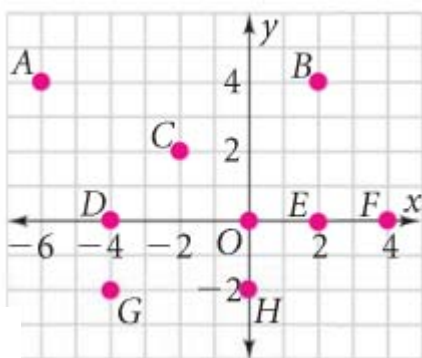**Refer to the figure:**

1. What is the image of C
under $(x, y) \rightarrow (x + 4, y - 2)$?

2. What rule describes
the translation $F \rightarrow B$?

3. What is the image of H
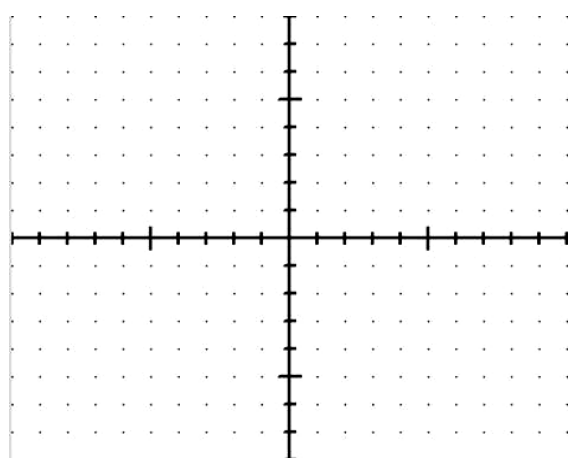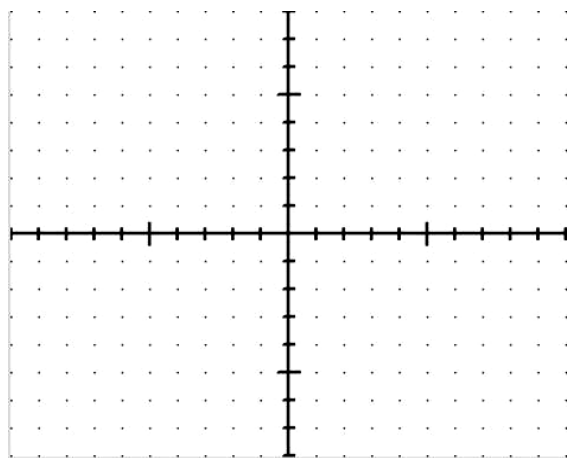under $(x, y) \rightarrow (x - 2, y + 4)$?

4. What rule describes
the translation $D \rightarrow H$?

5. What is the image of C
under $(x, y) \rightarrow (x - 2, y - 4)$?

6. What rule describes
the translation $B \rightarrow A$?

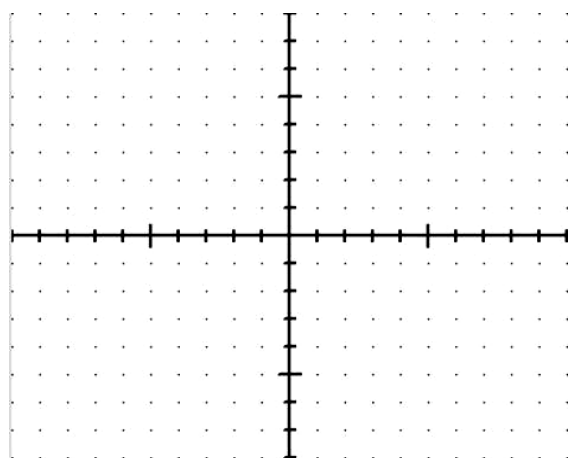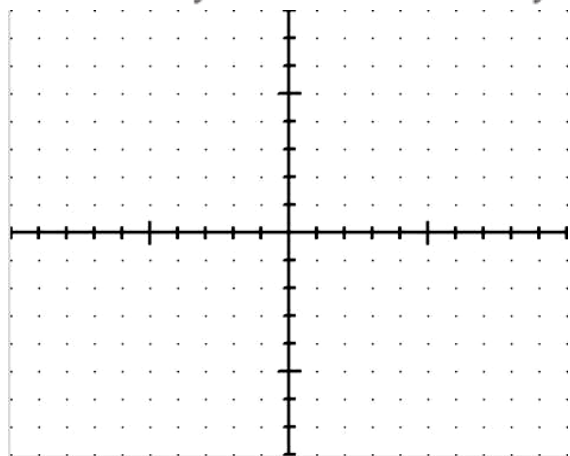**Find the image of each figure under the given translation.**

