

9

Montana

MAST

GRADE 5 MATHEMATICS PRACTICE TESTS

Full-Length Standards-Aligned Practice
for Strong Math Performance

$$A = l \times w$$

$$x^2 + 3x - 4 = 0$$

$$y = 2x + 1$$



$$2,345 \times 6 = 14,070$$



$$\frac{3}{4} + \frac{1}{8} = \frac{7}{8}$$

$$7.2 \div 0.8 = 9$$



$$(12 + 8) \div 4 = 5$$



Build Confidence



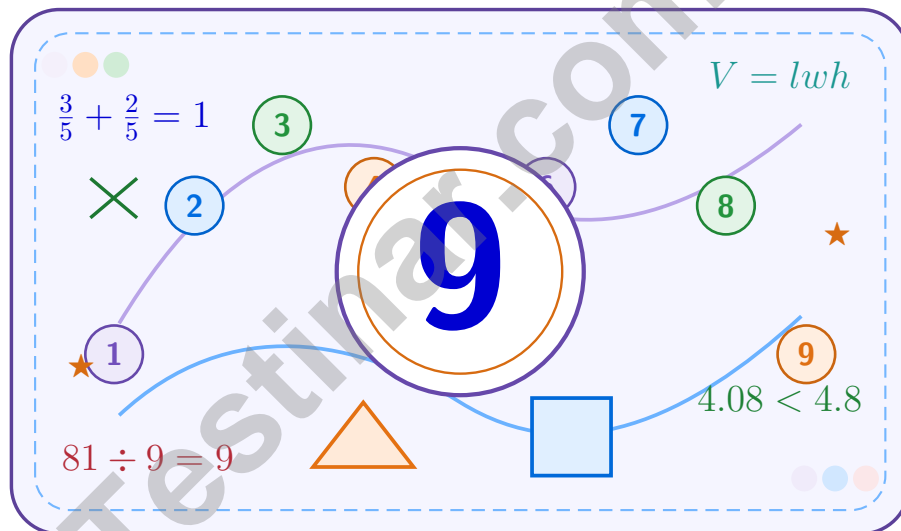
Improve Math Skills



Achieve Success

9 Montana MAST Grade 5 Math Practice Tests

A nine-step confidence climb with clear review, smart strategy, and practice that gets stronger every round



Nine full tests, focused skill boosters, and student-friendly support from start to finish for Grade 5 mathematicians who want to climb higher.

Jay Daie and Reza Nazari



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Welcome to the Confidence Climb

This book is here to help you practice with purpose and rise step by step

To the Grade 5 Mathematician

This practice book is a place to think, try, fix, and grow. You do not have to be perfect on the first question or the first test. What matters most is careful effort, clear work, and learning from each round of practice.

Use these nine tests like stepping-stones. Take one test at a time, check your answers honestly, and notice which skills need more attention. Small improvements add up fast.

Try

Give each problem your best thinking.

Check

Study mistakes and learn what happened.

Rise

Bring that lesson into the next round.

A strong habit for every page: read carefully, estimate when it helps, show your steps, and keep going even when a question feels tricky. That is how steady math confidence is built.

How to Use This Book

A simple practice routine that turns nine tests into steady growth

A Nine-Session Climb Map

Session	Mission Focus
1	Take Test 1; review place value and operation slips.
2	Take Test 2; keep work neat and easy to read.
3	Take Test 3; give extra time to fractions and decimals.
4	Take Test 4; slow down on word problems and units.
5	Take Test 5; compare scores and habits with earlier rounds.
6	Take Test 6; notice which habits are now automatic.
7	Take Test 7; explain open-ended answers clearly.
8	Take Test 8; review topics that still need attention.
9	Take Test 9; finish with calm, careful, confident work.

Step 1: Warm Up

Start with the quick review.
Spend a few minutes refreshing the ideas before you start a test.

Step 2: Take the Test

Take one full practice test.
Work in a quiet space and let accuracy matter more than speed.

Step 3: Study the Pattern

Check your work honestly.
Circle missed questions and notice patterns in the mistakes.

Step 4: Learn, Then Retry

Read the explanation and try again.
Learning happens after the test too. Fixing mistakes is one of the smartest parts of practice.



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Test Overview

What this practice book helps students do

These practice tests are designed to help Grade 5 students get comfortable with the kind of thinking used on the Montana MAST. The goal is bigger than only getting answers right. Students are practicing how to read closely, choose a strategy, solve carefully, and explain their work when needed.

