MSTAR PRACTICE WORKSHEET

# Lesson 6-10: Divide Mixed Numbers

Grade 6 Mathematics · Standard 6.NOS.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

What is 1 1/2 ÷ 3/4?

(A) 1 1/8

(B) 2

(C) 3/4

(D) 9/8

**Question 2** SELECTED RESPONSE · 1 POINT

Convert 3 2/5 to an improper fraction.

(A) 6/5

(B) 15/5

(C) 17/5

(D) 32/5

**Question 3** SELECTED RESPONSE · 1 POINT

What is 2 1/4 ÷ 3/4?

(A) 1 1/2

(B) 2 1/3

(C) 3

(D) 9/16

**Question 4** SELECTED RESPONSE · 1 POINT

What is 3 1/2 ÷ 1/4?

(A) 3 1/8

(B) 7/8

(C) 13/4

(D) 14

**Question 5** SELECTED RESPONSE · 1 POINT

A baker has 2 1/4 cups of butter. Each batch of cookies needs 3/4 cup of butter. How many batches can the baker make?

(A) 1 1/2 batches

(B) 2 batches

(C) 3 batches

(D) 6 batches

**Question 6** SELECTED RESPONSE · 1 POINT

Mission 1: The stakeout shift is 4 1/2 hours long. Each agent covers a 1 1/2-hour watch. How many agent watches fill one shift?

(A) 2 1/2

(B) 3

(C) 4 1/2

(D) 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

What is the value of 3 3/4 ÷ 1 1/2?

*Fill in the bubble next to the one best answer.*

(A) 1 1/2

(B) 2 1/2

(C) 2

(D) 5 5/8

### 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) Convert 3 3/4 by multiplying 3 × 4 and keeping the denominator, giving 12/4, then 12/4 × 2/3 = 2.

(B) Ignore the whole numbers and divide only the fraction parts: 3/4 ÷ 1/2 = 3/4 × 2/1 = 6/4 = 1 1/2.

(C) Convert to improper fractions, 15/4 and 3/2, then keep, change, flip: 15/4 × 2/3 = 30/12 = 5/2 = 2 1/2.

(D) Convert to improper fractions and multiply straight across without flipping: 15/4 × 3/2 = 45/8 = 5 5/8.

**Question 8** WRITTEN RESPONSE · 2 POINTS

**Type II Reasoning: Skipping the Conversion**

> Tyrone divided 2 1/2 ÷ 1/4. His work was: keep 2 1/2, change ÷ to ×, flip 1/4 to 4/1. Then he multiplied only the whole number, 2 × 4 = 8, and carried the 1/2 along, so he answered 8 1/2.

Explain Tyrone's misconception and give the correct quotient.

*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 has a rope that is 5 1/4 feet long. She needs to cut it into pieces that are each 3/4 foot for tying evidence tags. How many pieces can she cut? Write the equation, show each step (convert, keep-change-flip, multiply, simplify), and verify your 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.