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| **MODULE:** 14 | **LESSON:** 1 | DISTANCE IN THE COORDINATE PLANE |

Reflecting a Point

In this lesson, a point on a coordinate plane is reflected across the axes of the coordinate plane. The points *B* and *C* are reflections of point *A* across the *x*- and *y*-axes.

The coordinates of point *A* are (3, 1).

Point *B* is the reflection of point *A* across the *x*-axis.

Point *C* is the reflection of point *A* across the *y*-axis.

The following rules can help you find the coordinates of a reflected point by looking at the signs of the coordinates.

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| Reflecting across the *x*-axis“Reflect across *x.* MSM15_AN_ArrowChange the *y*.”In this example, point *A*’s *x*-coordinate, 3, stays the same when point *A* is reflected across the *x*-axis to become point *B*. Point *A*’s *y*-coordinate, 1, switches to 1 to become point *B*. So, point *B*’s coordinates are (3, 1).  | Reflecting across the *y*-axis“Reflect across *y.* MSM15_AN_ArrowChange the *x*.”In this example, point *A*’s *y*-coordinate, 1, stays the same when point *A* is reflected across the *y*-axis to become point *C*. Point *A*’s *x*-coordinate, 3, switches to 3 to become point *C*. So, point *C*’s coordinates are (3, 1). |

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| Distance between PointsThe distance between two points on a coordinate plane depends on whether their *x*- or *y*-coordinates are different. Look at the points on the grid above to solve the problems. |
| The distance between points *A* and *B* is the absolute value of the difference of the *y*-coordinates of the points. | The distance between points *A* and *C* is the absolute value of the difference of the *x*-coordinates of the points. |