7. $\triangle ABC$ with vertices $A(-3, 4)$, $B(-1, -2)$, $C(1, 5)$; translation: $(x, y) \rightarrow (x - 2, y + 5)$

8. $\triangle EFG$ with vertices $E(0, 3)$, $F(6, -1)$, $G(4, 2)$; translation: $(x, y) \rightarrow (x + 1, y - 3)$

9. $\triangle PQR$ with vertices $P(-9, -4)$, $Q(-5, 1)$, $R(2, 8)$; translation: $(x, y) \rightarrow (x - 6, y - 7)$

10. Write two translation rules of the form $(x, y) \rightarrow (x + a, y + b)$ that map
the line $y = x - 1$ to the line $y = x + 3$.

COLOR code each reflection differently!

Given points $S(6, 1)$, $U(2, 5)$, and $B(-1, 2)$, draw $\triangle SUB$ and its reflection image across each line.

11. $y = 5$

12. $x = 7$

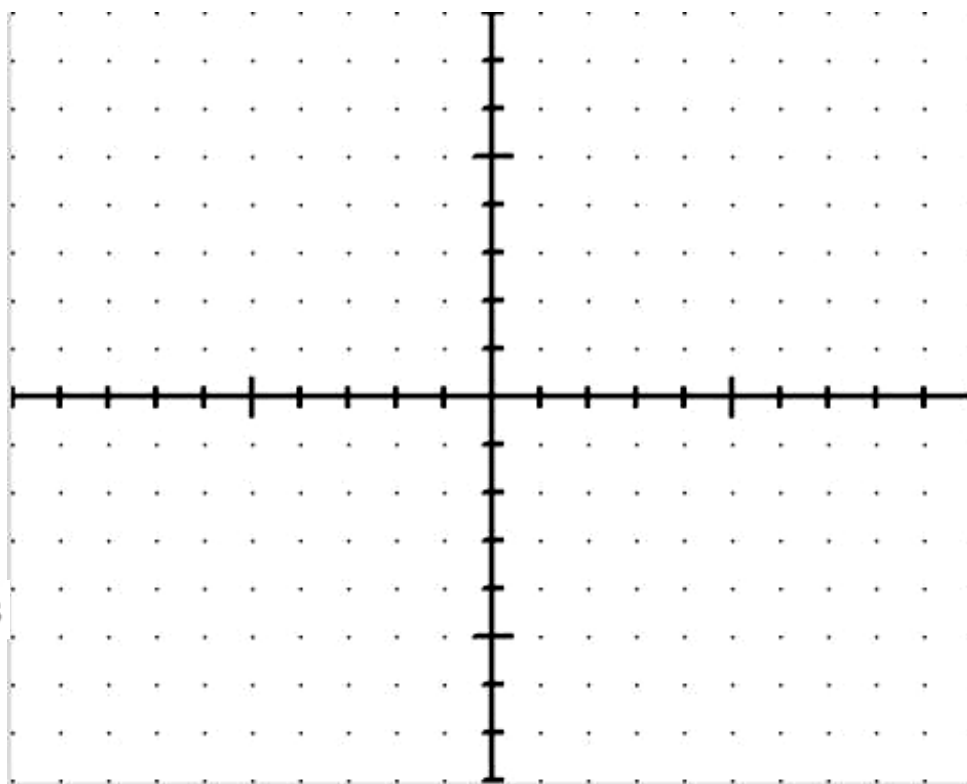**13.** $y = -1$

14. the x-axis

15. $y = x$

16. $x = -1$

17. $y = 3$

18. the y-axis

19. What are the two shortest words in the English language that you can write with capital letters so that each word looks like its own reflection across a line?

Draw the image of each figure for the given rotation about P. Label the vertices of the image.

21. $90°$

22. $60°$