Math Grade 10 B

Grade Level Standard(s):

KY.HS.G.1

KY.HS.G.24

Materials:

- Math 10 B Rectangle
- Math 10 B Rectangle Graph
- Math 10 B Attainment Task Questions for Student Use

Response Code:

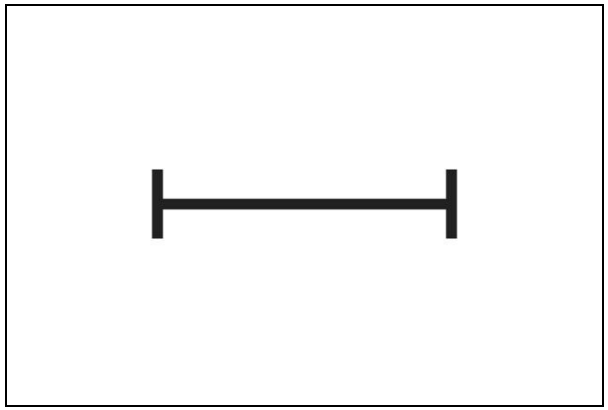
- Indicate the answer provided by the student.

Text Coding:

- "Quotation marks" indicate the script that the teacher should read to the student.
- *Italicized text* provides further direction for the test administrator.
- Words in parenthesis ( ) are optional; they may replace or be read in addition to the word(s) immediately preceding.

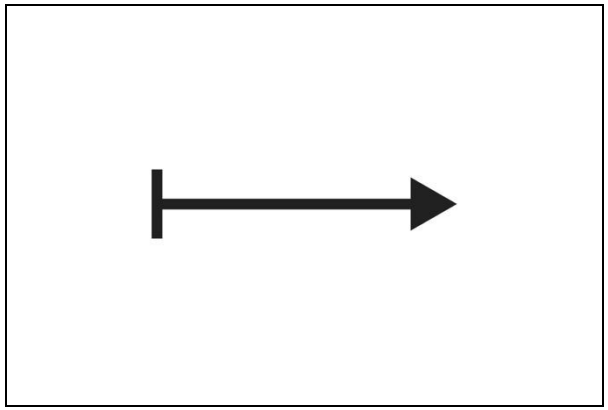
a.

They are line segments because they have two endpoints.



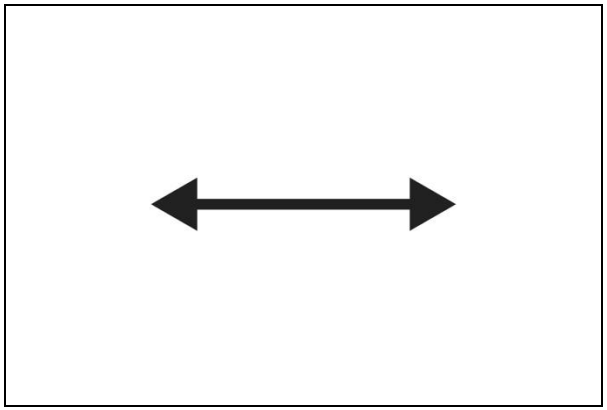
b.

They are rays because they have one endpoint.



c.

They are lines because they have no endpoints.



Before beginning task administration, please ensure that all conditions specified in the administration protocol (starting on page 10 of the Administration Guide Overview and Attainment Task Administration) have been met. Inform the student that the task is about to start by saying, "We are about to start the task, and I am going to ask you some questions."

All questions from this task are available for presentation to the student in the supplemental material Math 10 B Attainment Task Questions for Student Use.

"Axel's teacher drew a graph on the board. She asked the class which shape they would like to plot on the coordinate plane. The class decides to plot a rectangle."

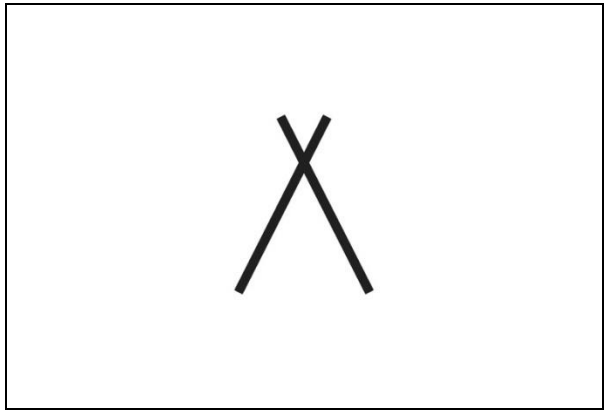
Present the student with Math 10 B Rectangle.

