

# 4

COMPLETE

# Maine

Through Year Assessment

Grade

# MATH

# 5

## PRACTICE TESTS

Standards-Based Test Prep with  
Mixed Review, Word Problems,  
and **Full Answer Key**



- ✓ **4 COMPLETE PRACTICE TESTS**  
Built to reflect the test format and rigor



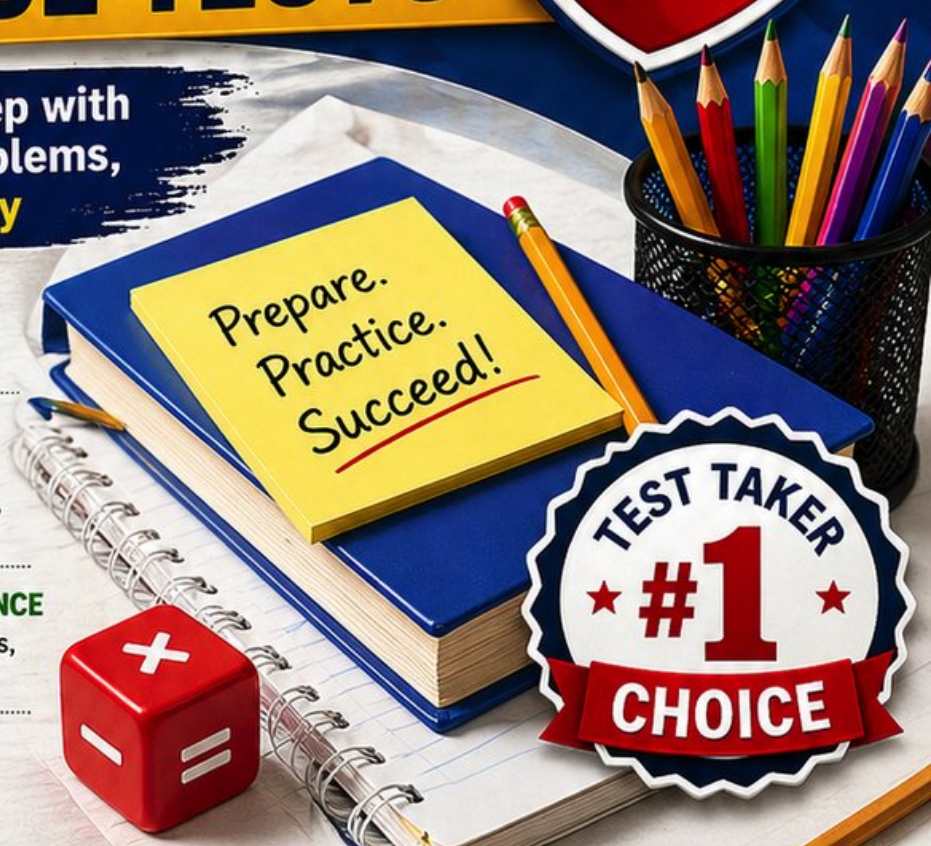
- ✓ **COVERS ALL ESSENTIAL TOPICS**  
Numbers & Operations, Fractions, Decimals, Geometry, Measurement, Data & Probability, and more



- ✓ **STRENGTHEN SKILLS & CONFIDENCE**  
Mixed review, challenging questions, and strategic practice



- ✓ **FULL ANSWER KEY INCLUDED**  
Detailed explanations for every question



BUILD STRONG  
MATH SKILLS  
& TEST READINESS



IMPROVE ACCURACY,  
SPEED, AND  
PROBLEM SOLVING



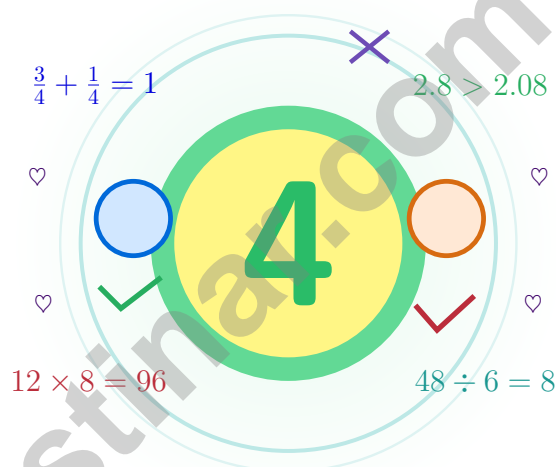
PERFECT FOR  
CLASSROOM,  
HOME, OR  
SELF-STUDY



