

6

Montana MAST

GRADE 5 MATH

PRACTICE TESTS

Complete Standards-Based Practice
— for Grade 5 Math Success —



$$A = \frac{1}{2}bh$$



$$5^2 = 25$$



**6 FULL-LENGTH
PRACTICE TESTS**

Realistic style questions



**STANDARDS-BASED
PRACTICE**

Covers all Grade 5
Math standards



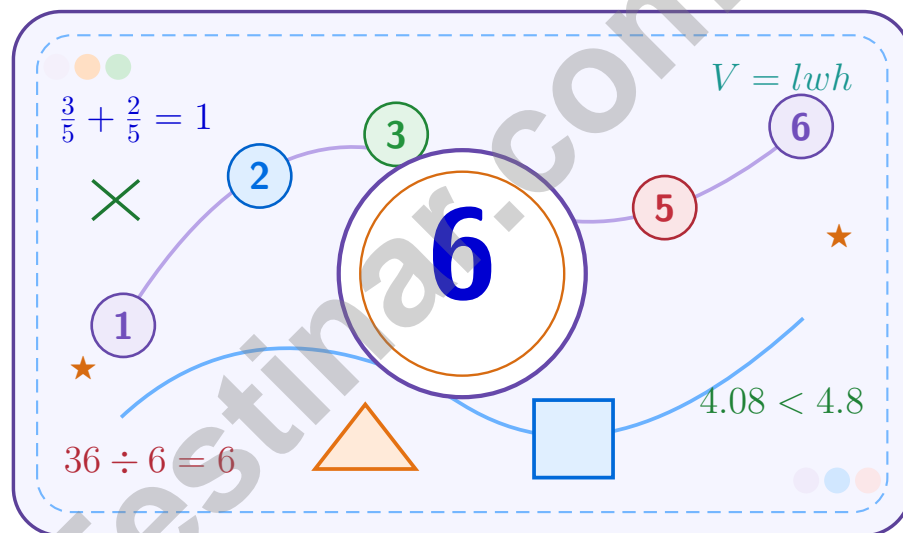
**BUILD CONFIDENCE.
IMPROVE SCORES.**

Target weak areas and
achieve success

★ STRONG PRACTICE. BRIGHT FUTURE. ★

6 Montana MAST Grade 5 Math Practice Tests

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



Six full tests, a focused skill booster, 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 six 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 six tests into steady growth

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.

A Six-Week Climb Map

Week	Mission Focus
Week 1	Take Test 1 and review any place-value or operation slips.
Week 2	Take Test 2 and focus on showing neat, easy-to-read work.
Week 3	Take Test 3 and give extra time to fractions or decimals if needed.
Week 4	Take Test 4 and slow down on word problems and units.
Week 5	Take Test 5 and compare your score and habits with earlier rounds.
Week 6	Take Test 6 and finish with calm, careful, confident work that uses everything you practiced before.



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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.



Table of Contents

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Grade 5 Mathematics

1

Questions: 40 Duration: No time limit

Calculator Policy: Calculators are not allowed



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) Compare: $36 \div 4$ \square $36 \div 6$

A. >

B. <

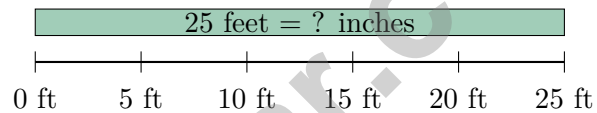
C. =

D. Cannot tell

2) Find the sum: $\frac{3}{8} + \frac{1}{6}$.

Record your answer in the space provided.

3) How many inches are in 25 feet?



A. 240 inches

B. 300 inches

C. 360 inches

D. 420 inches

4) A movie lasts $2\frac{1}{4}$ hours. You watch $1\frac{3}{4}$ hours. How much of the movie is left?

A. $\frac{1}{2}$ hr

B. $\frac{3}{4}$ hr

C. 1 hr

D. $1\frac{1}{4}$ hr



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- 1) Which statement correctly explains the relationship between squares and rectangles?
- A. Every square is a rectangle because it has four right angles and two pairs of parallel sides.
 - B. Every rectangle is a square because it has four right angles.
 - C. No square is a rectangle because a square has all sides equal.
 - D. A square is not a quadrilateral because it has four equal sides.
- 2) A right triangle has angles of 90 degrees, 60 degrees, and 30 degrees. Can it be isosceles?
- A. Yes, all right triangles are isosceles
 - B. Cannot be determined
 - C. Yes, because it is a right triangle
 - D. No, because it has no equal angles
- 3) Section A is $4\frac{2}{3}$ m, Section B is $3\frac{1}{3}$ m. Total?
- A. 7 m
 - B. $7\frac{1}{3}$ m
 - C. 8 m
 - D. $8\frac{1}{3}$ m
- 4) A park path is 2 kilometers long. If a jogger has run 1,200 meters so far, how many more meters must they run to complete the path?
- A. 800 m
 - B. 1,000 m
 - C. 1,200 m
 - D. 2,800 m
- 5) Write an expression for: multiply 3 by the sum of 9 and 12.

