

$\frac{2}{3}$

0,25



%

FULL-LENGTH

Michigan

★★★★★
Aligned to State Standards

M STEP

MATH

Grade

5

$\frac{2}{4}$

$7 \times 8 =$



7×8

$56 \div 7$

$(a+b)^2$

PRACTICE TESTS

Complete State Standards Review
with Answer Key and
Essential Math Skills Practice



3 Full-Length Practice Tests
Aligned to State Standards



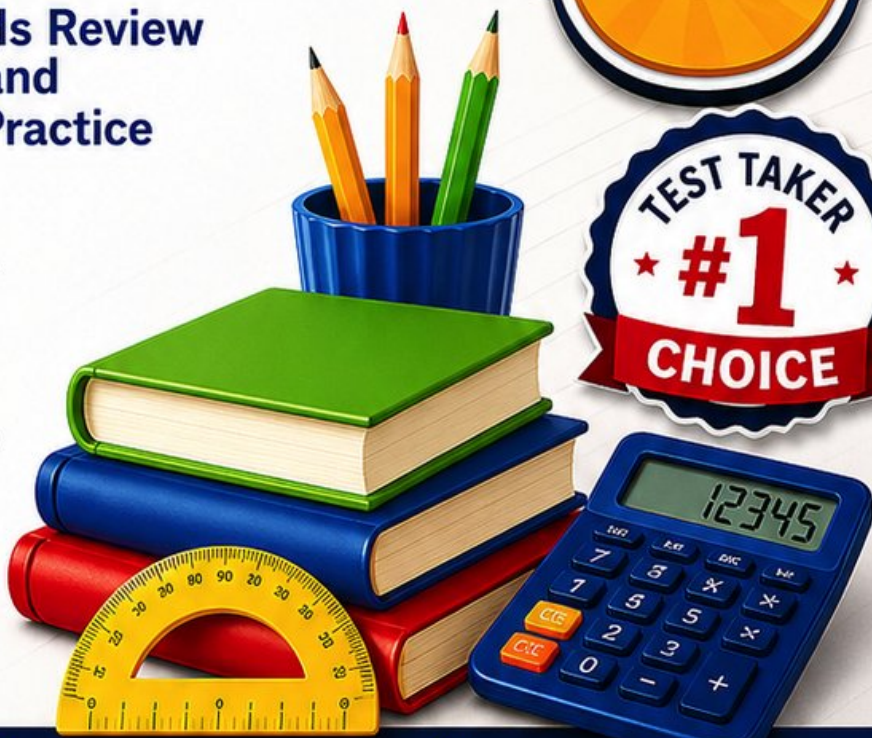
Covers All Grade 5 Math Topics
Numbers & Operations, Fractions,
Decimals, Geometry, Measurement,
Data & Problem Solving



Build Confidence
Strengthen Skills • Improve Accuracy
• Boost Test Readiness



Detailed Answer Key
Step-by-Step Explanations
for All Questions



WRITTEN FOR
GRADE 5 STUDENTS



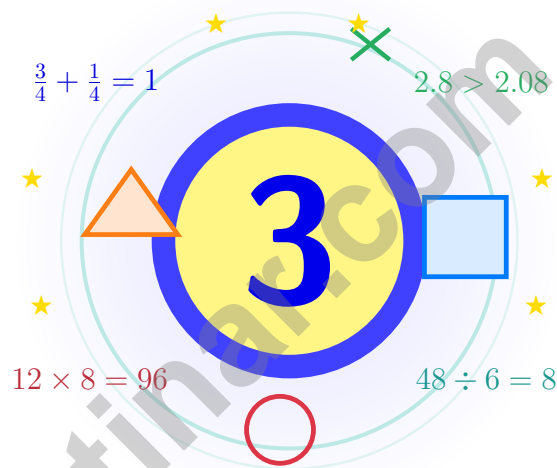
PERFECT FOR
TEST PREP & REVIEW



CLASSROOM, HOME,
OR SELF-STUDY USE

3 Michigan M-STEP Grade 5 Math Practice Tests

Great-lake math for thinkers who go deep



Three full tests, a friendly quick review, smart strategy pages, and student-tested support that help Grade 5 mathematicians from The Great Lakes State walk in ready to think.

