

Go to page 2 for the ANSWERS to this practice assignment.

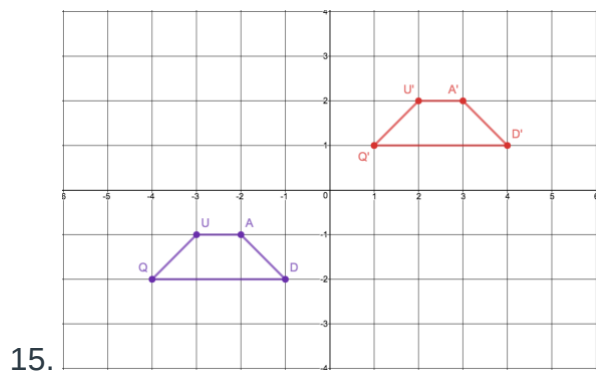
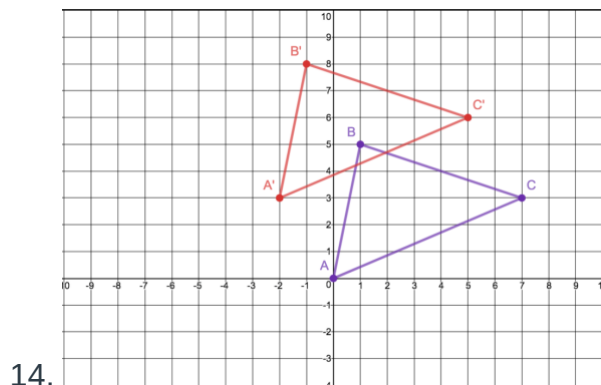
Use the translation $(x,y) \rightarrow (x+3,y-6)$ for questions 1-7.

1. What is the image of $A(1,-3)$?
2. What is the image of $B(6,-1)$?
3. What is the image of $C(2,0)$?
4. What is the image of B' ?
5. What is the preimage of $D'(-12,-7)$?
6. What is the preimage of $E'(6, -5)$?
7. What is the image of $F(0, 0)$?

The vertices of $\triangle ABC$ are $A(6,-3), B(-3,-1)$ and $C(5,2)$. Find the vertices of $\triangle A'B'C'$, given the translation rules below.

8. $(x,y) \rightarrow (x,y-6)$
9. $(x,y) \rightarrow (x-11,y)$
10. $(x,y) \rightarrow (x+2,y+3)$
11. $T_{-7,10}$ which is another way of writing $(x,y) \rightarrow (x-7,y+10)$
12. $T_{1,-1}$
13. $T_{4,-10}$

In questions 14-15, write the translation rule that would map each preimage to its image.



ANSWER KEY

Use the translation $(x,y) \rightarrow (x+3,y-6)$ for questions 1-7.

1. What is the image of $A(1,-3)$? $A'(4, -9)$

$$A'(1+3, -3-6) = A'(4, -9)$$

2. What is the image of $B(6,-1)$? $B'(9, -7)$

$$B'(6+3, -1-6) = B'(9, -7)$$

3. What is the image of $C(2,0)$? $C'(5, -6)$

$$C'(2+3, 0-6) = C'(5, -6)$$

4. What is the image of B' ? $B''(12, -13)$

use B' from #2 $B''(9+3, -7-6) = B''(12, -13)$

5. What is the preimage of $D'(-12,-7)$? $D(-15, -1)$

To go backwards $(x-3, y+6)$ $D(-12-3, -7+6) = D(-15, -1)$

6. What is the preimage of $E'(6, -5)$? $E(3, 1)$

Backwards $(x-3, y+6)$ $E(6-3, -5+6) = E(3, 1)$

7. What is the image of $F(0, 0)$? $F'(3, -6)$

$$F'(0+3, 0-6) = F'(3, -6)$$

The vertices of $\triangle ABC$ are $A(6,-3)$, $B(-3,-1)$ and $C(5,2)$. Find the vertices of $\triangle A'B'C'$, given the translation rules below.

8. $(x,y) \rightarrow (x,y-6)$ $A'(6, -9)$ $B'(-3, -7)$ $C'(5, -4)$

$$A'(6, -3-6) = A'(6, -9), B'(-3, -1-6) = B'(-3, -7), C'(5, 2-6) = C'(5, -4)$$

9. $(x,y) \rightarrow (x-11,y)$ $A'(-5, -3)$ $B'(-14, -1)$ $C'(-6, 2)$

$$A'(6-11, -3) = A'(-5, -3), B'(-3-11, -1) = B'(-14, -1), C'(5-11, 2) = C'(-6, 2)$$

10. $(x,y) \rightarrow (x+2,y+3)$ $A'(8, 0)$ $B'(-1, 2)$ $C'(7, 5)$

$$A'(6+2, -3+3) = A'(8, 0), B'(-3+2, -1+3) = B'(-1, 2), C'(5+2, 2+3) = C'(7, 5)$$

11. $T_{-7,10}$ which is another way of writing $(x,y) \rightarrow (x-7,y+10)$ $A'(-1, 7)$ $B'(-10, 9)$ $C'(-2, 12)$

$$A'(6-7, -3+10) = A'(-1, 7), B'(-3-7, -1+10) = B'(-10, 9), C'(5-7, 2+10) = C'(-2, 12)$$

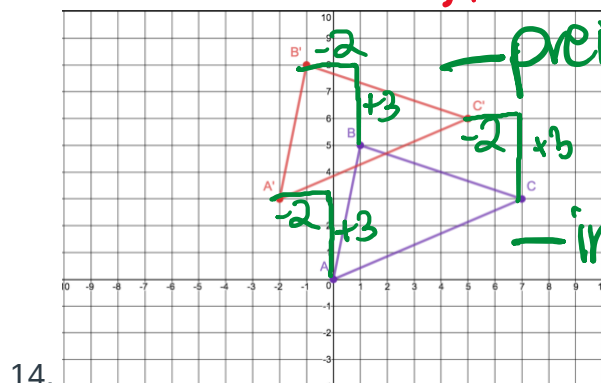
12. $T_{1,-1}$ $A'(7, -4) B'(-2, -2) C'(6, 1)$

$A'(6+1, -3-1) = A'(7, -4), B'(-3+1, -1-1) = B'(-2, -2), C'(5+1, 2-1) = C'(6, 1)$

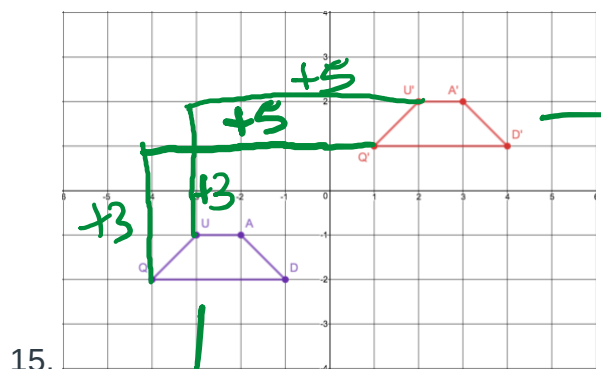
13. $T_{4,-10}$ $A'(10, -13) B'(1, -11) C'(9, -8)$

$A'(6+4, -3-10) = A'(10, -13), B'(-3+4, -1-10) = B'(1, -11), C'(5+4, 2-10) = C'(9, -8)$

In questions 14-15, write the translation rule that would map each preimage to its image.



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



$T(x, y) \rightarrow (x + 5, y + 3)$