1. "How can the sides of a rectangle be described?"

Response Option	***Response Rationale***
a. They are line segments because they have two endpoints. **(Correct)**	*The student correctly describes the sides of the rectangles as line segments because they each have two endpoints.*
b. They are rays because they have one endpoint.	*The student attempts to describe the sides of the rectangle but does not recognize that each vertex is an endpoint.*
c. They are lines because they have no endpoints.	*The student attempts to describe he sides of the rectangle but does not recognize that each vertex is an endpoint.*
Depth of Knowledge (DOK) 1	

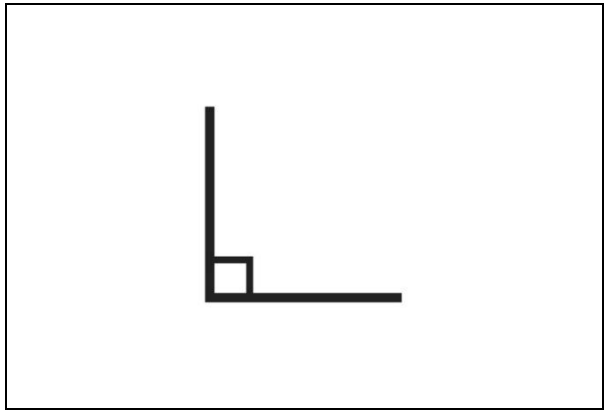
a.

They are intersecting because they both have a slope of 0.



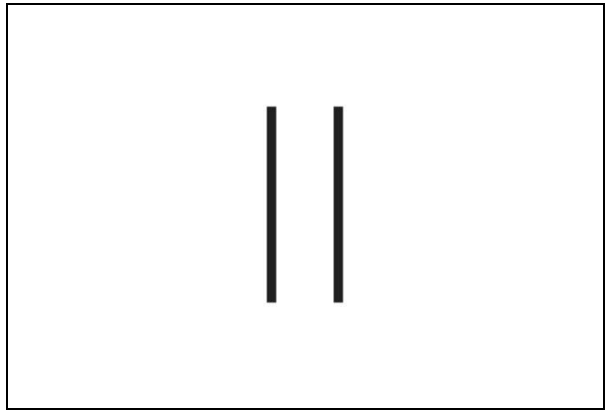
b.

They are perpendicular because they both have a slope of 0.



c.

They are parallel because they both have a slope of 0.



If needed, remind the student about the task scenario by rereading, "Axel's teacher drew a graph on the board. She asked the class which shape they would like to plot on the coordinate plane. The class decides to plot a rectangle."

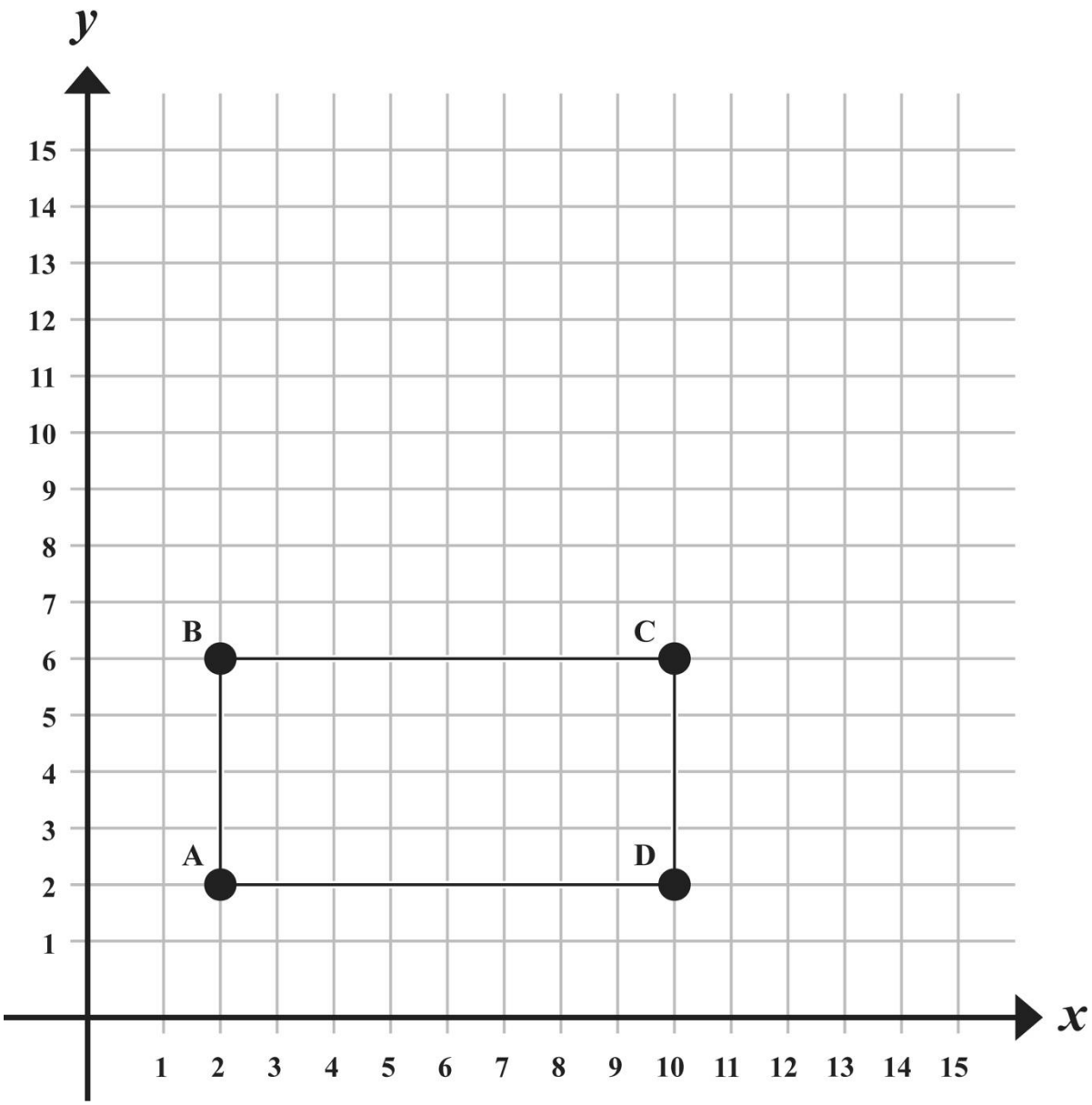
Present the student with Math 10 B Rectangle Graph.