Jay Daie and Reza Nazari



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Michigan Thinkers, Sharpen Your Pencils

Great-lake math for thinkers who go deep

Michigan Mathematicians, Read This First

Math thinking is a lot like Lake Michigan – wide, deep, calm on top, and full of careful currents underneath.

Some questions will feel easy from the very first read. Others will ask you to pause, sketch, estimate, or try again. That is not a problem. That is practice doing exactly what it should do. Every honest attempt grows your math brain a little stronger.

Read

Read with care – math problems hide their gifts.

Try

Try a strategy that fits the size of the numbers.

Reflect

Reflect after each problem to lock the lesson in.

A Michigan promise to yourself: I will look beyond the surface and let my thinking run as deep as a Great Lake.

From Cover to Cover

A simple game plan that turns practice into real progress

Step 1: Notice

Notice the structure: warm-up, test, review.

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

Step 2: Practice

Practice one full test under quiet conditions.

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

Step 3: Honest Check

Check honestly without rushing.

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

Step 4: Polish

Polish the rough spots before test number two.

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

Three-Week Michigan Game Plan

Week 1	Test 1 is your map-making week.
Week 2	Test 2 is your fix-it week.
Week 3	Test 3 is your show-up-strong week.



Scan me

What These Tests Are For

What these practice tests help Grade 5 students build

These three practice tests prepare Grade 5 students in the Great Lakes State for the Michigan M-STEP with the calm patience of a lakeshore morning. The goal is bigger than getting answers right. Students are practicing how to read with care, choose a strategy, solve step by step, and explain their reasoning clearly – the same way mathematicians do every single day.

Selected-Response Questions

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

Constructed-Response Questions

Students show their steps, explain a method, or back up an answer with clear math. Clean reasoning matters because it shows how the answer was actually 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
- line plots, tables, numerical patterns, and coordinate points
- geometry and multi-step real-world problems

What strong work looks like on the M-STEP: the math is correct, the steps are readable, the labels and units match the problem, and the final answer truly answers the question being asked.



Table of Contents

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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)

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) Linda read 3 books with 50 pages each and 4 books with 25 pages each. Which expression gives the total pages?

A. $(3 + 4) \times (50 + 25)$

C. $3 \times 4 + 50 \times 25$

B. $3 \times 50 + 4 \times 25$

D. $50 + 25 + 3 + 4$

2) A paper is folded in half repeatedly. After each fold, the number of sections doubles. After 5 folds, how many sections?

A. 16

C. 32

B. 25

D. 64

3) A place-value chart shows tenths, hundredths, and thousandths. For 11.247, which digit is in the thousandths place?

Tens	Ones	Tenths	Hundredths	Thousandths
1	1	2	4	7

A. 1

C. 4

B. 2

D. 7

4) Find: $\frac{4}{5} \times 15$.

Record your answer in the space provided.



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- 1) A piece of string is 24 inches. If you take $\frac{5}{6}$ of it, how long is the piece you take?
- A. 4 inches C. 20 inches
 B. 12 inches D. 30 inches
- 2) Which strategy correctly finds the volume of a composite solid made from non-overlapping rectangular prisms?
- A. Add all the side lengths of the prisms. D. Find each prism's volume, then add the volumes.
 B. Multiply only the longest dimensions.
 C. Use area because the solid is made of rectangles.

- 3) What is $\frac{1}{3} \div 4$?



$\frac{1}{3}$ split into 4

- A. $\frac{4}{3}$ C. $\frac{3}{4}$
 B. $\frac{1}{12}$ D. $\frac{1}{7}$
- 4) A rectangular gift box measures 16 inches \times 12 inches \times 8 inches. What is the volume?
- A. 1280 in³ C. 1536 in³
 B. 1440 in³ D. 1600 in³
- 5) A student says that in the number 2.894, the digit 4 is worth 0.4. What error did the student make?
- A. The student read the digit in the wrong place; 4 is in the thousandths place, so it is worth 0.004. C. The student correctly identified the value.
 B. The student forgot to subtract before reading place values. D. The student confused tenths and ones.