ALIGNED TO  
MAINE  
STATE STANDARDS  
(THROUGH YEAR  
ASSESSMENT)

# 4 Maine Through Year Assessment Grade 5 Math Practice Tests

*Four full tests, four lessons, one stronger mathematician*



Four full tests, a smart quick review, mission-style strategy pages,  
and student-tested support that help Grade 5 mathematicians from  
The Pine Tree State build calm, careful, confident habits.

**Jay Daie and Reza Nazari**



# Copyright ©

**Testinar Inc**



Published by Testinar Inc

[Testinar.com](http://Testinar.com)

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the author, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law, including Section 107 or 108 of the 1976 United States Copyright Act.

This publication is independently produced and has no official connection to any state, district, or national testing program.

Test names and organizational names used herein are the property of their respective trademark holders.



*Copyright ©*

# Welcome to the Math Mission, Maine

Four chances to read carefully, solve smartly, and grow stronger

## Mission Briefing for Grade 5 Math Crew of Maine

This book gives you four chances to read closely, solve carefully, and level up your math thinking. Math is a lot like the rocky Maine coast – it looks tough at first, but careful steps and patient eyes reveal a steady path.

You do not need to feel perfect before you begin. You just need to stay curious, use strategies, and learn from every correction. That is how confident mathematicians are built.

### Read Slow

Read each word twice  
and underline what is  
asked.

### Choose Smart

Pick the operation,  
model, or sketch that  
fits.

### Grow

Use missed questions as  
clues for what to learn  
next.

**A strong mission habit for Maine:** keep your work neat, estimate when it helps, label units carefully, and never let one hard question decide your mood for the whole page.

# How to Use This Book

A four-step routine that turns practice into real improvement

## Step 1: Warm Up

**Sharpen your math brain with the quick review.**

Wake up the big Grade 5 ideas before the test starts so your brain is already warmed up.

## Step 2: Mission Run

**Take a full practice test in a calm spot.**

Find a calm corner, settle in, and aim for careful, honest choices before quick ones.

## Step 3: Debrief

**Score honestly and circle missed questions.**

Circle missed questions, sort out what went sideways, and notice which skills are calling for attention.

## Step 4: Repair Kit

**Fix the missed work and lock the lesson in.**

Read the explanation, fix the work, and carry that lesson into the very next test.

## A Four-Week Maine Mission Map

Week	Mission Focus
<b>Week 1</b>	Take Test 1 like a careful morning at low tide – notice every detail.
<b>Week 2</b>	Take Test 2 and aim attention at word problems and step-showing.
<b>Week 3</b>	Take Test 3 to polish fractions, decimals, and conversions.
<b>Week 4</b>	Take Test 4 with calm, careful, focused work.



Scan me

## Test Overview

### What these four practice tests help Grade 5 students build

These three practice tests prepare Grade 5 students in the Pine Tree State for the Through Year Assessment with the patient rhythm of a coastal morning. The goal is bigger than collecting right answers. Students are practicing how to read carefully, choose a strategy, solve step by step, and explain their reasoning clearly – the same way mathematicians do every day.

#### Selected-Response Questions

Students solve the problem and choose the best answer. Estimating first, crossing out weak choices, and checking for reasonableness can save time and points.

#### Constructed-Response Questions

Students show steps, explain a method, or support an answer with clear math. Strong reasoning matters because it shows how the answer was found.

#### Grade 5 Ideas That Show Up Again and Again

- place value, comparing numbers, and rounding
- multi-digit addition, subtraction, multiplication, and division
- fractions, mixed numbers, and decimals
- perimeter, area, volume, and measurement conversions
- tables, line plots, patterns, and coordinate points
- geometry and multi-step real-world problem solving

**What strong TYA-style work looks like:** accurate math, readable steps, the right labels or units, and a final answer that really matches the question being asked.