Selected-Response Questions

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

Constructed-Response Questions

Students show their thinking, steps, models, or explanations. Even when unsure, writing what they know can help organize the problem.

Grade 5 Skills You Will Practice Often

- place value, comparing numbers, and rounding
- multi-digit addition, subtraction, multiplication, and division
- fractions, decimals, and mixed numbers
- perimeter, area, volume, and measurement conversions
- coordinate points, patterns, graphs, and tables
- geometry and multi-step word problems

What strong work looks like: the answer is correct, the steps are clear, the labels or units are included, and the final result makes sense.



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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)

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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 tray has 6 brownies. Each serving is one half brownie. Which division equation matches the situation?

A. $6 \div \frac{1}{2} = n$

B. $\frac{1}{2} \div 6 = n$

C. $6 \times \frac{1}{2} = n$

D. $6 + \frac{1}{2} = n$

2) Board A is $2\frac{1}{3}$ ft long, and Board B is $3\frac{2}{3}$ ft long. What is the total length of the two boards?

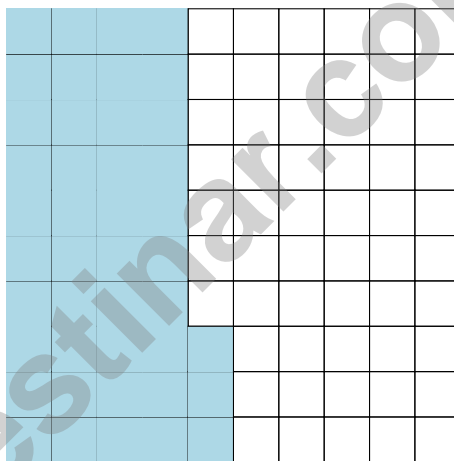
A. $5\frac{1}{3}$ ft

B. $5\frac{2}{3}$ ft

C. 6 ft

D. $6\frac{1}{3}$ ft

3) Decimal-grid visual: a 10×10 grid with 43 squares shaded. Write the decimal.



A. 0.43

B. 0.34

C. 4.3

D. 43

4) How many pints are in 3 quarts?

A. 3 pints

B. 4 pints

C. 8 pints

D. 6 pints



5) Which prism has volume 252 in^3 ?

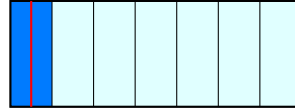
A. Base 20 in^2 , height 12 in

C. Base 28 in^2 , height 8 in

B. Base 42 in^2 , height 5 in

D. Base 36 in^2 , height 7 in

6) What is $\frac{1}{7} \div 2$?



Whole divided into sevenths; one seventh split in 2

A. $\frac{2}{7}$

C. $\frac{1}{5}$

B. $\frac{7}{2}$

D. $\frac{1}{14}$

7) A hardware store receives a shipment of nails weighing 42 kg. If the nails are packed in bags of 0.6 kg each, how many bags are in the shipment?

A. 70 bags

C. 60 bags

B. 65 bags

D. 75 bags

8) A trail is $12\frac{5}{8}$ miles long. Hikers have walked $5\frac{3}{8}$ miles. How many miles remain?

A. $6\frac{1}{8}$ mi

C. 7 mi

B. $6\frac{2}{8}$ mi

D. $7\frac{1}{4}$ mi

9) A scientist measures three liquid samples: Sample A is 0.8 L, Sample B is 850 mL, and Sample C is 0.75 L. Which sample is the smallest?

A. Sample A (0.8 L)

C. Sample C (0.75 L)

B. Sample B (850 mL)

D. Samples A and C are equal



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1) List the first four multiples of 7.

A. 1, 7, 14, 21

C. 7, 15, 21, 28

B. 7, 14, 21, 35

D. 7, 14, 21, 28

2) A parallelogram has how many pairs of parallel sides?

Record your answer in the space provided.

3) Simplify: $12 \times \frac{1}{6}$

A. $\frac{12}{5}$

C. $\frac{1}{72}$

B. 2

D. 6

4) A rectangular prism has dimensions 16 feet long, 12 feet wide, and 9 feet tall. Its volume is divided into equal 4-cubic-foot units. How many units equal the prism's volume?

A. 216 units

C. 432 units

B. 324 units

D. 576 units

5) Find the sum: $\frac{5}{12} + \frac{1}{4}$.

Record your answer in the space provided.



