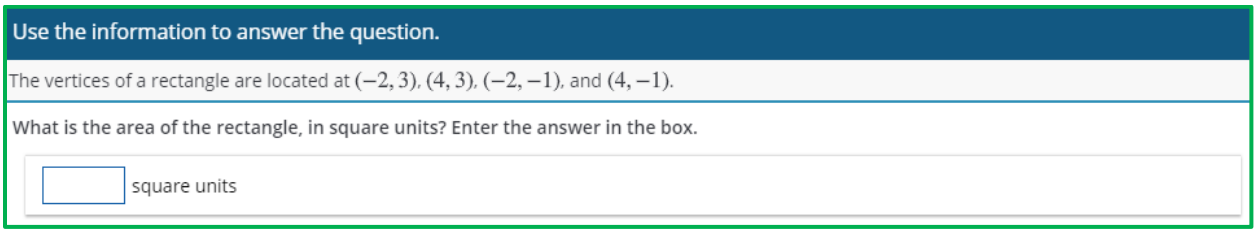
NWEA Assessment Item Illustrating 6.G.A.3

Domain: Geometry
6.G.A: Solve real-world and mathematical problems involving area, surface area, and volume.
Calculator Availability: Yes



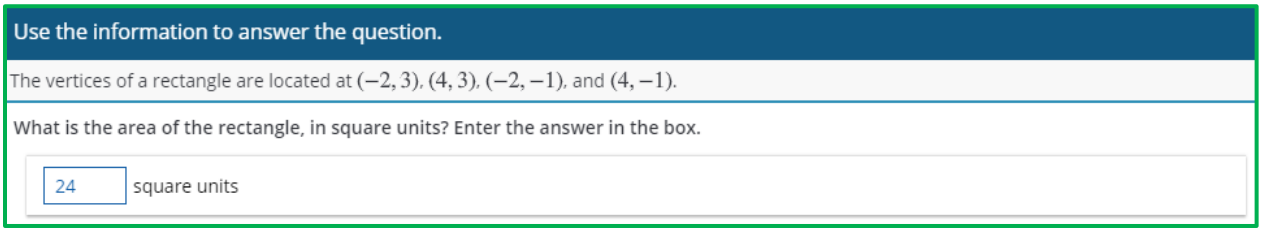
Alignment: 6.G.A.3: Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.

Students must use their grade-level knowledge of absolute value as the distance from zero and apply that knowledge to their understanding of the distance between two points with the same x- or y-coordinate to find the length of each side, and then use that information to find the area of the rectangle plotted on the coordinate plane.

Coherence: Students began work with the number line in grade 2 and extended that understanding to graph points in the first quadrant in grade 5.[5.G.A.1] This item reinforces and supports the concepts learned in the 6.NS domain: solving real-world and mathematical problems involving points in all four quadrants, including the use of absolute value to find the distances between points with the same first or same second coordinate.[6.NS.C.8] In grade 7, students will extend their knowledge of distance between two points with the same first or second coordinate to their understanding of operations with negative integers.[7.NS.A.1] In the work of grade 8, students will use their understanding of rational numbers to find the distance between two points, using the distance formula.[8.G.B.8]

Rigor: This item attends to conceptual understanding. Students must relate the concepts of a negative number and its positioning on the number line to find the distance between two points and apply that knowledge in a mathematical problem.

Answer Key:



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