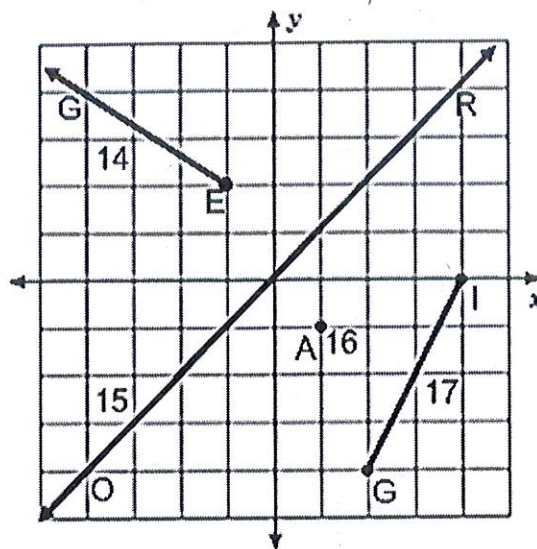


Geometry
Practice - Intro to Geo & Translations

Name: Key

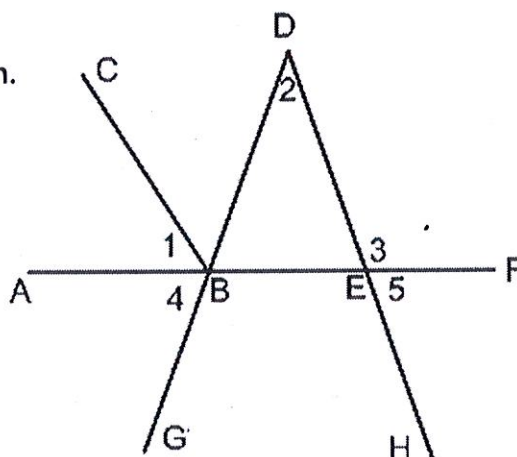
Give the correct notation for each of the following.

1. (14) \overrightarrow{EG}
2. (15) \overleftrightarrow{OR}
3. (16) A
4. (17) \overline{GI}



Name the angle using correct notation.

5. $\angle 1$ $\angle CBA$
6. $\angle 5$ $\angle FEH$
7. $\angle 2$ $\angle BDE$



Complete each of the following.

The vertices of $\triangle ABC$ are **A (5, 6)**, **B(-3, -7)**, and **C(2, 0)**. Find the vertices of $\triangle A'B'C'$, given the transformation rules below. Then describe the transformation that occurred.

8. $(x, y) \rightarrow (x+3, y-4)$ $A' = (8, 2)$, $B' = (0, -11)$, $C' = (5, -4)$

Transformation: right 3, down 4

9. $(x, y) \rightarrow (x-7, y-2)$ $A' = (-2, 4)$, $B' = (-10, -9)$, $C' = (-5, -2)$

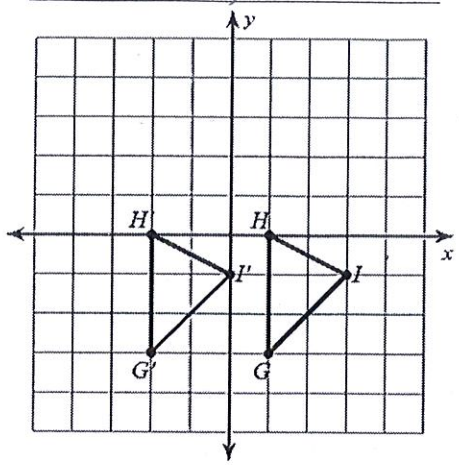
Transformation: left 7, down 2

10. $(x, y) \rightarrow (x, y+10)$ $A' = (5, 16)$, $B' = (-3, 3)$, $C' = (2, 10)$

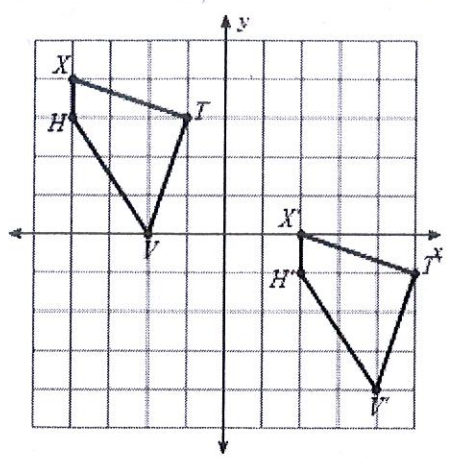
Transformation: up 10

Write the translation vector or the line of reflection for each of the following.