# Table of Contents

★ Practice Test 1	_____	20
★ Practice Test 2	_____	34
★ Practice Test 3	_____	48
★ Practice Test 4	_____	64
<b>Practice Test Answer Keys</b>	_____	<b>78</b>
<b>Practice Test Answers and Explanations</b>	_____	<b>81</b>

## Grade 5 Mathematics Reference Materials

### PERIMETER AND AREA

Perimeter of Rectangle  $P = 2l + 2w$  or  $P = 2(l + w)$

Area of Rectangle  $A = l \times w$

Area of Triangle  $A = \frac{1}{2} \times b \times h$

Volume of Rectangular Prism  $V = l \times w \times h$

### LENGTH

#### Customary

1 foot (ft) = 12 inches (in.)

1 yard (yd) = 3 feet (ft)

1 yard (yd) = 36 inches (in.)

#### Metric

1 meter (m) = 100 centimeters (cm)

1 centimeter (cm) = 10 millimeters (mm)

1 kilometer (km) = 1,000 meters (m)

### CAPACITY

#### Customary

1 cup (c) = 8 fluid ounces (fl oz)

1 pint (pt) = 2 cups (c)

1 quart (qt) = 2 pints (pt)

1 gallon (gal) = 4 quarts (qt)

#### Metric

1 liter (L) = 1,000 milliliters (mL)

### WEIGHT AND MASS

#### Customary

1 pound (lb) = 16 ounces (oz)

#### Metric

1 kilogram (kg) = 1,000 grams (g)

1 gram (g) = 1,000 milligrams (mg)

### TIME

1 minute (min) = 60 seconds (sec)    1 week = 7 days

1 hour (hr) = 60 minutes (min)    1 year = 12 months

1 day = 24 hours (hr)    1 year = 52 weeks



1) Calculate  $4.2 \times 0.5$ .

- A. 1.05                       C. 4.7  
 B. 2.1                          D. 8.4

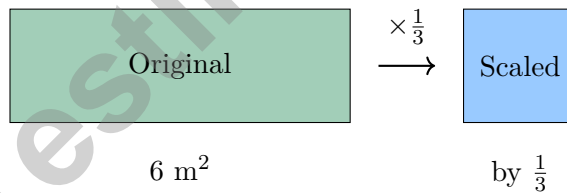
2) Which diagram shows a triangle with all sides different and all angles less than  $90^\circ$ ?



- A. A                                 C. C  
 B. B                                 D. D

3) One fifth of a cake is shared equally by 2 children. Which division equation finds each share?

- A.  $2 + \frac{1}{5} = n$                        C.  $\frac{1}{5} \times 2 = n$   
 B.  $2 \div \frac{1}{5} = n$                        D.  $\frac{1}{5} \div 2 = n$



4)

An area is  $6 \text{ m}^2$ . If scaled by  $\frac{1}{3}$ , what is the new area?

- A.  $2 \text{ m}^2$                                C.  $6 \text{ m}^2$   
 B.  $3 \text{ m}^2$                                D.  $9 \text{ m}^2$



5) Which list is ordered from smallest to largest?

A. 2 m, 250 cm, 20 mm, 2 km

C. 20 mm, 250 cm, 2 m, 2 km

B. 20 mm, 2 m, 250 cm, 2 km

D. 2 km, 2 m, 250 cm, 20 mm

6) How many cups are in 3 gallons? (Use: 1 gallon = 4 quarts, 1 quart = 2 pints, 1 pint = 2 cups)

A. 12 cups

C. 36 cups

B. 24 cups

D. 48 cups

7) A prism has volume  $200 \text{ m}^3$ , length 8 m, and width 5 m. Find its height.

*Record your answer in the space provided.*

8) Evaluate:  $7 + [9 \times (8 - 5)] - 4$

A. 24

C. 30

B. 28

D. 36



## Grade 5 Mathematics Reference Materials

### PERIMETER AND AREA

Perimeter of Rectangle  $P = 2l + 2w$  or  $P = 2(l + w)$

Area of Rectangle  $A = l \times w$

Area of Triangle  $A = \frac{1}{2} \times b \times h$

Volume of Rectangular Prism  $V = l \times w \times h$

### LENGTH

#### Customary

1 foot (ft) = 12 inches (in.)