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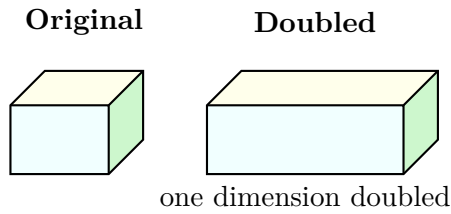
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Scan me

- 1) How does doubling one dimension of a rectangular prism affect its volume?



- A. The volume stays the same C. The volume triples
- B. The volume is cut in half D. The volume doubles
- 2) A fabric store has 40 yards of material. A customer buys $\frac{1}{5}$ of it. How many yards does the customer buy?
- A. 10 yards C. 40 yards
- B. 20 yards D. 8 yards
- 3) Estimate each expression. Which result is closest to 0?
- A. $\frac{1}{12} + \frac{1}{15}$ C. $\frac{7}{8} - \frac{1}{8}$
- B. $\frac{1}{2} + \frac{1}{3}$ D. $\frac{9}{10} + \frac{8}{9}$



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Scan me

- 1) Evaluate: $20 - (3 \times 4)$
- A. 6 C. 17
 B. 8 D. 68
- 2) A storage container is 22 cm long, 15 cm wide, and 8 cm deep. What is the volume in cubic centimeters?
- A. 2400 cm^3 C. 2640 cm^3
 B. 2520 cm^3 D. 2880 cm^3
- 3) What is $320 \div 1,000$?
- A. 32 C. 0.32
 B. 3.2 D. 0.032
- 4) Pablo plants 6 rows of 8 tomato plants and 3 rows of 5 pepper plants. Which expression gives the total plants?
- A. $6 \times 8 + 3 \times 5$ C. $6 \times 5 + 3 \times 8$
 B. $(6 + 3) \times (8 + 5)$ D. $(6 + 8) + (3 + 5)$
- 5) Compare without calculating: $(6 + 5) + 9$ $(6 + 9) + 5$
- A. $>$ C. $=$
 B. $<$ D. Cannot tell
- 6) A construction graph records bricks. The x-axis shows hours, and the y-axis shows bricks laid. What does the point (10, 200) mean?
- A. hours is 200 when bricks laid is 10 C. bricks laid is 10 when hours is 200
 B. hours and bricks laid are both 210 D. bricks laid is 200 when hours is 10



