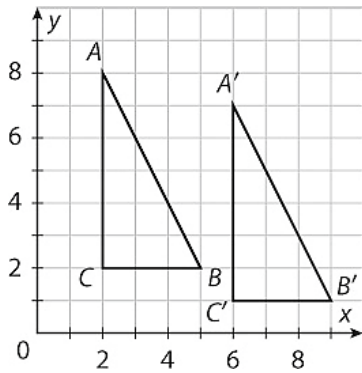


Triangle **ABC** is translated to create the image **A'B'C'**.

For each point on the preimage, find the corresponding point on the image.



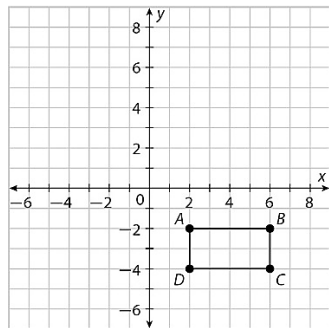
1. A (____, ____) A' (____, ____)
2. B (____, ____) B' (____, ____)
3. C (____, ____) C' (____, ____)
4. $P(x, y)$ $P'(x + \underline{\hspace{1cm}}, y - \underline{\hspace{1cm}})$
5. How far does each point on the preimage move to make the image?
 _____ unit(s) to the _____ and
 _____ unit(s) _____

Find the points indicated.

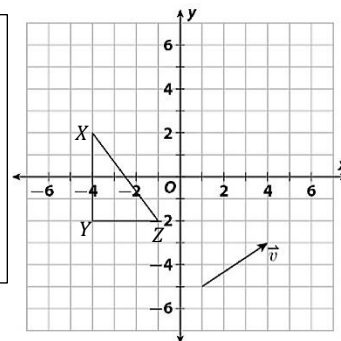
6. The point (2, 5) is on $\triangle ABC$ above. What is the corresponding point on $\triangle A'B'C'$? (____, ____)
7. The point (3, 6) is on $\triangle ABC$. What is the corresponding point on $\triangle A'B'C'$? (____, ____)
8. The point (7, 1) is on $\triangle A'B'C'$. What is the corresponding point on $\triangle ABC$? (____, ____)
9. The point (8, 3) is on $\triangle A'B'C'$. What is the corresponding point on $\triangle ABC$? (____, ____)

State the meaning of the vector in words.

10. $\langle -3, 1 \rangle$ _____
11. $\langle 6, -2 \rangle$ _____
12. Draw the image when $ABCD$ is translated along $\langle -5, 4 \rangle$.
13. Draw the translation along the given vector.



Name the translation using coordinate notation.
 $(x, y) \rightarrow (\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$
 Draw the vector somewhere on the graph.



Name the vector using component form
 $\langle \underline{\hspace{1cm}}, \underline{\hspace{1cm}} \rangle$

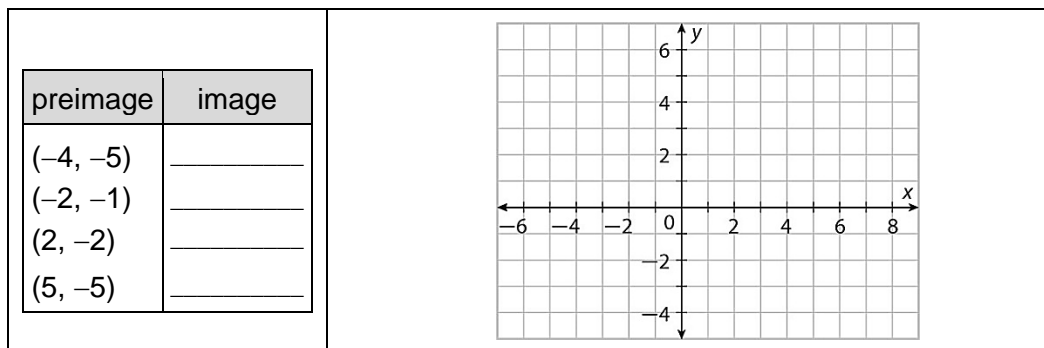
Give the vertices of the image after it is translated along the given vector.