1 yard (yd) = 3 feet (ft)

1 yard (yd) = 36 inches (in.)

#### Metric

1 meter (m) = 100 centimeters (cm)

1 centimeter (cm) = 10 millimeters (mm)

1 kilometer (km) = 1,000 meters (m)

### CAPACITY

#### Customary

1 cup (c) = 8 fluid ounces (fl oz)

1 pint (pt) = 2 cups (c)

1 quart (qt) = 2 pints (pt)

1 gallon (gal) = 4 quarts (qt)

#### Metric

1 liter (L) = 1,000 milliliters (mL)

### WEIGHT AND MASS

#### Customary

1 pound (lb) = 16 ounces (oz)

#### Metric

1 kilogram (kg) = 1,000 grams (g)

1 gram (g) = 1,000 milligrams (mg)

### TIME

1 minute (min) = 60 seconds (sec)    1 week = 7 days

1 hour (hr) = 60 minutes (min)    1 year = 12 months

1 day = 24 hours (hr)    1 year = 52 weeks



1)

## Attribute Analysis

Shape	All sides equal?	All angles 90°?
Square	Yes	Yes
Rectangle	No	Yes
Rhombus	Yes	No
Parallelogram	No	No

Which row describes a shape that is both a parallelogram and has all sides equal?

- A. Square
- B. Rectangle
- C. Rhombus
- D. Both Rhombus and Square
- 2) A painting studio is shaped like a rectangular prism. It measures 10 m long, 8 m wide, and 4 m tall. What is the volume of the studio?
- A. 72 cubic meters
- B. 144 cubic meters
- C. 320 cubic meters
- D. 544 cubic meters
- 3) Without multiplying exactly, is  $\frac{9}{8} \times \frac{3}{5}$  greater than, less than, or equal to  $\frac{3}{5}$ ? Record  $>$ ,  $<$ , or  $=$ .

*Record your answer in the space provided.*



## Grade 5 Mathematics Reference Materials

### PERIMETER AND AREA

Perimeter of Rectangle	$P = 2l + 2w$ or $P = 2(l + w)$
Area of Rectangle	$A = l \times w$
Area of Triangle	$A = \frac{1}{2} \times b \times h$
Volume of Rectangular Prism	$V = l \times w \times h$

### LENGTH

Customary	Metric
1 foot (ft) = 12 inches (in.)	1 meter (m) = 100 centimeters (cm)
1 yard (yd) = 3 feet (ft)	1 centimeter (cm) = 10 millimeters (mm)
1 yard (yd) = 36 inches (in.)	1 kilometer (km) = 1,000 meters (m)

### CAPACITY

Customary	Metric
1 cup (c) = 8 fluid ounces (fl oz)	1 liter (L) = 1,000 milliliters (mL)
1 pint (pt) = 2 cups (c)	
1 quart (qt) = 2 pints (pt)	
1 gallon (gal) = 4 quarts (qt)	

### WEIGHT AND MASS

Customary	Metric
1 pound (lb) = 16 ounces (oz)	1 kilogram (kg) = 1,000 grams (g)
	1 gram (g) = 1,000 milligrams (mg)

### TIME

1 minute (min) = 60 seconds (sec)	1 week = 7 days
1 hour (hr) = 60 minutes (min)	1 year = 12 months
1 day = 24 hours (hr)	1 year = 52 weeks

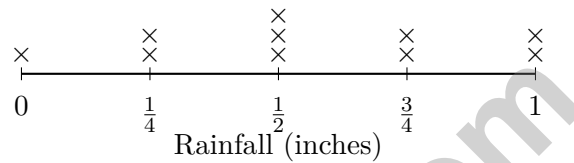


1) If Pattern A: 2, 4, 6, 8, ... and Pattern B: 4, 8, 12, 16, ..., what is true?

- A. Pattern A is larger
- B. Pattern B terms are half of Pattern A terms
- C. They are equal
- D. Pattern B terms are twice Pattern A terms

2) The line plot displays rainfall amounts (in inches) recorded over 10 days:

**Daily Rainfall Amounts**



What is the total rainfall recorded over the 10 days?

