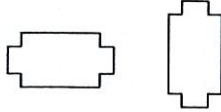

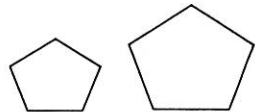

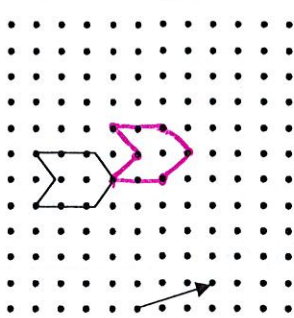
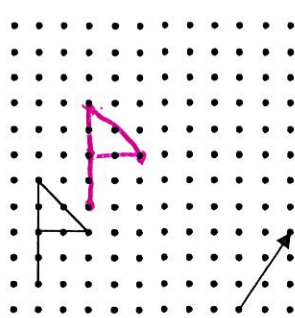
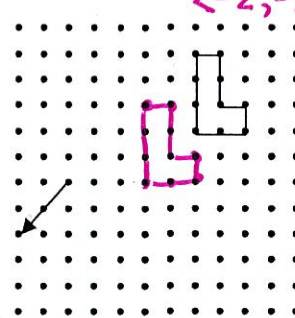


Determine if each of the following transformation is a translation.

1.  **No**
2.  **Yes**
3.  **No**
4.  **No**

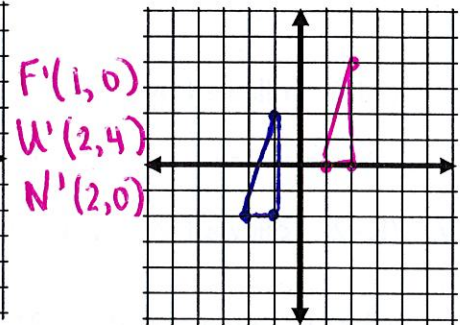
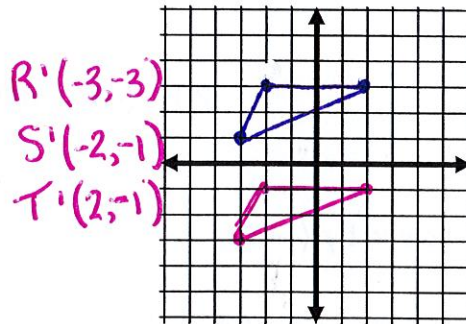
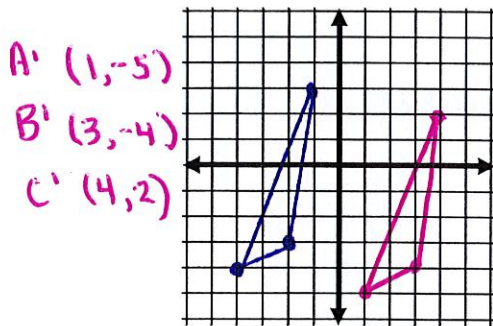
Translate the figure using the vector.

5.  $\langle 3, 1 \rangle$
6.  $\langle 2, 3 \rangle$
7.  $\langle -2, -2 \rangle$

Translate the figure with the given vertices along the given vector.

