Name _____ Date _____

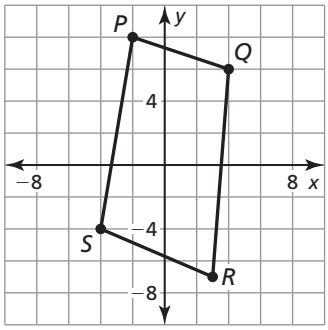
4.2 Practice A

In Exercises 1–3, graph $\triangle ABC$ and its image after a reflection in the given line.

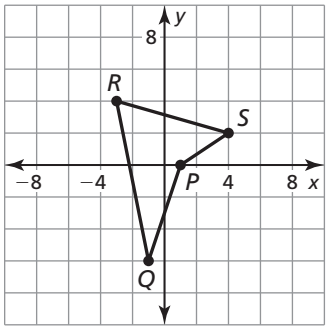
1. $A(0, 2)$, $B(1, -3)$, $C(2, 4)$; x-axis
2. $A(-2, -4)$, $B(6, 2)$, $C(3, -5)$; y-axis
3. $A(4, -1)$, $B(3, 8)$, $C(-1, 1)$; $y = -2$

In Exercises 4 and 5, graph the polygon and its image after a reflection in the given line.

4. $y = -x$



5. $y = x$

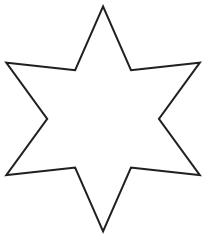


In Exercises 6 and 7, graph $\triangle JKL$ with vertices $J(2, 3)$, $K(-2, 1)$, and $L(-1, 5)$ and its image after the glide reflection.

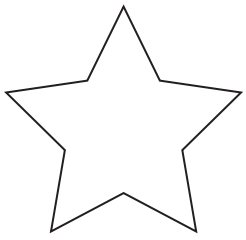
6. **Translation:** $(x, y) \rightarrow (x - 1, y)$
   Reflection: in the x-axis
7. **Translation:** $(x, y) \rightarrow (x + 2, y - 3)$
   Reflection: in the line $x = -2$

In Exercises 8 and 9, determine the number of lines of symmetry for the figure.

8.



9.



10. Find point W on the y-axis so that $VW + XW$ is a minimum given $V(2, 3)$ and $X(-2, -1)$.
11. A line $y = 3x - 5$ is reflected in $x = a$ so that the image is given by $y = 1 - 3x$. What is the value of a?
12. Your friend claims that it is not possible to have a glide reflection if you have two translations followed by one reflection. Is your friend correct? Explain your reasoning.