MSTAR PRACTICE WORKSHEET

Lesson 8-2: Write and Solve Equations Using Addition or Subtraction

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: x + 9 = 15

(A) x = 6

(B) x = 9

(C) x = 15

(D) x = 24

Question 2 SELECTED RESPONSE · 1 POINT

Solve: y – 7 = 20

(A) y = 7

(B) y = 13

(C) y = 27

(D) y = 140

Question 3 SELECTED RESPONSE · 1 POINT

Solve: n + 15 = 42

(A) n = 15

(B) n = 27

(C) n = 42

(D) n = 57

Question 4 SELECTED RESPONSE · 1 POINT

Solve: m – 11 = 25

(A) m = 14

(B) m = 25

(C) m = 36

(D) m = 275

Question 5 SELECTED RESPONSE · 1 POINT

A shirt costs $d. After a $15 discount, it costs $38. What is d?

(A) $23

(B) $38

(C) $45

(D) $53

Question 6 SELECTED RESPONSE · 1 POINT

Unlock Card 1: Solve x + 7 = 15.

(A) x = 7

(B) x = 8

(C) x = 22

(D) x = 105

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

Which value of n is the solution of n – 18 = 27?

Fill in the bubble next to the one best answer.

(A) n = 9

(B) n = 18

(C) n = 27

(D) n = 45

Part B

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

Which reasoning justifies the step used to find that answer?

(A) Because 18 is subtracted from n, adding 18 to both sides is the inverse operation that leaves n by itself.

(B) Because the equation shows subtraction, 18 should be subtracted from both sides as well.

(C) Because the number written after the equal sign is always the value of the variable.

(D) Because the smaller number in a subtraction equation is always the solution.

Question 8 WRITTEN RESPONSE · 2 POINTS

Type II Reasoning: Adding When the Inverse Is Subtraction

> Darius solved the equation x + 23 = 40. He wrote: 'x + 23 = 40, so x = 40 + 23, which means x = 63.'

Explain Darius's misconception and give the correct value of x.

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 detective solved $x + 25 = 60$ and got $x = 35$. Another detective solved $y - 25 = 60$ and got $y = 35$. Are both correct? Explain using inverse operations and check each 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.