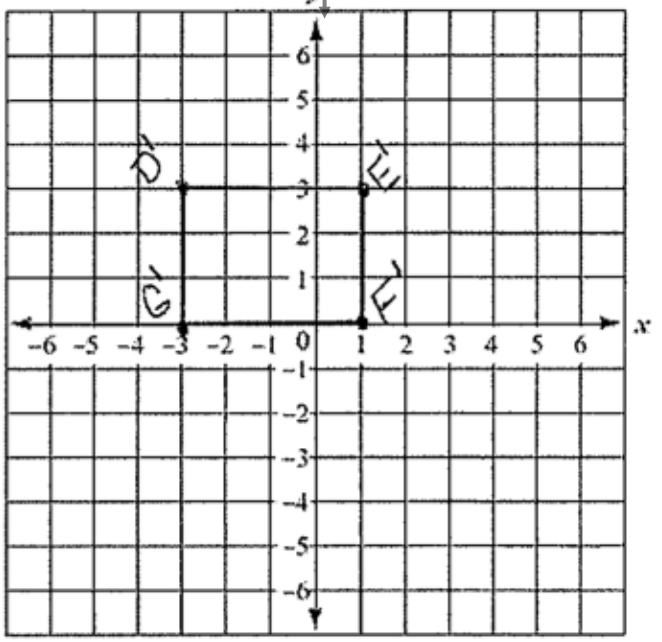



7.) State the direction of the translation that maps $(x, y) \rightarrow (x+4, y-6)$.

8.) Dilate triangle XYZ with coordinates X(-1,-1), Y(1,0) and
Z(0,-2) with a scale factor of 3.




9.) **Read me carefully!** Rectangle DEFG is graphed (not shown). This rectangle is translated right two and down three. The resulting image is shown. Find the coordinates of the pre-image.



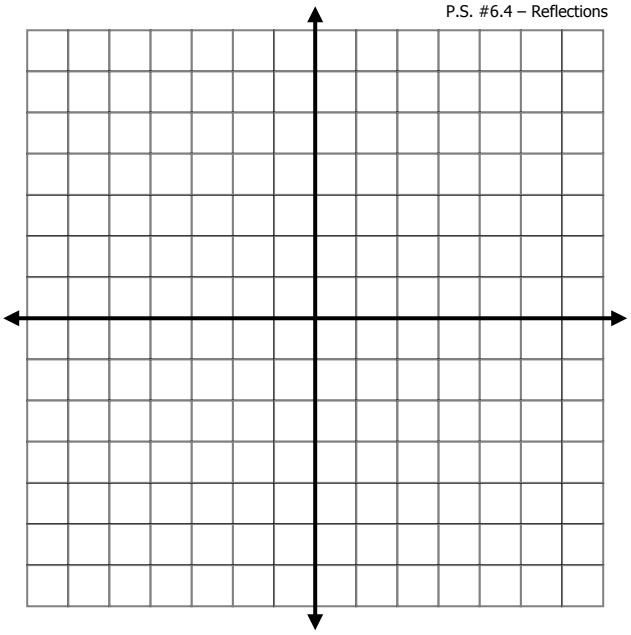

10.) The base of a box is at *ABCD*. It is moved by a translation to a new position *A′B′C′D′*. The table shows the position to which *A* was mapped. Find the new position of the other three vertices of the base in the table.

| Original Point | A(4,1) | B(6,1) | C(6,-1) | D(4,-1) |
|---|---|---|---|---|
| Is Mapped to | A′(0,-2) | B′( , ) | C′( , ) | D′( , ) |

Write the notation for this translation: _____

11.) Solve for x.
$3(4x+1) = 2x+13$

12.) Graph pentagon CATIE with coordinates C(1,1), A(4,5), T(7,5) I(7,0), E(4,0). Then graph pentagon C'A'T'I'E' after a translation of $T_{-8,2}$. What are the coordinates of the image?



13.) $E(1,2)$ is mapped onto $E'(-4,-2)$.

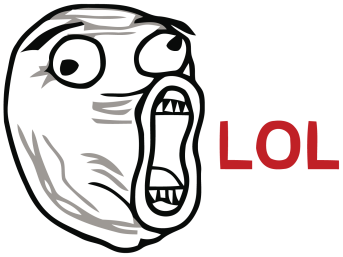
a.) find the images of each of the coordinates below under the same translation.

i.) $F(3,2)$ _____

ii.) $G(3,3)$ _____

iii.) $H(1,3)$ _____

b.) Indicate the translation performed on figure *EFGH*.




14.) Express 682,000 in scientific notation.

15.) What is $4^{-3}$?

16.) Solve the following system of equations.

$2x + 11y = 15$

$x - y = 1$