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 Montana scores.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** (5.NF.7) Use total amount divided by the size of one piece. The equation is $6 \div \frac{1}{2} = n$.
- 2) **Choice C is correct.** (5.NF.7) Add: $2\frac{1}{3} + 3\frac{2}{3} = 5\frac{3}{3} = 6$ ft.
- 3) **Choice A is correct.** (5.NF.1) 43 out of 100 squares shaded represents $\frac{43}{100} = 0.43$.
- 4) **Choice D is correct.** (5.MD.1) Since 2 pints = 1 quart, multiply 3 by 2: $3 \times 2 = 6$ pints.
- 5) **Choice D is correct.** (5.MD.1) A gives $36 \times 7 = 252$ in³. B gives 210 in³, C gives 224 in³, and D gives 240 in³.
- 6) **Choice D is correct.** (5.NF.7) $\frac{1}{7} \div 2 = \frac{1}{7} \times \frac{1}{2} = \frac{1}{14}$.
- 7) **Choice A is correct.** (5.MD.5) Choose the operation from the story, then keep the unit with the answer. Divide: $42 \div 0.6 = 70$ bags. This confirms the answer.
- 8) **Choice D is correct.** (5.MD.5) $12\frac{5}{8} - 5\frac{3}{8} = 7\frac{2}{8}$ mi, and $\frac{2}{8} = \frac{1}{4}$. So $7\frac{1}{4}$ miles remain.
- 9) **Choice C is correct.** (5.NF.1) Convert all to mL: A = 800 mL, B = 850 mL, C = 750 mL. Since $750 < 800 < 850$, Sample C is smallest.
- 10) **The correct answer is 20 pages.** (5.G.2) The x-coordinate shows minutes, and the y-coordinate shows pages. So (10, 20) means 10 minutes and 20 pages.
- 11) **Choice A is correct.** (5.G.2) A is correct. B equals 0.054, C is wrong, and D equals 0.054.
- 12) **The correct answer is $1\frac{1}{4}$.** (5.NBT.2) $\frac{3}{4} + \frac{1}{2} = \frac{3}{4} + \frac{2}{4} = \frac{5}{4} = 1\frac{1}{4}$.
- 13) **Choice A is correct.** (5.NF.2) Do the grouped and multiplication parts first: $9 \times 2 = 18$, $10 - 3 = 7$, and $7 \times 3 = 21$. Then $18 + 21 = 39$.
- 14) **The correct answer is 5.** (5.OA.1) Convert first: $3\frac{1}{3} = \frac{10}{3}$ and $1\frac{1}{2} = \frac{3}{2}$. Then $\frac{10}{3} \times \frac{3}{2} = \frac{30}{6} = 5$.
- 15) **Choice B is correct.** (5.NF.4) Start with one unit fraction, $\frac{1}{8}$, and share it into 2 equal parts. Each part is $\frac{1}{8} \div 2 = \frac{1}{16}$ of the whole.
- 16) **Choice B is correct.** (5.NBT.1) $0.037 \times 100 = 3.7$. In the product, the digit 3 is in the ones place.
- 17) **Choice A is correct.** (5.NBT.1) The grid is $6 \times 3 = 18$ squares. The overlap covers $\frac{4}{6} \times \frac{2}{3} = \frac{8}{18}$, so 8 squares are double-shaded.
- 18) **Choice D is correct.** (5.G.2) Use output = input \times input. With input 5, the output is $5 \times 5 = 25$, so the ordered pair is (5, 25).
- 19) **Choices A, B are correct.** (5.G.2) A is true because 3 copies of (6 + 4) can be written as 2 copies plus 1 more copy. B is true because 10 groups of 7 are greater than 10 groups of 7 - 1. C adds an extra 9, and D leaves out one group of 5.
- 20) **Choice C is correct.** (5.NF.6) $\frac{3}{8}$ of 16 is $\frac{3}{8} \times 16 = 6$. Malik eats 6 brownie pieces.
- 21) **Choice C is correct.** (5.NF.6) The map already gives the path. First $9 - 5 = 4$, then $4 + 1 = 5$, and the outer step is $5 \times 3 = 15$.
- 22) **Choice B is correct.** (5.NBT.2) Multiplying by 10 moves the decimal one place right: $0.003 \rightarrow 0.03$.
- 23) **Choice D is correct.** (5.NBT.2) Rule A: 2, 6, 10; Rule B: 1, 4, 7. Second pair is (6, 4), third is (10, 7).
- 24) **Choice D is correct.** (5.NBT.2) To convert meters to centimeters, multiply by 100: $1.5 \times 100 = 150$ cm.
- 25) **Choice D is correct.** (5.OA.3) The rule is: multiply each term by its position number. $48 \times 5 = 240$.
- 26) **Choice A is correct.** (5.NBT.2) $47 \times 1000 = 47000$. Append three zeros to the right.
- 27) **Choice B is correct.** (5.NBT.2) Check the student's height: $6 \times 6 \times 6 = 216$, not 144. The base area is $6 \times 6 = 36$ square inches, and $144 \div 36 = 4$, so the height is 4 in.
- 28) **Choice A is correct.** (5.NBT.7) All ones digits are equal. Compare tenths and hundredths: $1.22 > 1.21 > 1.20 > 1.02$, and 1.2 has the same value as 1.20.
- 29) **Choice B is correct.** (5.NBT.7) A power of 10 tells how many factors of 10 to use. $24 \times 10^2 = 24 \times 100 = 2400$. This confirms the answer.
- 30) **Choice A is correct.** (5.NBT.2) $\frac{1}{4} \times \frac{2}{3} = \frac{2}{12}$. In the grid, 1 of the 4 rows overlaps with 2 of the 3 columns, so $1 \times 2 = 2$ cells are shaded.
- 31) **The correct answer is 90.** (5.NBT.2) Dividing by 1,000 removes three zeros: $90,000 \rightarrow 90$.



Mathematical Explorer's Journey

Welcome, Brave Explorer!

◇ Phenomenal expedition! You've successfully navigated through 9 mathematical territories, exploring every concept and discovering new strategies along the way! You've mapped out the landscape of Grade 5 math with the courage of a true adventurer. Each problem was uncharted territory, and you charted it with skill and determination! ◇

★ **Wisdom from veteran explorers:** the most rewarding journeys are the ones that challenge you most. Through 9 comprehensive practice tests, you've climbed mathematical mountains, crossed conceptual rivers, and discovered solutions in places you didn't know existed. Your exploration skills are strong, your map is detailed, and you're ready for any test-day adventure! ★

Explorer's Achievement Map

- **Territory Covered:** You've explored every major mathematical concept thoroughly!
- **Navigation Skills:** You can find your way through any problem with multiple solution paths!
- **Equipment Mastered:** You know exactly which strategies to use in different situations!
- **Expedition Ready:** You're fully prepared for the ultimate test day adventure!