- A.  $4\frac{1}{2}$  inches
  - B. 5 inches
  - C.  $5\frac{1}{2}$  inches
  - D. 6 inches
- 3) Add:  $\frac{2}{5} + \frac{1}{4}$
- A.  $\frac{13}{20}$
  - B.  $\frac{3}{9}$
  - C.  $\frac{3}{20}$
  - D.  $\frac{8}{20}$

4) Money amounts on a receipt:

Item	Price
Toy	\$4.56
Book	\$3.28
<b>Total</b>	<b>?</b>

What is the total?

- A. \$7.74
- B. \$8.84
- C. \$7.94
- D. \$7.84



## Grade 5 Mathematics Reference Materials

### PERIMETER AND AREA

Perimeter of Rectangle  $P = 2l + 2w$  or  $P = 2(l + w)$

Area of Rectangle  $A = l \times w$

Area of Triangle  $A = \frac{1}{2} \times b \times h$

Volume of Rectangular Prism  $V = l \times w \times h$

### LENGTH

#### Customary

1 foot (ft) = 12 inches (in.)

1 yard (yd) = 3 feet (ft)

1 yard (yd) = 36 inches (in.)

#### Metric

1 meter (m) = 100 centimeters (cm)

1 centimeter (cm) = 10 millimeters (mm)

1 kilometer (km) = 1,000 meters (m)

### CAPACITY

#### Customary

1 cup (c) = 8 fluid ounces (fl oz)

1 pint (pt) = 2 cups (c)

1 quart (qt) = 2 pints (pt)

1 gallon (gal) = 4 quarts (qt)

#### Metric

1 liter (L) = 1,000 milliliters (mL)

### WEIGHT AND MASS

#### Customary

1 pound (lb) = 16 ounces (oz)

#### Metric

1 kilogram (kg) = 1,000 grams (g)

1 gram (g) = 1,000 milligrams (mg)

### TIME

1 minute (min) = 60 seconds (sec)    1 week = 7 days

1 hour (hr) = 60 minutes (min)    1 year = 12 months

1 day = 24 hours (hr)    1 year = 52 weeks



- 1) A baker sells 3 dozen cupcakes. A dozen is 12. Which expression best represents total cupcakes?
- A.  $3 + 12$                        C.  $12 - 3$   
 B.  $12 \div 3$                        D.  $3 \times 12$
- 2) Evaluate:  $5 \times [(2 + 3) + (6 \div 2)]$
- A. 25                                   C. 35  
 B. 30                                   D. 40
- 3) Is the product of  $1.2 \times 0.5$  greater than, less than, or equal to 1.2?
- A. Greater than 1.2                       C. Equal to 1.2  
 B. Less than 1.2                       D. Cannot determine
- 4) A stadium has 42 rows of seats. Each row has 38 seats. How many seats are in the stadium?
- A. 1,590                                   C. 1,600  
 B. 1,596                                   D. 1,610
- 5) Estimate:  $5\frac{6}{7} - 2\frac{1}{9}$ .
- A. 3     C. 5  
 B. 6     D. 4
- 6) What is  $9 \times \frac{2}{3}$ ?
- A.  $\frac{18}{27}$                                    C.  $\frac{2}{27}$   
 B.  $\frac{9}{3}$                                        D. 6



## Practice Test Answer Keys

### How to use this section:

1. check your answer
2. circle missed questions
3. rework them before reading the explanation

