MSTAR PRACTICE WORKSHEET

Lesson 7-6: Determine Distance on the Coordinate Plane

Grade 6 Mathematics · Standard 6.NOS.9

Name: _____ Date: _____

These are MSTAR-style questions written for this curriculum to rehearse the format. They are not official Maryland assessment items. MSTAR — Maryland's new state test, first given in spring 2027 — uses the same kinds of questions you see here: selected response, select-all, two-part evidence questions, and written responses.

Part A — Skills Check

Warm up with the lesson's core skills — one best answer each.

Question 1 SELECTED RESPONSE · 1 POINT

What is the distance between (-4, 3) and (2, 3)?

A. 2 units

B. 4 units

C. 6 units

D. 8 units

Question 2 SELECTED RESPONSE · 1 POINT

What is the distance between (5, -2) and (5, 4)?

A. 2 units

B. 4 units

C. 6 units

D. 10 units

Question 3 SELECTED RESPONSE · 1 POINT

A rectangle has vertices at (1, 1), (5, 1), (5, 4), (1, 4). What is its perimeter?

A. 8 units

B. 12 units

C. 14 units

D. 20 units

Question 4 SELECTED RESPONSE · 1 POINT

Two points are at (-3, -7) and (-3, 5). What is the distance between them?

A 2 units

B 7 units

C 8 units

D 12 units

Question 5 SELECTED RESPONSE · 1 POINT

What is the distance between (2, 3) and (2, 8)?

A 5 units

B 5.5 units

C 6 units

D 11 units

Question 6 SELECTED RESPONSE · 1 POINT

What is the distance between (-4, 1) and (3, 1)?

A -7 units

B 1 unit

C 7 units

D 12 units

Part B — Test-Format Questions

These match the state test's formats: two-part questions, select-all, and written responses.

Question 7 TWO-PART QUESTION

Part A

A chest sits at (−3, 2) and a cave at (4, 2). How far apart are they?

Fill in the bubble next to the one best answer.

- (A) 1 unit
- (B) 2 units
- (C) 5 units
- (D) 7 units

Part B

Answer Part A before Part B — Part B asks about your reasoning.

Why can this distance be found by subtraction alone?

- (A) The two points share the same y-coordinate, so the segment between them is horizontal.
- (B) Subtraction works for any two points on the plane.
- (C) Both coordinates are whole numbers.
- (D) One of the points is in Quadrant II.

Question 8 WRITTEN RESPONSE · 2 POINTS

Type II Reasoning: Subtracting a Negative

> Priya found the distance between (−3, 2) and (4, 2). She wrote: 'Just subtract: 4 − 3 = 1, so they are 1 unit apart.'

Explain Priya's misconception and give the correct distance.

Write your answer in complete sentences. Show or explain your mathematical thinking.

Part C — Show Your Thinking

Answer in writing, the way the state test's constructed responses work.

Question 9 WRITTEN RESPONSE · 2 POINTS

A rectangle has vertices at (-4, -2), (3, -2), (3, 5), and (-4, 5). Find the length, width, perimeter, and area of the rectangle. Show your work using absolute value.

Write your answer in complete sentences. Show or explain your mathematical thinking.

When you finish, check your reasoning with your teacher or family. Your teacher has the scoring guide for the written responses.