



Content Area: Math

Grade Level: 6th Grade

Reporting Measure: Coordinate Plane

Level	Description
Above & Beyond (4.0)	The student will: • Use a coordinate plane to solve problems (for example, when given that a rectangle has vertices at the points $(-2, 6)$, $(-2, 1)$, $(7, 6)$, and $(7, 1)$, calculate the area of the rectangle).
3.5	In addition to score 3.0 performance, partial success at score 4.0 content
Proficient (3.0)	The student will: CP1—Plot points in all four quadrants of a coordinate plane (for example, plot the points $(2, 4)$, $(3, -6)$, $(-1, -3)$, and $(-5, 7)$ on a coordinate plane). CP2—Calculate the distance between points that share a coordinate (for example, when given the point $(1, -2)$, a second point $(1, 7)$, and a third point $(3, 7)$, calculate the sum of the distances between each successive point). CP3—Represent polygons on a coordinate plane by plotting and connecting their vertices (for example, when given that a rectangle has three vertices at $(3, -4)$, $(-2, -4)$, and $(-2, 5)$, determine the coordinates of the missing vertex and graph the rectangle on a coordinate plane).
2.5	No major errors or omissions regarding score 2.0 content, and partial success at score 3.0 content
Getting There (2.0)	CP1—The student will recognize or recall specific vocabulary (for example, <i>quadrant</i>) and perform basic processes such as: • Draw a full coordinate plane with x- and y-axes that extend in both the positive and negative directions. • Identify the signs of coordinates in all four quadrants of a coordinate plane. For example, explain that points in the first quadrant will have positive x- and y-coordinates, points in the second quadrant will have negative x-coordinates and positive y-coordinates, points in the third quadrant will have negative x- and y-coordinates, and points in the fourth quadrant will have positive x-coordinates and negative y-coordinates. • Relate the signs of coordinates in all four quadrants of a coordinate plane to the signs of the x- and y-axes along those quadrants. For example, explain that the fourth quadrant of a coordinate plane will contain points with negative y-coordinates because the y-axis is negative along the fourth quadrant. • Identify the coordinates of a given point in any quadrant of a coordinate plane. • Explain that the reflection of a point across the x- or y-axis will have the same coordinate associated with that axis, but the opposite of the coordinate associated with the other axis. For example, the reflection of the point $(1, 3)$ across the x-axis will have the same x-coordinate (1), but will have the opposite y-coordinate (-3). CP2—The student will recognize or recall specific vocabulary (for example, <i>absolute value</i>) and perform basic processes such as: • Determine the distance between two points that share a coordinate by counting the number of units between the points on a coordinate plane. • Explain that the absolute value of a number is the distance between that number and zero on a number line.

	• Explain that the distance between two points that lie on the same horizontal or vertical line can be computed as the absolute value of the difference between their differing horizontal or vertical coordinates. For example, the distance between the points $(2, -4)$ and $(2, 5)$ can be computed as $-4 - 5$ by starting at -4 on a number line, counting backwards 5 units to arrive at a difference of -9, and then taking the absolute value of that difference ($-9 = 9$). CP3—The student will recognize or recall specific vocabulary (for example, <i>x-coordinate</i>, <i>y-coordinate</i>) and perform basic processes such as: • List the properties of common two-dimensional figures (parallelograms, rectangles, squares, right triangles, isosceles triangles). • Identify a given two-dimensional figure from the number and position of its vertices. For example, when given three vertices in a plane, explain that the vertices belong to a triangle. • Explain that points with identical <i>x</i>-coordinates will lie on the same vertical line and points with identical <i>y</i>-coordinates will lie on the same horizontal line. For example, the points $(2, -4)$ and $(2, 5)$ will lie on the same vertical line.
1.5	Partial success at score 2.0 content, and major errors or omissions regarding score 3.0 content
Beginning (1.0)	With help, partial success at score 2.0 content and score 3.0 content