**Good correction habits build strong scores.**

Testinar.com



## Practice Test Answers and Explanations

### Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** (5.NBT.B.7)  $4.2 \times 0.5 = 2.1$ . Multiply:  $42 \times 5 = 210$ , then place decimal two places from right:  $2.10 = 2.1$ .
- 2) **Choice A is correct.** (5.G.B.4) Triangle A is drawn with three different side lengths, and each angle is less than  $90^\circ$ .
- 3) **Choice D is correct.** (5.NF.B.7c) The unit fraction is the amount being shared, so divide  $\frac{1}{5}$  by 2. The equation is  $\frac{1}{5} \div 2 = n$ .
- 4) **Choice A is correct.** (5.NF.B.5a)  $6 \times \frac{1}{3} = 2 \text{ m}^2$ . Scaling by  $\frac{1}{3}$  makes the area one-third its original size.
- 5) **Choice B is correct.** (5.MD.A.1) Convert to meters to compare clearly:  $20 \text{ mm} = 0.02 \text{ m}$ ,  $250 \text{ cm} = 2.5 \text{ m}$ , and  $2 \text{ km} = 2,000 \text{ m}$ . So the order is  $20 \text{ mm} < 2 \text{ m} < 250 \text{ cm} < 2 \text{ km}$ .
- 6) **Choice D is correct.** (5.MD.A.1)  $1 \text{ gallon} = 4 \text{ quarts} = 8 \text{ pints} = 16 \text{ cups}$ . So  $3 \text{ gallons} = 3 \times 16 = 48 \text{ cups}$ .
- 7) **The correct answer is 5.** (5.MD.C.5) The base area is  $8 \times 5 = 40$  square meters. Since  $200 \div 40 = 5$ , the height is  $5 \text{ m}$ .
- 8) **Choice C is correct.** (5.OA.A.1) The parentheses give  $8 - 5 = 3$ . Then  $9 \times 3 = 27$ , and  $7 + 27 - 4 = 30$ .
- 9) **Choice D is correct.** (5.NBT.B.7) Combine:  $42 + 35 = 77$  shaded squares. So  $0.42 + 0.35 = 0.77$ .
- 10) **Choice D is correct.** (5.NBT.A.2) Multiplying by 1,000 moves the decimal three places right, so 1.99 becomes 1,990.
- 11) **The correct answer is  $\frac{8}{20}$ .** (5.NF.A.2) Multiply numerator and denominator by 4:  $\frac{2 \times 4}{5 \times 4} = \frac{8}{20}$ .
- 12) **Choice D is correct.** (5.OA.B.3) Pattern A adds 1 each time and Pattern B adds 3 each time. The next matching values are 5 and 15, so the next ordered pair is (5, 15).
- 13) **Choice D is correct.** (5.NF.B.7c) Start with one unit fraction,  $\frac{1}{6}$ , and share it into 5 equal parts. Each part is  $\frac{1}{6} \div 5 = \frac{1}{30}$  of the whole.
- 14) **Choice D is correct.** (5.NBT.A.4) 3.47 is between 3 and 4, but closer to 3 because the tenths digit 4 is less than 5. It rounds down to 3.
- 15) **Choice B is correct.** (5.NBT.A.2) Dividing by 100 moves the decimal point two places to the left.  $4,200 \div 100 = 42$ .
- 16) **Choice D is correct.** (5.NBT.A.2)  $10^2 = 100$ . So  $? \times 100 = 7200 \Rightarrow ? = 72$ .
- 17) **Choice D is correct.** (5.G.A.2) The x-coordinate (7) is the number of weeks, and the y-coordinate (35) is the amount saved in dollars. So \$35 was saved after 7 weeks.
- 18) **Choice A is correct.** (5.NF.A.2) The LCM of 2 and 3 is 6. Common denominators are multiples of 6: 6, 12, 18, 24, etc.
- 19) **Choice B is correct.** (5.MD.C.5) Marcus needs  $285 - 147 = 138$  additional dollars. Each week he earns  $\$25 + \$12 = \$37$ . Dividing:  $138 \div 37 \approx 3.73$ , so he needs 4 full weeks. Check:  $147 + 4 \times 37 = 295 \geq 285$ .
- 20) **Choices A, B are correct.** (5.MD.C.3b) Volume uses cubic units because it measures three-dimensional space. Square centimeters measure area, and inches measure length, so C and D are not volume units.
- 21) **Choice D is correct.** (5.NF.B.5b) Only Aisha and Ahmed got  $\frac{8}{15}$  correct. Maria and Juan incorrectly added instead of multiplying.
- 22) **The correct answer is 10000.** (5.NBT.A.2) Think  $5 \times 2 = 10$ , then include the three zeros from 50 and 200. The product is 10,000.
- 23) **Choice C is correct.** (5.OA.B.3) The rule is Output =  $2 \times$  Input + 1: when Input = 2, Output = 5; when Input = 8, Output =  $2(8) + 1 = 17$ .
- 24) **Choice B is correct.** (5.MD.C.5b) Volume is length  $\times$  width  $\times$  height:  $10 \times 6 \times 4 = 240$  cubic centimeters.
- 25) **Choice B is correct.** (5.NF.A.2)  $\frac{1}{5} = \frac{2}{10}$ .  $\frac{8}{10} - \frac{2}{10} = \frac{6}{10} = \frac{3}{5}$ .
- 26) **Choice B is correct.** (5.NF.B.3) The student multiplied instead of dividing.  $\frac{1}{4} \div 2 = \frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ .
- 27) **Choice C is correct.** (5.MD.B.2) When making the line plot, place one X for each measurement.  $\frac{3}{4}$  appears 3 times, which is more than  $\frac{1}{4}$  (1 time),  $\frac{1}{2}$  (2 times), or 1 (2 times).
- 28) **Choice D is correct.** (5.NBT.A.2)  $10^2 = 100$ , so dividing by  $10^2$  means dividing by 100.
- 29) **The correct answer is  $(7 + 8) \times 4$ .** (5.OA.A.2) Rubric note: accept  $(7 + 8) \times 4$ ,  $4 \times (7 + 8)$ , or any equivalent expression that clearly shows 7 and 8 are added first and that the resulting sum is multiplied by 4.



