

6.6 REFLECTION ON THE COORDINATE PLANE

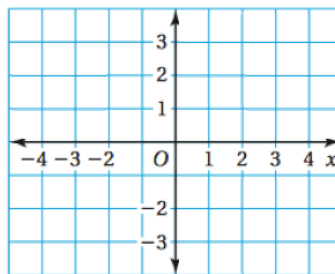
Guided Notes

1

Key Idea

Reflecting a Point in the Coordinate Plane

- To reflect a point in the x -axis, use the x -coordinate and take the opposite of the y -coordinate.
- To reflect a point in the y -axis, use the y -coordinate and take the opposite of the x -coordinate.



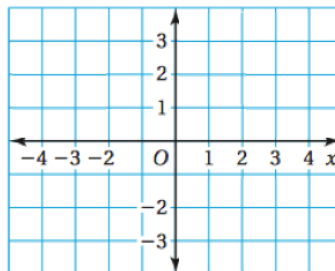
EXAMPLE 1 Reflecting Points in One Axis

a. Reflect $(-2, 4)$ in the x -axis.

Plot $(-2, 4)$.

To reflect $(-2, 4)$ in the x -axis, use the x -coordinate, -2 , and take the opposite of the y -coordinate. The opposite of 4 is -4 .

∴ So, the reflection of $(-2, 4)$ in the x -axis is $(-2, -4)$.

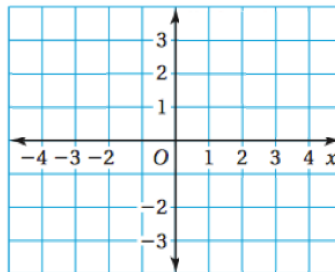


b. Reflect $(-3, -1)$ in the y -axis.

Plot $(-3, -1)$.

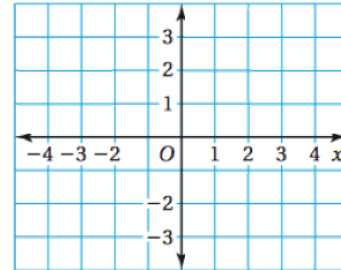
To reflect $(-3, -1)$ in the y -axis, use the y -coordinate, -1 , and take the opposite of the x -coordinate. The opposite of -3 is 3 .

∴ So, the reflection of $(-3, -1)$ in the y -axis is $(3, -1)$.



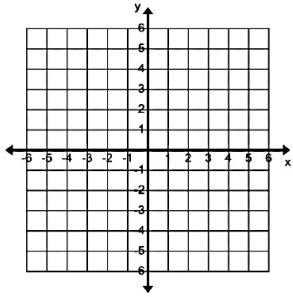
EXAMPLE 2 Reflecting a Point in Both Axes

2

Reflect (2, 1) in the x -axis followed by the y -axis.**Step 1:** First, plot (2, 1).**Step 2:** Next, (2, 1) in the
Use the x -coordinate, 2, and
take the y -coordinate of the
The point (2, 1) of is (2, 1).The point (2, 1) reflected in the
 x -axis is (2, -1).**Step 3:** Finally, (2, -1) in the
Use the x -coordinate, 2, and
take the y -coordinate of the
The point (2, -1) of is (2, -1).The point (2, -1) reflected in the
 y -axis is (-2, -1).❖ So, (2, 1) reflected in the x -axis followed
by the y -axis is (-2, -1).**Common Error** When reflecting a
second time, be sure to
use the reflected point
and not the original
point.

On Your Own 6.6

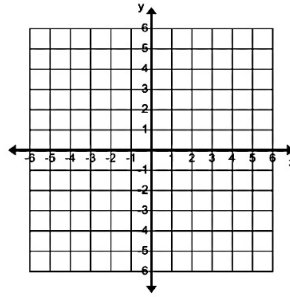
1)



a. _____

b. _____

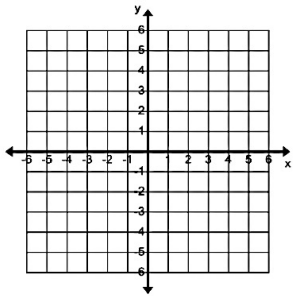
2)



a. _____

b. _____

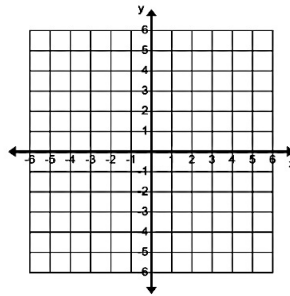
3)



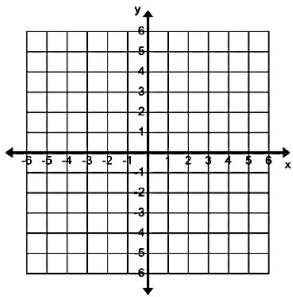
a. _____

b. _____

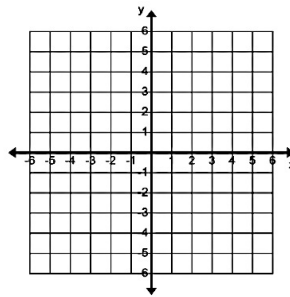
4)



5)



6)



7)