Record your expression in the space provided.



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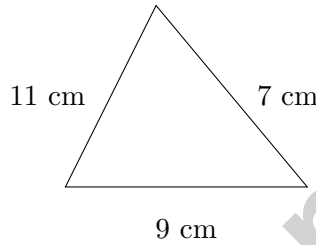
1 day = 24 hours (hr) 1 year = 52 weeks



1) A student says: “Multiplying a positive number by $\frac{9}{10}$ makes it smaller.” Is this always true, sometimes true, or never true?

- A. Cannot be determined C. Never true
 B. Sometimes true D. Always true

2) A triangle has sides of 9 cm, 11 cm, and 7 cm. What can you say based on its side lengths?



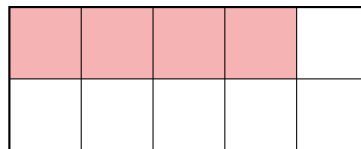
- A. Isosceles; two sides are equal C. Equilateral; all sides are equal
 B. Scalene; all sides are different D. Right; one angle is 90°

3) A recipe calls for $1\frac{1}{2}$ cups of flour. If you double it, how much flour is needed?

- A. 2 cups C. 3 cups
 B. $2\frac{1}{2}$ cups D. 1 cup

4) A sheet of paper is $\frac{4}{5}$ of the way filled with a drawing. A smaller copy is made so the drawing covers $\frac{1}{2}$ as much of the sheet as before. What fraction of a full sheet does the smaller drawing cover?

4 shaded squares out of 10



5 equal columns and 2 equal rows

- A. $\frac{2}{5}$ C. $\frac{3}{5}$
 B. $\frac{1}{5}$ D. $\frac{1}{2}$



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.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- Choice A is correct.** (5.OA.2) Both expressions start with 36. Dividing the same number into fewer groups, 4 instead of 6, makes each group larger.
- The correct answer is $\frac{13}{24}$.** (5.NF.1) LCD = 24. $\frac{9}{24} + \frac{4}{24} = \frac{13}{24}$.
- Choice B is correct.** (5.MD.1) Each foot has 12 inches. $25 \times 12 = 300$, so 25 feet equals 300 inches.
- Choice A is correct.** (5.NF.1) Borrow 1: $1\frac{5}{4} - 1\frac{3}{4} = \frac{2}{4} = \frac{1}{2}$ hr.
- Choice B is correct.** (5.NBT.7) Add by place value: hundredths $8 + 5 = 13$ (write 3, carry 1); tenths $2 + 3 + 1 = 6$; ones $4 + 2 = 6$. The correct sum is 6.63, which matches Chen's work.
- Choice A is correct.** (5.MD.5) Use the rectangular-prism volume formula: $8 \times 5 \times 7 = 280$. So the volume is 280 cubic centimeters.
- Choice D is correct.** (5.NBT.5) Round 312 to 300. Then $300 \times 8 = 2,400$.
- Choice C is correct.** (5.NF.4) The student correctly used the distributive property: both the 2 and the $\frac{1}{4}$ must be multiplied by 2. That gives $4 + \frac{2}{4} = 4\frac{1}{2}$.
- The correct answer is 486.** (5.OA.3) Each term is 3 times the previous. Term 5: $54 \times 3 = 162$. Term 6: $162 \times 3 = 486$.
- Choice C is correct.** (5.MD.1) Time difference: $28 - 12 = 16$ minutes. Convert: $16 \times 60 = 960$ seconds.
- Choice B is correct.** (5.NBT.4) 4.58 is between 4.5 and 4.6. The tenths digit is 5, hundredths is 8. Since $8 \geq 5$, round tenths up: $5 \rightarrow 6$, giving 4.6.
- Choice D is correct.** (5.G.2) The first coordinate, 3, matches the x-axis label: visits. The second coordinate, 21, matches the y-axis label: books borrowed. So the point means books borrowed is 21 when visits is 3.
- Choice B is correct.** (5.MD.4) Multiply the three edge lengths to count every cube in the prism: $8 \times 2 \times 2 = 32$ unit cubes.
- Choice A is correct.** (5.MD.2) Count X marks below $\frac{3}{4}$: at $\frac{1}{4}$ (1) and $\frac{1}{2}$ (3). Total: $1 + 3 = 4$.
- The correct answer is 84 cubic feet.** (5.MD.3) Subtract the known part from the total: $210 - 126 = 84$ cubic feet. That is the missing part's volume.
- Choice D is correct.** (5.NF.7) The size of each group is $\frac{1}{4}$ yard. $6 \div \frac{1}{4} = 6 \times 4 = 24$ beds.
- Choice B is correct.** (5.MD.4) The known width and height make groups of $5 \times 9 = 45$ cubic inches. Since $180 \div 45 = 4$, the length is 4 inches.
- Choice A is correct.** (5.NF.4) $\frac{1}{3} \times \frac{3}{4} = \frac{3}{12} = \frac{1}{4}$ pound.
- Choice D is correct.** (5.G.2) Check: (1, 7) gives $4(1) + 3 = 7$ check; (2, 11) gives $4(2) + 3 = 11$ check; (3, 15) gives $4(3) + 3 = 15$ check; (4, 19) gives $4(4) + 3 = 19$ check.
- Choices A and B are correct.** (5.NBT.2) A and B are true. For powers of 10, the exponent tells how many zeros come after the 1, so $10^5 = 100,000$ and $10^1 = 10$.
- Choice B is correct.** (5.NBT.6) $735 \div 15 = 49$. Check: $15 \times 49 = 735$.
- Choice A is correct.** (5.NF.7) $\frac{1}{6} \div 2 = \frac{1}{6} \times \frac{1}{2} = \frac{1}{12}$.
- Choice D is correct.** (5.MD.5) Ribbon per project = $\frac{3}{8} \times \frac{2}{3} = \frac{6}{24} = \frac{1}{4}$ meter.
- The correct answer is 48.** (5.NBT.2) Move the decimal point one place left: $480 \rightarrow 48$.
- Choice B is correct.** (5.NF.2) $7\frac{1}{12} \approx 7$ and $2\frac{11}{12} \approx 3$. So $7\frac{1}{12} + 2\frac{11}{12} \approx 7 + 3 = 10$.
- Choice A is correct.** (5.NF.6) First day: $\frac{2}{5} \times 150 = 60$ figures sold. Remaining: $150 - 60 = 90$ figures. Second day: $\frac{1}{3} \times 90 = 30$ figures sold.
- Choice D is correct.** (5.NF.5) 20×1 is exactly 20, not greater than 20. The factor $1\frac{1}{20}$ is just a little more than 1, so $20 \times 1\frac{1}{20} = 21$ is the closest product above 20.
- Choice B is correct.** (5.MD.4) Prism 1: $48 \times 6 = 288 \text{ cm}^3$. Prism 2: $48 \times 4 = 192 \text{ cm}^3$. Difference: $288 - 192 = 96 \text{ cm}^3$.
- Choice A is correct.** (5.G.4) Triangles are polygons with 3 sides, so they belong inside polygons but outside quadrilaterals.



