MSTAR PRACTICE WORKSHEET

Lesson 3-4: Determine Equivalent Ratios Using Graphs

Grade 6 Mathematics · Standard 6.AT.3a

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

A ratio table shows (2, 6), (4, 12), and (6, 18). Which ordered pair comes next if the pattern continues?

A. (7, 20)

B. (8, 24)

C. (8, 22)

D. (10, 24)

Question 2 SELECTED RESPONSE · 1 POINT

When you graph equivalent ratios, the points will always form what shape?

A. A curved line

B. A straight line through the origin

C. A zigzag

D. A circle

Question 3 SELECTED RESPONSE · 1 POINT

A ratio table shows (2, 8), (3, 12), and (5, 20). What is the y-value when x = 7?

A. 21

B. 24

C. 28

D. 35

Question 4 SELECTED RESPONSE · 1 POINT

Which point would NOT be on the graph of the ratio 1:5?

A (2, 10)

B (3, 10)

C (4, 20)

D (5, 25)

Question 5 SELECTED RESPONSE · 1 POINT

Points from a ratio table are plotted at (1, 4), (2, 8), and (3, 12). What is the ratio of y to x for each point?

A 1:4

B 2:8

C 3:4

D 4:1

Question 6 SELECTED RESPONSE · 1 POINT

Two students graph ratio tables. Student A plots (1,2), (2,4), (3,6). Student B plots (1,3), (2,6), (3,9). Whose line is steeper?

A Student A

B Same steepness

C Cannot tell

D Student B

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 ratio table pairs 1 hour with 45 miles, 2 hours with 90 miles, and 3 hours with 135 miles. Which ordered pair belongs on the graph of this relationship?

Fill in the bubble next to the one best answer.

(A) (4, 180)

(B) (4, 45)

(C) (4, 140)

(D) (180, 4)

Part B

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

What does it mean that the graph of this relationship passes through the origin (0, 0)?

(A) When zero hours have passed, zero miles have been traveled.

(B) The graph must be a curve.

(C) The unit rate is zero.

(D) The relationship only works for whole numbers.

Question 8 SELECT ALL THAT APPLY

Select ALL statements that are true about graphing equivalent ratios:

Mark the box next to EVERY answer that is true. More than one is correct.

[A] The points of a proportional relationship lie on a straight line.

[B] The line passes through the origin (0, 0).

[C] Each ordered pair comes from a row of the ratio table.

[D] The points form a curve that bends upward.

[E] The unit rate can be read as the y-value when x = 1.

Part C — Show Your Thinking

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

Question 9 WRITTEN RESPONSE · 2 POINTS

A student plots the points (1, 3), (2, 6), (3, 9), and (4, 15) from a ratio table. She says they form a straight line because they go up. Is she correct? Explain how to check.

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.