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1) A recipe uses $\frac{1}{4}$ cup of flour. The flour is shared equally between 2 mini loaves. How much flour goes into each mini loaf?

- A. $\frac{1}{4}$ cup
 B. $\frac{1}{2}$ cup

- C. $\frac{3}{4}$ cup
 D. $\frac{1}{8}$ cup

2) Which reasoning explains the zeros in 12×50 ?

- A. 12×50 has no zeros because 12 has no zeros.
 B. 12×50 must have 1 zero because only 50 has a zero.
- C. 12×50 must have 3 zeros because $12 \times 5 = 60$.
 D. $12 \times 5 = 60$, then multiply by 10 to get 600.

3) A student graphs savings. The x-axis shows weeks, and the y-axis shows dollars saved. What does the point (9, 45) mean?

- A. weeks is 45 when dollars saved is 9
 B. dollars saved is 45 when weeks is 9
- C. weeks and dollars saved are both 54
 D. dollars saved is 9 when weeks is 45

4) Which expression is worked out correctly?

Student	Steps for $6 + 2 \times 5$	Final
A	$6 + 2 = 8; 8 \times 5$	40
B	$2 \times 5 = 10; 6 + 10$	16
C	$6 \times 2 = 12; 12 + 5$	17
D	$6 + 5 = 11; 11 \times 2$	22

- A. A
 B. B

- C. C
 D. D



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.OA.A.2) Find the pages from each kind of book separately: 3×50 and 4×25 . Add those two products for the total pages.
- 2) **Choice C is correct.** (5.OA.B.3) Each fold doubles the number of sections. Counting fold by fold gives 2, 4, 8, 16, 32, so after 5 folds there are 32 sections.
- 3) **Choice D is correct.** (5.NBT.A.3a) The thousandths place is the third position to the right of the decimal point. In 11.247, the digit 7 is in the thousandths place.
- 4) **The correct answer is 12.** (5.NF.B.4) You can multiply first: $\frac{4}{5} \times 15 = \frac{60}{5} = 12$. You can also think of $\frac{1}{5}$ of 15 as 3, so $\frac{4}{5}$ of 15 is 4 groups of 3, or 12.
- 5) **Choice C is correct.** (5.NF.B.5b) The multiplicative identity is 1: any number times 1 equals that number.
- 6) **Choice A is correct.** (5.NF.B.4b) Model 1: $\frac{3}{5} \times \frac{1}{2} = \frac{3}{10}$. Model 2: $\frac{2}{5} \times \frac{2}{3} = \frac{4}{15}$. Since $\frac{3}{10} = \frac{9}{30}$ and $\frac{4}{15} = \frac{8}{30}$, Model 1 is greater.
- 7) **Choice A is correct.** (5.NF.B.7c) Start with one unit fraction, $\frac{1}{6}$, and share it into 2 equal parts. Each part is $\frac{1}{6} \div 2 = \frac{1}{12}$ of the whole.
- 8) **Choice C is correct.** (5.NF.B.5a) $\frac{5}{4} > 1$, so the product is greater than 16.
- 9) **Choice C is correct.** (5.G.A.2) Third pair: X-value is 5 (position 3 in 1, 3, 5, 7), Y-value is 6 (position 3 in 2, 4, 6, 8).
- 10) **Choice B is correct.** (5.NBT.B.7) Add step by step: $1.23 + 2.14 = 3.37$; then $3.37 + 3.45 = 6.82$.
- 11) **The correct answer is 343 cm³.** (5.MD.C.5a) A cube has the same side length in every direction. So the volume is $7 \times 7 \times 7 = 343 \text{ cm}^3$.
- 12) **Choice B is correct.** (5.NBT.B.6) $912 \div 19 = 48$. Check: $19 \times 48 = 912$.
- 13) **Choice B is correct.** (5.NBT.B.5) Multiply: $24 \times 35 = 24 \times (30 + 5) = (24 \times 30) + (24 \times 5) = 720 + 120 = 840$ cars.
- 14) **Choice B is correct.** (5.NF.B.7c) Each pack makes 8 eighth-pack booklets. $10 \div \frac{1}{8} = 10 \times 8 = 80$ booklets.
- 15) **Choice A is correct.** (5.NF.A.2) Common denominator 6: $\frac{1}{6} + \frac{1}{3} = \frac{1}{6} + \frac{2}{6} = \frac{3}{6} = \frac{1}{2}$ cup.
- 16) **Choice D is correct.** (5.MD.C.3b) Cubic units measure volume, which is the amount of 3D space a solid figure occupies.
- 17) **Choice B is correct.** (5.NF.A.2) Multiples of 3: 3, 6, 9, 12, ... Multiples of 4: 4, 8, 12, ... The least common multiple is 12, which is a common denominator.
- 18) **Choices A, B are correct.** (5.NBT.A.2) $7 \times 10^2 = 700$ and $23 \times 10^3 = 23,000$. C should be 50,000, and D should be 600.
- 19) **Choice C is correct.** (5.NBT.A.2) $0.072 \times 1000 = 72$ (move decimal 3 places right).
- 20) **The correct answer is 120 in³.** (5.MD.C.5) One block has volume $4 \times 3 \times 2 = 24$ cubic inches. Five blocks have total volume $24 \times 5 = 120$ cubic inches.
- 21) **Choice B is correct.** (5.G.A.1) Moving right changes the x-coordinate while the y-coordinate stays the same. Add 3 to 2 to get (5, 4).
- 22) **Choice A is correct.** (5.NF.A.1) LCM(4,2) = 4. $\frac{3}{4} + \frac{2}{4} = \frac{5}{4} = 1\frac{1}{4}$ cups.
- 23) **Choice D is correct.** (5.NF.B.5a) $8 \times \frac{3}{8} = 3$ slices. The scaling factor $\frac{3}{8}$ is less than 1, so the result is smaller than 8.
- 24) **Choice A is correct.** (5.G.A.2) Pattern B is twice the term number. For $n = 1, 2, 3$, the B-values are 2, 4, 6, giving (1, 2), (2, 4), (3, 6).
- 25) **Choice A is correct.** (5.OA.A.2) Find each type of plant separately: tomatoes are 6×8 , and peppers are 3×5 . Add those products for the total number of plants.
- 26) **The correct answer is <.** (5.NBT.A.3b) 1.408 has 4 tenths and 0 hundredths. 1.48 has 4 tenths and 8 hundredths. So $1.408 < 1.48$.
- 27) **Choice B is correct.** (5.G.A.2) The bottom side connects (1, 2) and (5, 2), which are on the same horizontal line. The length is $5 - 1 = 4$ units.
- 28) **Choice B is correct.** (5.NF.A.1) Add: $4\frac{1}{10} + 2\frac{9}{10} = 6\frac{10}{10} = 7$.