Research Conclusion Report

Greetings, Research Fellow!

★ Research breakthrough achieved! You've completed six comprehensive mathematical investigations, testing hypotheses, analyzing variables, and reaching valid conclusions like a dedicated researcher! Each problem represented a unique research question, and you approached every one with scientific rigor and methodical thinking. Your research methodology has become exemplary! ★

◇ **Here's what distinguished researchers know:** breakthrough discoveries come from persistent investigation and careful analysis. They replicate experiments to verify results and document findings meticulously. You've practiced that same scientific discipline through these six tests! Your mathematical research skills are now publication-ready! ◇

Research Quality Metrics

1. **Methodology:** Your problem-solving approaches are systematic and logical!
2. **Data Analysis:** You evaluate information thoroughly before concluding!
3. **Verification:** You confirm results carefully to ensure accuracy!
4. **Publication Ready:** Your research stands up to peer review standards!

Research principle: credible scientists verify their findings before sharing conclusions. On test day, apply that same careful verification standard. After solving each problem, check whether your answer makes logical sense. Review your calculations. Confirm your reasoning. You've practiced scientific verification six times; trust your research instincts!

Want to share groundbreaking mathematical research or discuss experimental methodologies? Submit your findings to reza@testinar.com. The scientific community values your contributions!

Reza Nazari & Jay Daie

Your Math Coaches for Today and Test Day

6 FULL-LENGTH TESTS. ENDLESS POTENTIAL.

PRACTICE TODAY. SUCCEED TOMORROW.

Give your child the tools they need to build strong math skills and test-taking confidence! This book includes **6 full-length practice tests** along with standards-based practice, mixed review, word problems, and a complete answer key.

★★★
PRACTICE
WITH PURPOSE.
ACHIEVE WITH
CONFIDENCE.

WHAT'S INSIDE:



6 FULL-LENGTH PRACTICE TESTS

Realistic tests designed to reflect the actual test format and help build confidence.



STANDARDS-BASED PRACTICE

Covers all essential Grade 5 math standards with clear explanations and examples.



MIXED REVIEW

Reinforces key concepts with a variety of question types and review exercises.



WORD PROBLEMS

Build critical thinking and problem-solving skills with real-world scenarios.



COMPLETE ANSWER KEY

Step-by-step explanations for every question to support learning and growth.



IMPROVE. PRACTICE. ACHIEVE.

Consistent practice leads to stronger skills, higher scores, and greater success.



WHY PRACTICE MAKES A DIFFERENCE



BUILD CONFIDENCE

Feel prepared and ready for any challenge.



IMPROVE ACCURACY

Strengthen skills and reduce careless mistakes.



THINK STRATEGICALLY

Develop problem-solving skills and deepen understanding.



MANAGE TIME

Practice under timed conditions to build stamina.



STAY MOTIVATED

Track progress and celebrate every win.



ACHIEVE SUCCESS

Reach goals and unlock your full potential!



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Smart Practice. Stronger Results.