Important explorer wisdom: experienced adventurers always review their maps before important journeys. Take a few moments before test day to mentally review your successful strategies. Visualize yourself confidently tackling each type of problem. You've already proven you can handle the expedition!

If you'd like to share your experience or have questions, please email me at reza@testinar.com. I'd love to hear from you!

Reza Nazari & Jay Daie

Your Math Teacher and Test-Day Coach

PRACTICE MORE. ACHIEVE MORE.

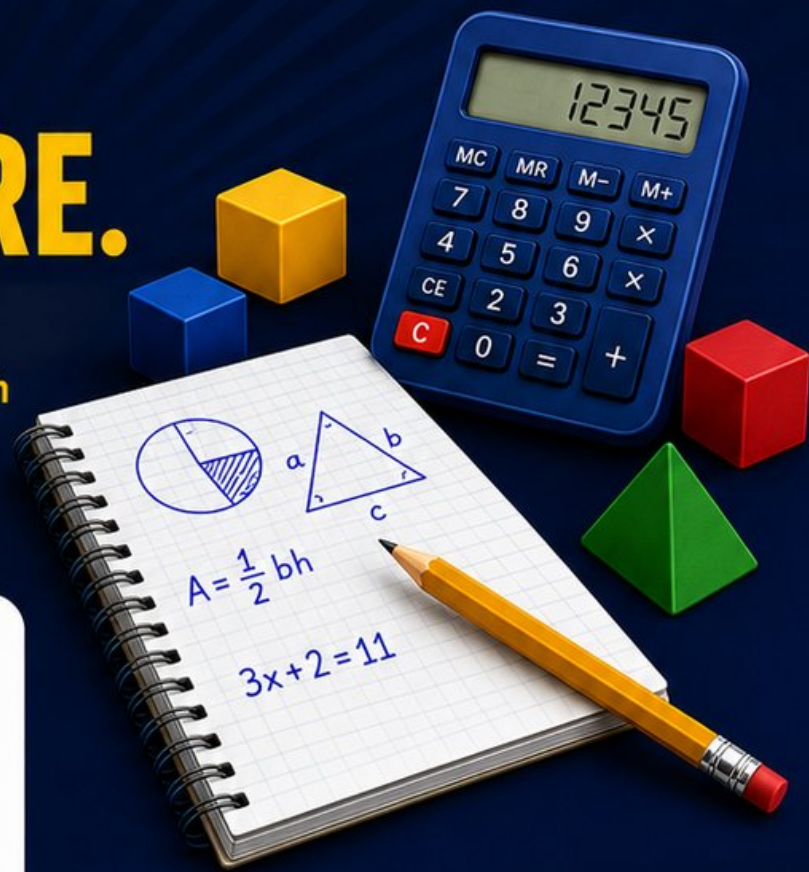
Give your child the edge they need to excel in **Grade 5 Math!** This book includes **9 full-length** practice tests designed to build confidence, sharpen skills, and improve test performance.

9

**FULL-LENGTH
PRACTICE
TESTS**

- ✓ Realistic.
- ✓ Rigorous.
- ✓ Results-Driven.

More practice today for a **stronger** tomorrow.



THIS BOOK HELPS YOUR CHILD:



Build Confidence

Familiar, focused practice reduces anxiety and boosts self-belief.



Strengthen Skills

Reinforces key math concepts through high-quality, standards-aligned questions.



Improve Test Readiness

Full-length tests help students understand test format, pacing, and question types.



Track Progress

Identify strengths and target areas with purposeful practice.



Achieve Success

Better preparation leads to higher scores and bright futures.

COVERS ALL ESSENTIAL TOPICS

- ✓ Whole Numbers & Operations
- ✓ Fractions & Decimals
- ✓ Algebraic Thinking
- ✓ Geometry
- ✓ Measurement & Data
- ✓ Graphing & Data Analysis
- ✓ Number Patterns
- ✓ Word Problems
- ✓ Ratio & Proportion
- ✓ Perimeter, Area & Volume
- ✓ And More!



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