

## Section 3 Problem Set - Translations

Use the figure to the right to answer questions 11 – 14.

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

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

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

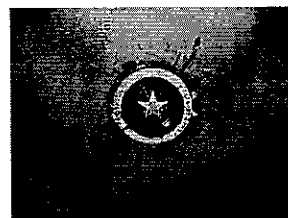
- (A) L (B) F (C) K (D) H

13.) 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

14.) 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

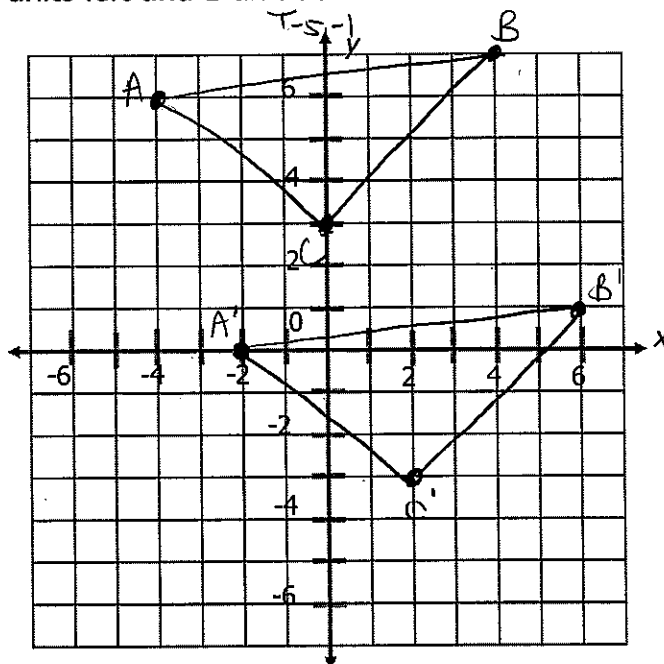
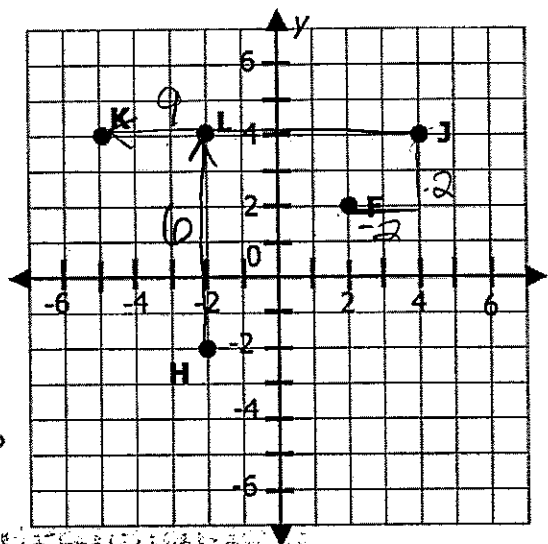


15.) Describe the translation  $T_{5,-1}$  in words.

- (A) 5 units right and 1 unit up  $T_{5,1}$  (C) 5 units left and 1 unit up  $T_{-5,1}$   
(B) 5 units right and 1 unit down  $T_{5,-1}$  (D) 5 units left and 1 unit down

16.) 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  $\triangle ABC$  in the coordinate plane. What are the coordinates of  $\triangle A'B'C'$ ?

$A'(-2,0)$   
 $B'(6,1)$   
 $C'(2,-3)$



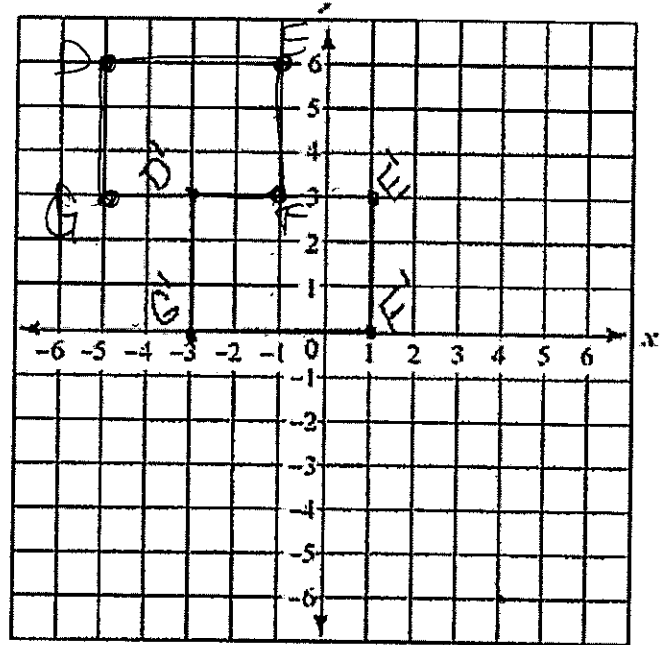
17.) State the direction of the translation that maps  $(x, y) \rightarrow (x + 4, y - 6)$ .

4 right, 6 down

18.) **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.

D(-5, 6) E(-1, 6)

F(-1, 3) G(-5, 3)



19.) 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'(2, -2)	C'(2, -4)	D'(0, -4)

Write the notation for this translation:  $(x, y) \rightarrow (x - 4, y - 3)$

20.) Graph pentagon MIRKA with coordinates M(1,1), I(4,5), R(7,5), K(7,0), A(4,0). Then graph pentagon M'I'R'K'A' after a translation of  $T_{-8,2}$ . What are the coordinates of the image?

M'(-7,3)  
I'(-4, 7)  
R'(-1, 7)  
K'(-1, 2)  
A'(-4, 2)