11. $\langle -3, 0 \rangle$

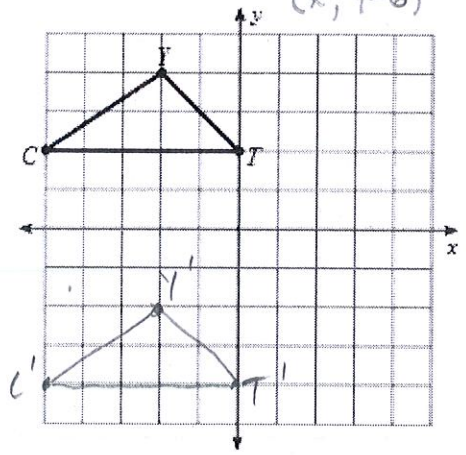


12. $\langle 6, -4 \rangle$

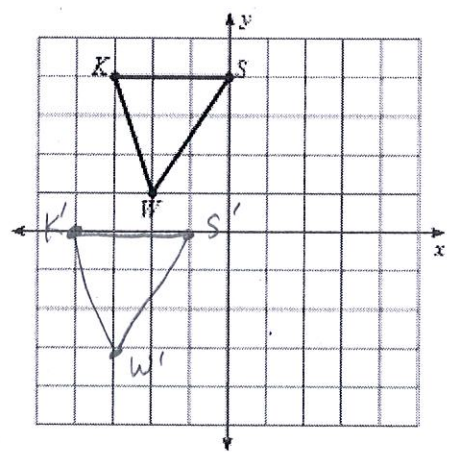


Complete each of the following.

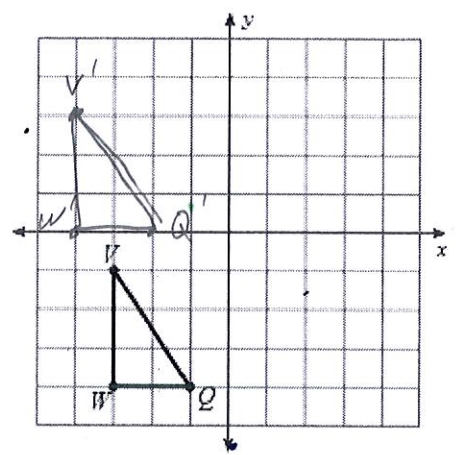
13. $(x, y) \rightarrow (x-6, y)$
 $(x, y-6)$



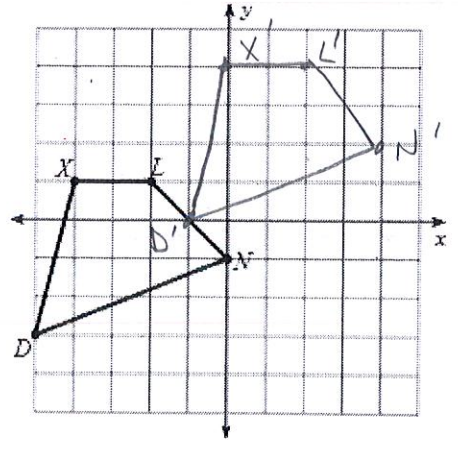
14. $\langle -1, -4 \rangle$



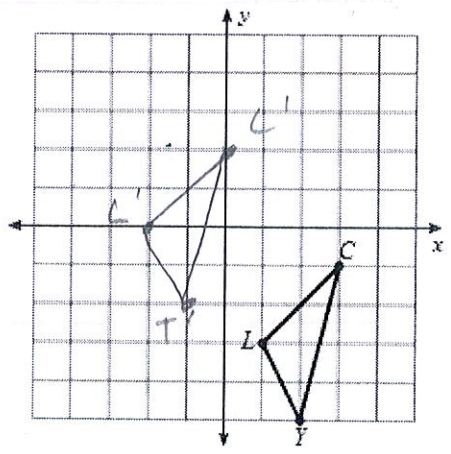
15. $(x, y) \rightarrow (x-1, y+4)$



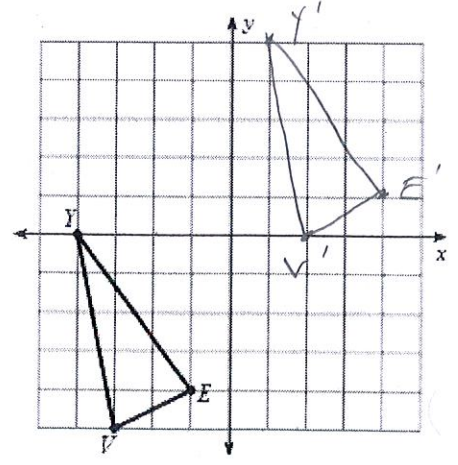
16. $(x, y) \rightarrow (x+4, y+3)$



17. $\langle -3, 3 \rangle$



18. $\langle 5, 5 \rangle$



19. Given $(x, y) \rightarrow (x-7, y+4)$, complete the following.

a. What is the translation vector?

