MSTAR PRACTICE WORKSHEET

Lesson 8-3: Write and Solve Equations Using Multiplication or Division

Grade 6 Mathematics · Standard 6.AT.8

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

Solve: 6x = 42

(A) x = 7

(B) x = 36

(C) x = 48

(D) x = 252

Question 2 SELECTED RESPONSE · 1 POINT

Solve: n / 3 = 8

(A) n = 3

(B) n = 5

(C) n = 11

(D) n = 24

Question 3 SELECTED RESPONSE · 1 POINT

Solve: 9m = 63

(A) m = 7

(B) m = 54

(C) m = 72

(D) m = 567

Question 4 SELECTED RESPONSE · 1 POINT

Solve: y / 7 = 5

A. y = 2

B. y = 7

C. y = 12

D. y = 35

Question 5 SELECTED RESPONSE · 1 POINT

A detective splits 54 clues equally among 9 case files. The equation 9c = 54 represents this. What is c?

A. c = 6

B. c = 9

C. c = 45

D. c = 63

Question 6 SELECTED RESPONSE · 1 POINT

Vault A is sealed with 4x = 32. Crack the lock: what is x?

A. x = 8

B. x = 28

C. x = 36

D. x = 128

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

What is the solution of 6m = 54?

Fill in the bubble next to the one best answer.

(A) m = 9

(B) m = 48

(C) m = 60

(D) m = 324

Part B

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

Which reasoning justifies the step used to find that solution?

(A) Division undoes multiplication, so dividing both sides by 6 isolates the variable.

(B) Subtracting 6 from both sides removes the 6 that is written next to the variable.

(C) Multiplying both sides by 6 isolates the variable because the same operation must be repeated.

(D) The coefficient can simply be dropped because 6 is smaller than 54.

Question 8 SELECT ALL THAT APPLY

Select ALL equations that have x = 8 as their solution.

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

[A] 4x = 32

[B] x ÷ 2 = 4

[C] 3x = 21

[D] x ÷ 4 = 32

[E] 56 = 7x

Part C — Show Your Thinking

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

Question 9 WRITTEN RESPONSE · 2 POINTS

A bakery packed muffins into boxes of 8. They made 96 muffins total. Write an equation, solve it, and explain why your answer is reasonable. Then write a different situation that uses division and has the same answer.

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.