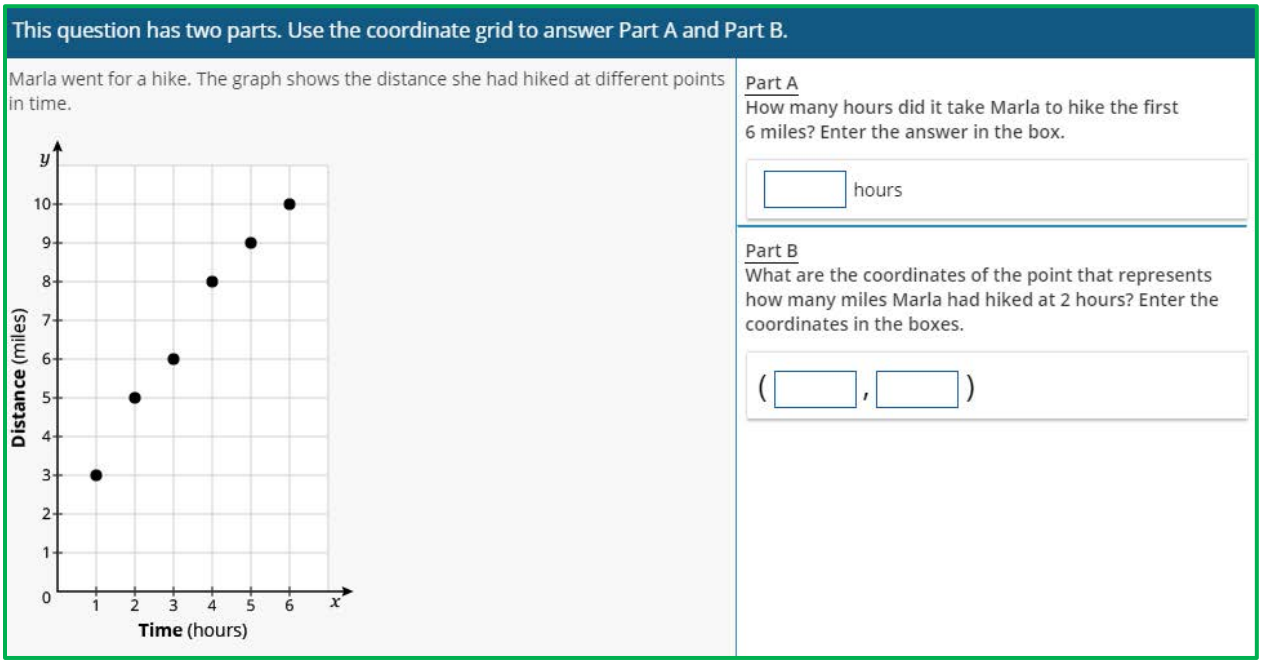
NWEA Assessment Item Illustrating 5.G.A.2

Domain: Geometry

5.G.A: Graph points on the coordinate plane to solve real-world and mathematical problems.

Calculator Availability: No



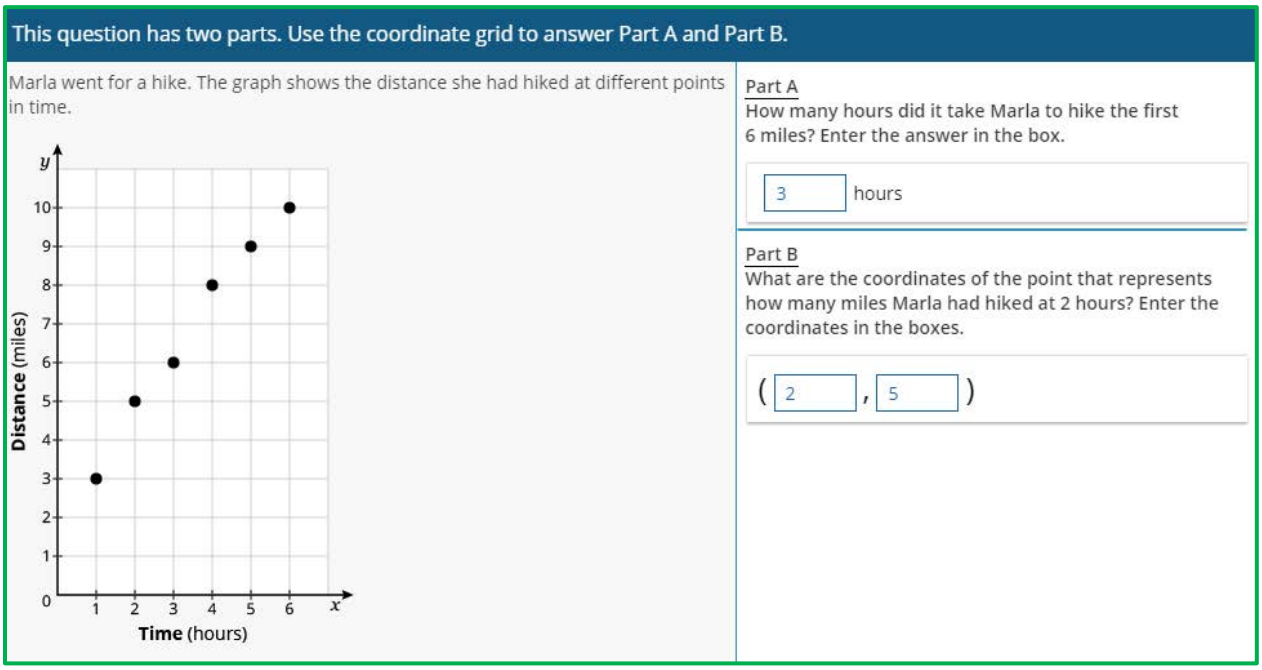
Alignment: 5.G.A.2: Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

This item assesses students' ability to interpret the meaning of a point within a given context. Students use their understanding of the coordinate grid and what the quantities represented on each axis mean in terms of the context. This item has two parts in order to assess understanding of both the meaning of a point, in Part A, and the convention for representing coordinates, in Part B.

Coherence: Although grade 5 represents students' introduction to coordinate planes, it builds upon the understanding of number lines that was developed in earlier grades. In grade 2, students represented whole numbers and whole-number sums and differences on number lines.[2.MD.B.6] In grade 3, they used number lines to develop understanding of fractions.[3.NF.A] In grade 6, students will graph points in all four coordinates[6.NS.C.6, 6.NS.C.8] and will work with polygons on the coordinate plane.[6.G.A.3] In grade 7, students will graph proportional relationships.[7.RP.A.2] In grade 8, students will graph linear relationships[8.EE.B, 8.EE.C.8] and functions,[8.F.A, 8.F.B] will perform transformations on the coordinate plane,[8.G.A.2, 8.G.A.3] and will apply the Pythagorean Theorem to find the distance between two points on the coordinate plane.[8.G.B.8] The coordinate plane will remain an important space for showing a physical representation of mathematical ideas through high school.

Rigor: This item attends to conceptual understanding and application. Interpreting the meaning of each point within the context of the problem shows conceptual understanding.

Answer Key:



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