2. "Identify the slope of $\overline{BC}$ and $\overline{AD}$. Which of the following is true of these line segments?"

Response Option	***Response Rationale***
a. They are intersecting because they both have a slope of 0.	*The student attempts to interpret the line segments on the graph but incorrectly identifies the line segments as intersecting.*
b. They are perpendicular because they both have a slope of 0.	*The student attempts to interpret the line segments on the graph but incorrectly identifies line segments* $\overline{BC}$ and $\overline{AD}$ *as intersecting at a right angle.*
c. They are parallel because they both have a slope of 0. **(Correct)**	*The student correctly interprets the line segments on the graph and identifies them as parallel.*
Depth of Knowledge (DOK) 2	

Math 10 B Rectangle

Math 10 B Rectangle Graph



Math 10 B Attainment Task Questions for Student Use

1. How can the sides of a rectangle be described?

2. Identify the slope of $\overline{BC}$ and $\overline{AD}$. Which of the following is true of these line segments?

#1 Kentucky Academic Standard: KY.HS.G.1 - Know and apply precise definitions of the language of Geometry: a. Understand properties of line segments, angles and circle. b. Understand properties of and differences between perpendicular and parallel lines. **MP.3, MP.6**
Alternate Assessment Target: *No limitations. All parts of the Kentucky Academic Standard are eligible to be included as an assessment item.*

#2 Kentucky Academic Standard: KY.HS.G. 24 Use coordinates within the coordinate plane to calculate measurements of two dimensional figures. a. Compute the perimeters of various polygons. b. Compute the areas of triangles, rectangles and other quadrilaterals.★ **MP.2, MP.4**
Alternate Assessment Target: *: Limit full standard to coordinates from negative 20 to 20. a. Limit to rectangles, triangles and pentagon b. Limit to triangles and quadrilaterals (rectangles, parallelograms and trapezoids)*

Student Group	Number of Students*	Percent Correct #1	Percent Correct #2
All students	530	48.87%	51.51%
Gender			
Female	156	45.51%	50.00%
Male	374	50.27%	52.14%
Ethnicity			
African American	77	46.75%	49.35%
American Indian or Alaska Native	<10	Not Reported	Not Reported
Asian	<10	Not Reported	Not Reported
Hispanic or Latino	<10	Not Reported	Not Reported
Native Hawaiian or Pacific Islander	<10	Not Reported	Not Reported
White (non-Hispanic)	374	48.93%	52.14%
Two or More Races	70	48.57%	51.43%
English Learner	28	53.57%	42.86%
Economically Disadvantaged	380	52.37%	51.05%

*Number of Students that attempted the item