14. $A(-2, 5), B(-1, 3), C(1, 5)$ along $\langle 3, 0 \rangle$ _____
15. $N(2, -2), P(1, -4), Q(7, 4), R(6, -2)$ along $\langle 4, 5 \rangle$ _____

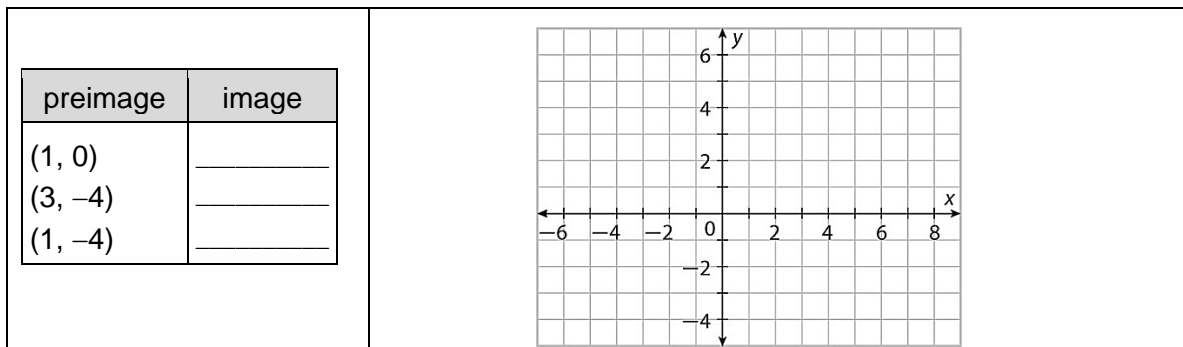
Match each set of coordinates for a preimage with the coordinates of its image after using the vector $\langle 3, -8 \rangle$.

16. A. $(1, 1); (10, 1); (6, 5)$ _____ $(6, -10); (6, -4); (9, -3)$
- B. $(0, 0); (3, 8); (4, 0); (7, 8)$ _____ $(1, -6); (5, -6); (-1, -8); (7, -8)$
- C. $(3, -2); (3, 4); (6, 5)$ _____ $(4, -7); (13, -7); (9, -3)$
- D. $(-2, 2); (2, 2); (-4, 0); (4, 0)$ _____ $(3, -8); (6, 0); (7, -8); (10, 0)$

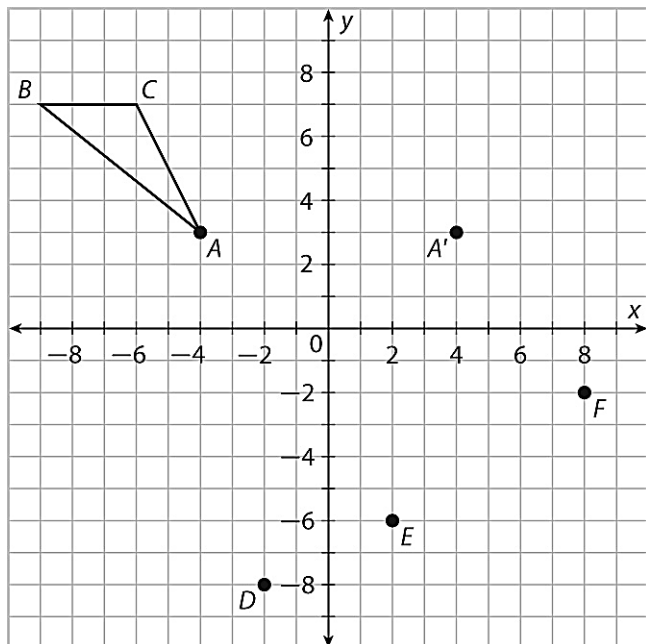
17. Graph the preimage. Then reflect it over the x -axis and graph the image.



18. Graph the preimage. Then reflect over $y = x$ and graph the image.



For each point or figure, give the coordinates of its reflection over the given line. Draw and label the reflection on the graph.



19. Point A over the y -axis

Point A' (____, ____)

20. Triangle ABC over the y -axis

Point A' (____, ____)

Point B' (____, ____)

Point C' (____, ____)

21. Point D over the line $y = -x$

Point D' (____, ____)

22. Point E over the line $y = x$

Point E' (____, ____)

23. Point F over the x -axis

Point F' (____, ____)