MSTAR PRACTICE WORKSHEET

Lesson 4-5: Determine the Whole Given the Part and Percent

Grade 6 Mathematics · Standard 6.AT.4

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

$20 is 50% of what number?

(A) $10

(B) $25

(C) $40

(D) $70

Question 2 SELECTED RESPONSE · 1 POINT

Which equation says "30 is 25% of some number n"?

(A) 0.25n = 30

(B) n = 0.25 × 30

(C) 25n = 30

(D) n = 30 + 25

Question 3 SELECTED RESPONSE · 1 POINT

$42 is 60% of the original price. Should the original price be more or less than $42?

(A) More, because 60% is less than the whole

(B) Less, because 60 is a big number

(C) Exactly $42

(D) You cannot tell

Question 4 SELECTED RESPONSE · 1 POINT

75 minutes is 15% of the school day. How long is the school day?

(A) 11.25 minutes

(B) 90 minutes

(C) 500 minutes

(D) 1,125 minutes

Question 5 SELECTED RESPONSE · 1 POINT

A car is now worth $26,600, which is 70% of its purchase price. What was the purchase price?

(A) $18,620

(B) $26,670

(C) $38,000

(D) $45,200

Question 6 SELECTED RESPONSE · 1 POINT

Which statement correctly names the pieces of "18 students is 30% of the class"?

(A) 18 is the whole, 30% is the part

(B) 30 is the part, 18 is the percent

(C) The class size is the part

(D) 18 is the part, 30% is the percent, the class size is the whole

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

Marcus completed 18 math problems, which represents exactly 60% of his homework assignment. How many total problems are on the assignment?

Fill in the bubble next to the one best answer.

(A) 24 problems

(B) 28 problems

(C) 30 problems

(D) 36 problems

Part B

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

Which equation and reasoning justifies the solution in Part A?

(A) Multiply 18 by 0.60: 18 × 0.60 = 10.8.

(B) Add 18 and 60: 18 + 60 = 78.

(C) Since 60% of the whole equals 18, divide the part by the rate: 18 ÷ 0.60 = 30.

(D) Divide 60 by 18: 60 ÷ 18 = 3.33.

Question 8 SELECT ALL THAT APPLY

A theater is at 80% capacity with 240 seats occupied. Select ALL statements that are mathematically true regarding this situation:

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

[A] The total seating capacity of the theater is 300 seats (240 ÷ 0.80 = 300).

[B] There are 60 empty seats in the theater (300 - 240 = 60).

[C] 10% of the theater capacity is 30 seats (300 ÷ 10 = 30).

[D] The total capacity is 192 seats (240 × 0.80 = 192).

[E] A tape diagram with 5 equal units of 60 seats represents the 300 total seats (4 units = 240 = 80%).

Part C — Show Your Thinking

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

Question 9 WRITTEN RESPONSE · 2 POINTS

A toy store's puzzle stock was 25% 300-piece, 15% 500-piece, and the rest 1,000-piece. During a sale the store sold ALL of its 300-piece and 500-piece puzzles — 120 puzzles in total. How many of each type did the store have before the sale? Explain your reasoning.

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.