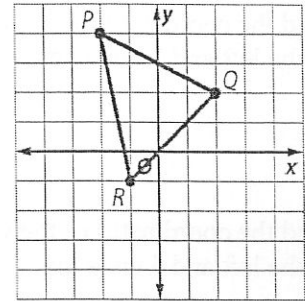


Lesson 1 and 2 Skills Practice

Translations and Reflections on the Coordinate Plane

For Exercises 1 and 2, use the coordinate plane below. Triangle PQR is shown.

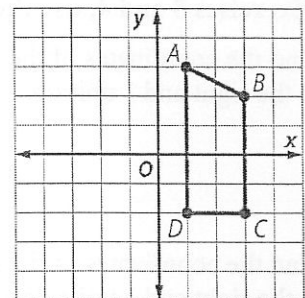
1. Find the coordinates of the vertices of the image of $\triangle PQR$ translated 3 units to the left and 4 units down.



2. Find the coordinates of the vertices of the image of $\triangle PQR$ translated 2 units to the right and 5 units down.

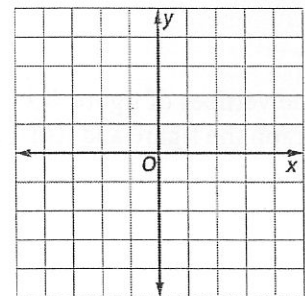
For Exercises 3 and 4, use the coordinate plane below. Figure $ABCD$ is shown.

3. Find the coordinates of the vertices of the image of figure $ABCD$ translated 1 unit to the right and 6 units down.

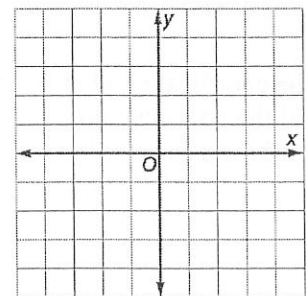


4. Find the coordinates of the vertices of the image of figure $ABCD$ translated 4 units to the left and 2 units up.

5. The vertices of figure $HJKL$ are $H(3, 1)$, $J(5, -2)$, $K(1, -4)$, and $L(1, 0)$. Graph the figure and its image after a reflection over the y -axis.



6. The vertices of figure $STUV$ are $S(-3, 2)$, $T(-2, 4)$, $U(3, 3)$, and $V(2, 1)$. Graph the figure and its image after a reflection over the x -axis.

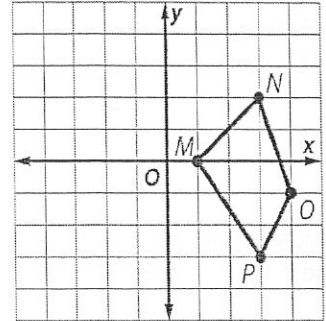


Lesson 1 and 2 Homework Practice

Translations and Reflections on the Coordinate Plane

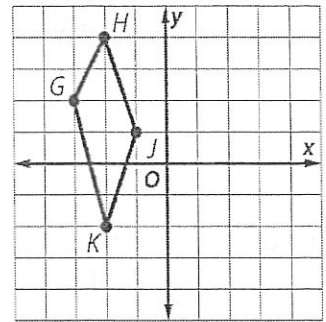
For Exercises 1 and 2, use the coordinate plane below. Figure $MNOP$ is shown.

- Find the coordinates of the vertices of the image of figure $MNOP$ translated 6 units to the left and 3 units down.
- Find the coordinates of the vertices of the image of figure $MNOP$ translated 4 units to the left and 4 units up.

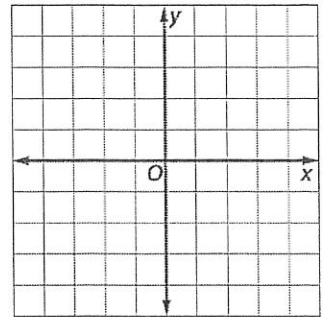


For Exercises 3 and 4, use the coordinate plane below. Figure $GHJK$ is shown.

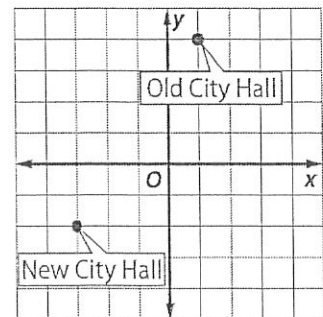
- Find the coordinates of the vertices of the image of figure $GHJK$ translated 3 units to the right and 1 unit up.
- Find the coordinates of the vertices of the image of figure $GHJK$ translated 5 units to the right and 2 units down.



- The vertices of figure $WXYZ$ are $W(2, 3)$, $X(4, 2)$, $Y(3, -3)$, and $Z(1, -1)$. Graph the figure and its image after a reflection over the y -axis.



- The coordinate grid at right shows the location of the old city hall building and the new city hall building. Describe the translation of the building in words and as an ordered pair.



Lesson 1 and 2 Problem-Solving Practice

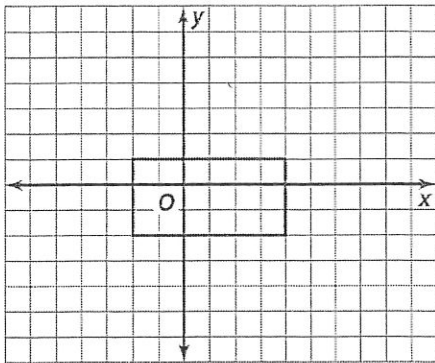
Translations and Reflections on the Coordinate Plane

1. Francesca wants to rearrange her bedroom, so she drew the floor plan of her bedroom on a coordinate plane. If her bed was originally located in the second quadrant, which quadrant will it be in if she reflects its position over the x -axis?

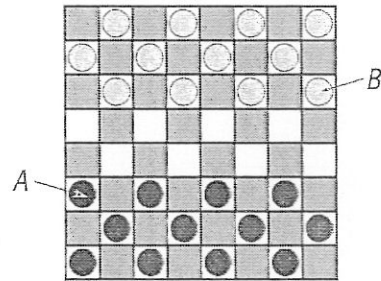
2. Archeologists use a grid to record the location of artifacts in a dig site. An assistant marked grid A3 as the location of two arrow heads. The arrowheads were actually found in the grid 4 units to the right and 3 units down. Which grid should the assistant record as the location of the arrowheads?

	A	B	C	D	E	F	G	H
1								
2								
3								
4								
5								
6								
7								
8								

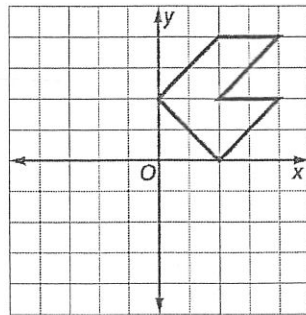
3. Mrs. Jensen is planning to have a swimming pool installed. The contractor drew the pool on a coordinate plane. Mrs. Jensen wants to change the location of the pool and decides to move it 4 units to the right and 5 units up. What are the coordinates of the vertices of the new pool?



4. In the game of checkers, the pieces are set up in a particular order. Which transformation would place checker A on top of checker B ?



5. Corinne is designing a quilt patch by using a coordinate plane. She begins by drawing the figure below. On the coordinate plane, graph the image of the figure after a reflection over the x -axis. On the same coordinate plane, graph the image of the figure created after a reflection over the y -axis.



6. Refer to Exercise 5. Compare the coordinates of the original figure and the image created by the reflection over the y -axis. What do you notice about the coordinates?