MSTAR PRACTICE WORKSHEET

Lesson 3-1: Understand Ratios

Grade 6 Mathematics · Standard 6.AT.1

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 recipe uses 4 cups of milk and 1 cup of cream. What is the ratio of milk to cream?

(A) 1:4

(B) 4:1

(C) 4:5

(D) 5:1

Question 2 SELECTED RESPONSE · 1 POINT

Chef Reyes uses 6 strawberries and 2 bananas in a smoothie. What is the part-to-whole ratio of bananas to total fruit?

(A) 2:8

(B) 2:6

(C) 6:2

(D) 8:2

Question 3 SELECTED RESPONSE · 1 POINT

In a class of 30 students, 18 are girls. What is the part-to-part ratio of boys to girls?

(A) 12:18

(B) 12:30

(C) 18:12

(D) 18:30

Question 4 SELECTED RESPONSE · 1 POINT

A pet store has 5 dogs and 9 cats. What is the ratio of dogs to cats?

(A) 5:9

(B) 5:14

(C) 9:5

(D) 14:5

Question 5 SELECTED RESPONSE · 1 POINT

A fruit salad has 5 pieces of melon, 3 pieces of pineapple, and 2 grapes. What is the ratio of pineapple to melon?

(A) 3:5

(B) 3:10

(C) 3:2

(D) 5:3

Question 6 SELECTED RESPONSE · 1 POINT

A parking lot has 10 cars and 6 trucks. What is the part-to-whole ratio of trucks to total vehicles?

(A) 6:16

(B) 6:10

(C) 10:6

(D) 16:6

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 class has 12 sixth graders and 18 seventh graders. What is the ratio of sixth graders to the TOTAL number of students, written in simplest form?

Fill in the bubble next to the one best answer.

(A) 2 : 5

(B) 2 : 3

(C) 3 : 5

(D) 12 : 18

Part B

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

Which statement explains why 2 : 3 is NOT the answer to Part A?

(A) 2 : 3 is the part-to-part ratio of sixth graders to seventh graders, not part-to-whole.

(B) 2 : 3 has not been simplified completely.

(C) 2 : 3 reverses the order of the quantities.

(D) 2 : 3 counts each student twice.

Question 8 SELECT ALL THAT APPLY

Select ALL statements that are true about ratios:

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

[A] The order of the quantities in a ratio matters.

[B] A ratio can compare a part to a whole or a part to another part.

[C] 3 : 4 and 6 : 8 describe the same relationship.

[D] A ratio must always compare quantities with the same units.

[E] A ratio can be written as 3 : 4, 3 to 4, or 3/4.

Part C — Show Your Thinking

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

Question 9 WRITTEN RESPONSE · 2 POINTS

A bag of marbles has 8 red, 6 blue, and 4 green marbles. Write three different ratios using these quantities: one part-to-part ratio, one part-to-whole ratio, and explain the difference.

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.