$\langle -7, 4 \rangle$

b. What is the image of $M(3, 9)$?

$M'(-4, 13)$

c. What is the image of M' (from part b)?

$M''(-11, 17)$

d. If $S'(6, -2)$ is the image, what is the pre-image?

$S(13, -6)$

$6 = x - 7$
 $13 = x$
 $-2 = y + 4$
 $-6 = y$

20. Name the **vector** used to map the preimage to the image.

a. $A(12, -1) \rightarrow A'(8, 1)$ $\langle -4, 2 \rangle$
 $(x-4, y+2)$

b. $B(-7, 7) \rightarrow B'(-7, 0)$ $\langle 0, -7 \rangle$
 $(x, y-7)$

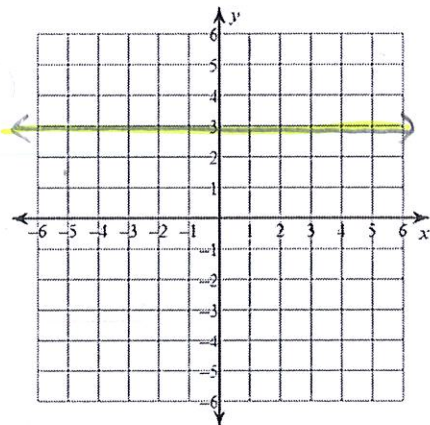
21. Find the pre-image of $S'(7, -10)$ after it has been translated over the vector $\langle -12, -4 \rangle$.

Pre-image: $S(19, -6)$

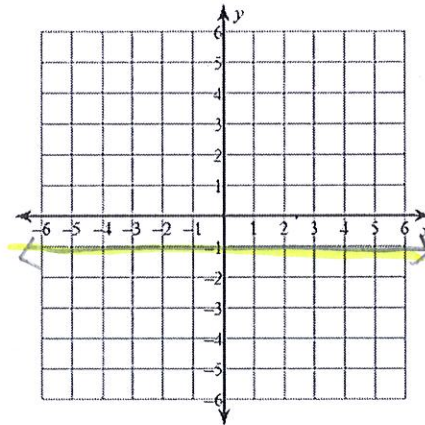
$7 = x - 12$
 $19 = x$
 $-10 = y - 4$
 $-6 = y$

Do you remember horizontal and vertical lines?! Let's try some! Graph the given equation.

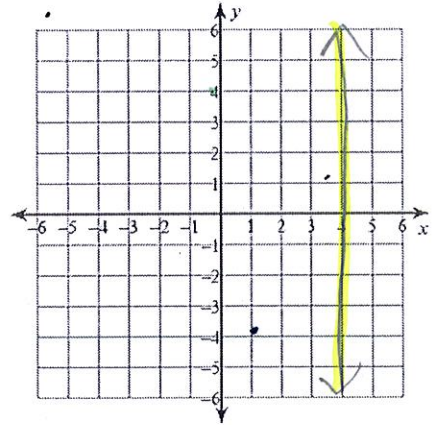
22. $y = 3$



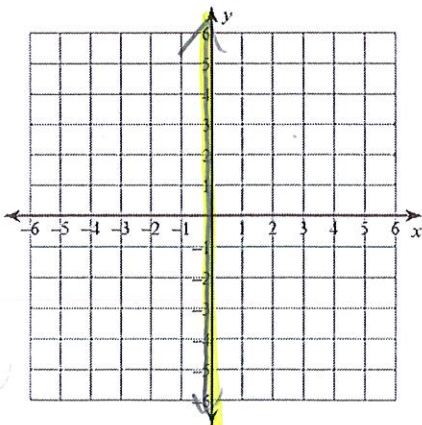
23. $y = -1$



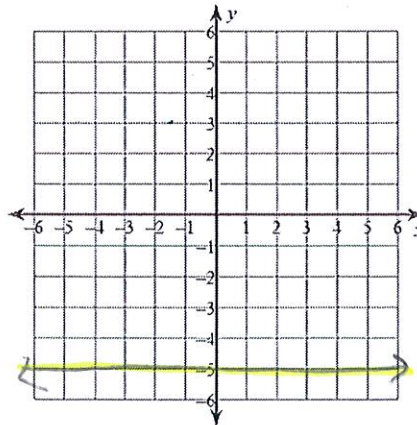
24. $x = 4$



25. $x = 0$



26. $y = -5$



27. $x = -2$