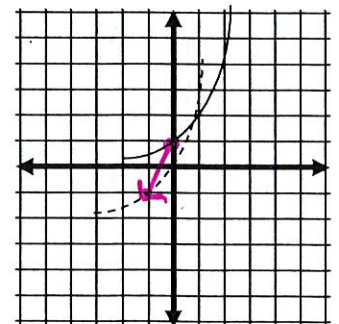
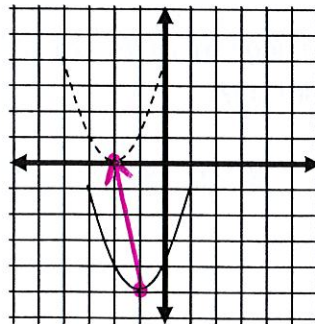
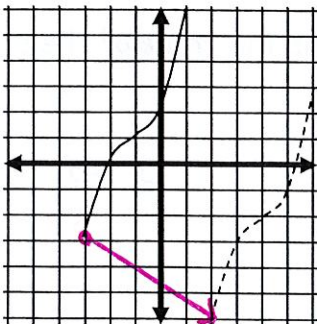
8. $A(-4, -4), B(-2, -3), C(-1, 3)$
vector $\langle 5, -1 \rangle$
9. $R(-3, 1), S(-2, 3), T(2, 3)$
vector $\langle 0, -4 \rangle$
10. $F(-2, -2), U(-1, 2), N(-1, -2)$
vector $\langle 3, 2 \rangle$

purple = pre-image
pink = image



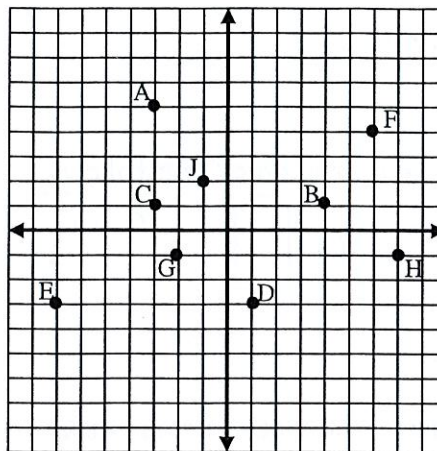
Name the vector associated with the translation of the solid preimage to the dotted image.

11. $\langle 5, -3 \rangle$
12. $\langle -1, 5 \rangle$
13. $\langle -1, -2 \rangle$



Use the graph on the right to answer the following.

14. $\langle 2, 1 \rangle$ maps C \rightarrow J
15. What vector maps A \rightarrow J? $\langle 2, -3 \rangle$
16. B \rightarrow F shows a $\langle 2, 3 \rangle$ mapping
17. What vector maps C \rightarrow E? $\langle -4, -4 \rangle$
18. $\langle 5, 2 \rangle$ maps E \rightarrow G
19. $\langle 3, -1 \rangle$ followed by $\langle -1, 2 \rangle$ maps C \rightarrow J
 $\langle 2, 1 \rangle$



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

20. $(5, 2) \rightarrow (-2, 1)$ $\langle -7, -1 \rangle$
21. $(-3, 7) \rightarrow (-5, 3)$ $\langle -2, -4 \rangle$
22. $(8, -3) \rightarrow (5, -3)$ $\langle -3, 0 \rangle$
23. $(-5, -1) \rightarrow (3, 4)$ $\langle 8, 5 \rangle$

Name the single translation vector that would map the preimage to the image for the composite transformations.

25. $\langle 5, -3 \rangle$ followed by $\langle 2, 8 \rangle$ $\langle 7, 5 \rangle$
26. $\langle 1, 5 \rangle$ followed by $\langle -3, -2 \rangle$ $\langle -2, 3 \rangle$
27. $\langle -4, 6 \rangle$ followed by $\langle 5, -9 \rangle$ $\langle 1, -3 \rangle$
28. $\langle -3, 5 \rangle$ followed by $\langle 3, -8 \rangle$ $\langle 0, -3 \rangle$
29. $\langle 8, -2 \rangle$ followed by $\langle -2, 4 \rangle$ followed by $\langle -4, 0 \rangle$ $\langle 2, 2 \rangle$
30. What is the image of P(1,3) when it is translated along the vector $\langle -3, 5 \rangle$?

- A. $(-2, 8)$ B (0, 6) C (1, 3) D (0, 4)

31. After a translation, the image of A(-6, -2) is B(-4, -4). What is the image of the point C(3, -1) after this translation?

- A. (-5, 1) B (5, -3) C (5, 1) D (-5, -3)