MSTAR PRACTICE WORKSHEET

Lesson 6-7: Find Factors and Multiples

Grade 6 Mathematics · Standard 6.NOS.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

Which list shows all the factors of 12?

(A) 1, 2, 3, 4, 6, 12

(B) 1, 12

(C) 2, 3, 4, 6

(D) 12, 24, 36, 48

Question 2 SELECTED RESPONSE · 1 POINT

Which list shows the first four multiples of 8?

(A) 1, 2, 4, 8

(B) 2, 4, 6, 8

(C) 8, 16, 24, 32

(D) 8, 9, 10, 11

Question 3 SELECTED RESPONSE · 1 POINT

What is the greatest common factor of 12 and 18?

(A) 2

(B) 3

(C) 6

(D) 36

Question 4 SELECTED RESPONSE · 1 POINT

What is the least common multiple of 4 and 6?

(A) 2

(B) 10

(C) 12

(D) 24

Question 5 SELECTED RESPONSE · 1 POINT

Using prime factors, $48 = 2 \times 2 \times 2 \times 2 \times 3$ and $36 = 2 \times 2 \times 3 \times 3$. What is their GCF?

(A) 2, the only prime they share

(B) 6, from one 2 and one 3

(C) 12, from the shared $2 \times 2 \times 3$

(D) 144, from multiplying all the primes

Question 6 SELECTED RESPONSE · 1 POINT

Ayasha has painting every 8 weeks and pottery every 6 weeks, both this week. When do they next fall in the same week?

(A) In 2 weeks

(B) In 14 weeks

(C) In 24 weeks

(D) In 48 weeks

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 greatest common factor of 18 and 24?

Fill in the bubble next to the one best answer.

(A) 2

(B) 3

(C) 6

(D) 72

Part B

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

Which reasoning shows why your answer to Part A is correct?

(A) List the factors of each number, find the ones they share, which are 1, 2, 3, and 6, and take the largest shared factor, 6.

(B) Stop at the first prime that divides both numbers, which is 3.

(C) Find the smallest multiple that 18 and 24 share, which is 72, and use it as the greatest common factor.

(D) Both 18 and 24 are even numbers, so the greatest shared factor is 2.

Question 8 SELECT ALL THAT APPLY

Select ALL statements that are true about the numbers 12 and 20.

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

[A] 6 is a factor of 12.

[B] The greatest common factor of 12 and 20 is 4.

[C] The least common multiple of 12 and 20 is 60.

[D] The greatest common factor of 12 and 20 is 60.

[E] 40 is a multiple of 20.

[F] 5 is a factor of 12.

Part C — Show Your Thinking

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

Question 9 WRITTEN RESPONSE · 2 POINTS

Reginald is having hot dogs for 24 guests and wants the same number of hot dogs and buns, with none left over. Hot dogs come in packs of 10 and buns in packs of 8. How many packs of each should he buy, and how many will he have? Explain which tool you used and why.

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.