### Case Closed: Success Ahead

---

### Greetings, Math Detective!

◇ Outstanding investigation! You've cracked the code on 4 complete practice tests, examining every clue and solving every mathematical mystery like a brilliant detective! Each problem was a puzzle, and you methodically gathered evidence, analyzed patterns, and reached accurate conclusions. That analytical thinking you've developed will serve you well on test day and beyond! ◇

★ **Here's what master detectives know:** not every case solves itself immediately. Sometimes you need to examine the evidence from different angles, try various approaches, and remain persistent until you crack the code. You've practiced exactly that through these 4 tests! Your investigative skills have sharpened considerably, and you're ready to solve any mathematical mystery that comes your way! ★

#### Detective's Case File: Your Skills

- **Clue Collection:** You gather all important information from problems before solving!
- **Pattern Recognition:** You identify mathematical patterns like a trained investigator!
- **Evidence Analysis:** You evaluate which strategies work best for each problem type!
- **Case Resolution:** You stay focused until you've found the correct solution!

**Detective wisdom:** the best investigators take notes about their methods so they can solve similar cases faster in the future. Your brain has been doing exactly that throughout these 4 tests, storing successful strategies in your mental filing cabinet. On test day, you'll be able to retrieve those proven methods instantly!

If you want to share a proud moment or ask a question, please email me at [jay@testinar.com](mailto:jay@testinar.com). I'd love to hear from you!

**Jay Daie**

Your Math Detective Coach

# 4 COMPLETE TESTS. CONFIDENCE. SUCCESS.



Give your child the practice and confidence they need to excel in **Grade 5 Math**. This book includes **4 full-length** practice tests designed to build skills, improve test readiness, and help students reach their full potential.

## WHAT'S INSIDE:



### 4 COMPLETE PRACTICE TESTS

Full-length tests that reflect real test format and rigor.



### COVERS ALL GRADE 5 TOPICS

Numbers & Operations, Fractions, Decimals, Geometry, Measurement, Data & Probability, and more.



### MIXED REVIEW & WORD PROBLEMS

Build problem-solving skills with mixed review questions and real-world word problems.



### DETAILED ANSWER KEY

Step-by-step explanations for every question to help students learn and improve.



### BUILD CONFIDENCE & IMPROVE SCORES

Practice consistently, reduce test anxiety, and achieve your best score!



**PRACTICE SMART. LEARN MORE. ACHIEVE YOUR BEST.**



**Strengthen**  
Math Skills



**Improve**  
Accuracy  
& Speed



**Master**  
Essential  
Concepts



**Boost**  
Confidence  
on Test Day



Visit [testinar.com/math5](https://testinar.com/math5)  
for more Grade 5 math resources  
and practice materials!



# Testinar

Smart Practice. Stronger Results.