MSTAR PRACTICE WORKSHEET

Lesson 7-9: Reflect Points Across Axes

Grade 6 Mathematics · Standard 6.NOS.7

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 reflection of (4, -3) over the x-axis?

A (-4, -3)

B (-4, 3)

C (3, -4)

D (4, 3)

Question 2 SELECTED RESPONSE · 1 POINT

What is the reflection of (-2, 6) over the y-axis?

A (-2, -6)

B (2, 6)

C (2, -6)

D (6, -2)

Question 3 SELECTED RESPONSE · 1 POINT

Which point is on the y-axis?

A (-2, 4)

B (0, 5)

C (3, 3)

D (5, 0)

Question 4 SELECTED RESPONSE · 1 POINT

Point A is at (-3, 5). It is reflected over the x-axis to A', then A' is reflected over the y-axis to A''. What are the coordinates of A''?

A (-3, -5)

B (-3, 5)

C (3, -5)

D (3, 5)

Question 5 SELECTED RESPONSE · 1 POINT

Captain Vega folds the map along the x-axis. A marker at (7, 2) lands on its mirror image. What are the new coordinates?

A (-7, 2)

B (-7, -2)

C (2, 7)

D (7, -2)

Question 6 SELECTED RESPONSE · 1 POINT

A buried chest is marked at (-5, 3). Vega folds the map along the y-axis to find its mirror twin. Where is the twin?

A (-5, -3)

B (3, -5)

C (5, 3)

D (5, -3)

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

Reflect the point (5, −2) across the x-axis. What are the coordinates of the image?

Fill in the bubble next to the one best answer.

- (A) (−2, 5)
- (B) (5, 2)
- (C) (−5, −2)
- (D) (−5, 2)

Part B

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

Why does reflecting across the x-axis change only the y-coordinate?

- (A) The x-coordinate is always positive after a reflection.
- (B) The x-axis is horizontal, so the point flips vertically while its horizontal position stays fixed.
- (C) Only the second coordinate can be negative.
- (D) Reflections always change exactly one coordinate to zero.

Question 8 WRITTEN RESPONSE · 2 POINTS

Type II Reasoning: Reflecting Across the Wrong Axis

> Dante reflected (3, 7) across the y-axis. He wrote: 'Change the sign of y, so the image is (3, −7).'

Explain Dante's misconception and give the correct image point.

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 triangle has vertices at A(1, 2), B(4, 2), and C(4, 6). If you reflect the entire triangle over the y-axis, what are the new vertices? What do you notice about the size and shape of the reflected triangle compared to the original?

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.