

Mathematics Toolkit: Grade 6 Objective 2.A.1.b

Standard 2.0 Knowledge of Geometry

Topic A. Plane Geometric Figures

Indicator 1. Analyze the properties of plane geometric figures

Objective b. Identify and describe line segments

Assessment Limits:

Use diagonal line segments

Table of Contents

Objective 2.A.1.b Tools

- Sample Item #1 - Selected Response (SR)
- Sample Item #2 - Selected Response (SR)
- Sample Item #3 - Brief Constructed Response (BCR)

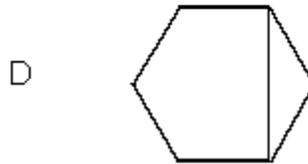
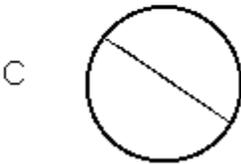
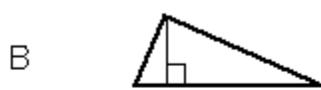
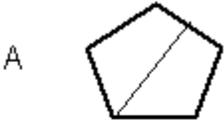
Scoring Rubric

- Rubric - Brief Constructed Response

Sample Item #1 - Selected Response (SR) Item

Mathematics Grade 6 Objective 2.A.1.b

Look at the line segments drawn in each geometric figure below.



Which geometric figure shows a line segment that is also a diagonal?

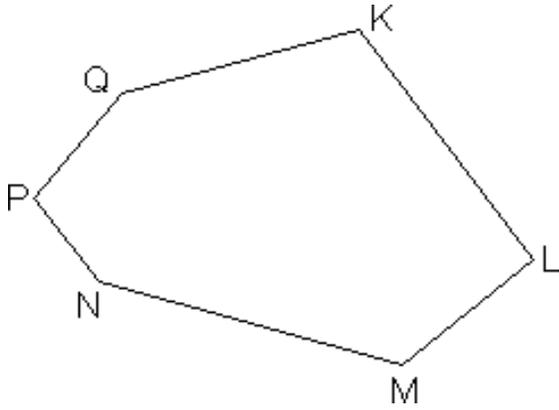
Correct Answer:

D

Sample Item #2 - Selected Response (SR) Item

Mathematics Grade 6 Objective 2.A.1.b

Jake draws hexagon KLMNPQ, as shown below.



What is the greatest number of diagonals Jake can draw from any one vertex?

- A. 3
- B. 4
- C. 5
- D. 6

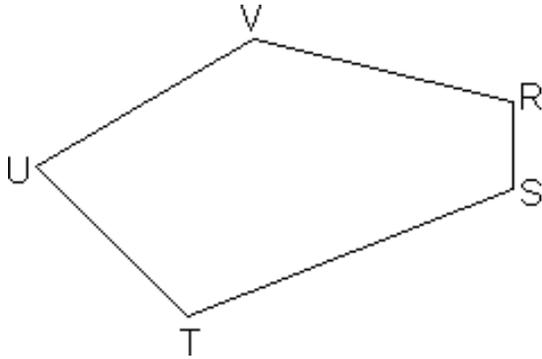
Correct Answer:

A

Sample Item #3 - Brief Constructed Response (BCR) Item

Mathematics Grade 6 Objective 2.A.1.b

Look at the pentagon RSTUV below.



Step A

How many diagonals can be drawn from vertex R?

Step B

Use what you know about line segments to explain how you determined your answer. Use words, pictures and/or numbers in your explanation.

Answer Annotation

Step A Answer: 2 diagonals

Step B Sample Correct Response: A diagonal is a line segment drawn from one vertex to another, but is not a side of the figure. Starting at vertex R, only two diagonals can be drawn, RT and RU.

Rubric - Brief Constructed Response (BCR)

Score 2

The response demonstrates a complete understanding and analysis of a problem.

- Application of a reasonable strategy in the context of the problem is indicated.
- Explanation¹ of and/or justification² for the mathematical process(es) used to solve a problem is clear, developed, and logical.
- Connections and/or extensions made within mathematics or outside of mathematics are clear.
- Supportive information and/or numbers are provided as appropriate.³

Score 1

The response demonstrates a minimal understanding and analysis of a problem.

- Partial application of a strategy in the context of the problem is indicated.
- Explanation¹ of and/or justification² for the mathematical process(es) used to solve a problem is partially developed, logically flawed, or missing.
- Connections and/or extensions made within mathematics or outside of mathematics are partial or overly general, or flawed.
- Supportive information and/or numbers may or may not be provided as appropriate.³

Score 0

The response is completely incorrect, irrelevant to the problem, or missing.⁴

Notes:

- ¹ Explanation refers to students' ability to communicate how they arrived at the solution for an item using the language of mathematics.
- ² Justification refers to students' ability to support the reasoning used to solve a problem, or to demonstrate why the solution is correct using mathematical concepts and principles.
- ³ Students need to complete rubric criteria for explanation, justification, connections and/or extensions as cued for in a given problem.
- ⁴ Merely an exact copy or paraphrase of the problem will receive a score of "0".

Rubric Document Date: August 2003