Captain's Log—Voyage Complete

First Mate, Well Done!

◇ You sailed through 3 practice tests with steady hands and a sharp eye. The waters got rough sometimes, but you kept your course. That's what good sailors do. Now the harbor (test day) is in sight, and you are ready to dock with confidence. ◇

★ **Captain's wisdom:** a good sailor doesn't fight the wind—they read it and adjust. On a test, the same thing is true. When a problem feels tricky, don't panic. Read it again. Try a new strategy. Adjust the sails of your thinking. ★

Captain's Skills Inventory

- **Steady Steering:** EXCELLENT! You stay on course even when problems get tough.
- **Wind Reading:** STRONG! You can spot what a problem is really asking.
- **Crew Spirit:** HIGH! You believe in your own ability.
- **Harbor Approach:** READY! You know how to finish a test calmly.

Final captain's note: the best voyages combine planning with courage. You have both. Trust the chart you built through these 3 tests. Trust your hands on the wheel. Then sail confidently into test day.

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 Captain (Smooth Sailing Ahead)

Build Skills. Boost Confidence. Excel on the Grade 5 Math Test.

Help your child succeed with confidence! This book includes **3 full-length Grade 5 Math practice tests** aligned to state standards. With a focus on essential skills, problem solving, and test readiness, it's the perfect resource for classroom, home, or on-the-go practice.



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Covers All Essential Math Topics

Fractions, decimals, geometry, measurement, data, number operations, and more.



Build Strong Math Skills

Strengthen understanding and problem-solving through varied question types.



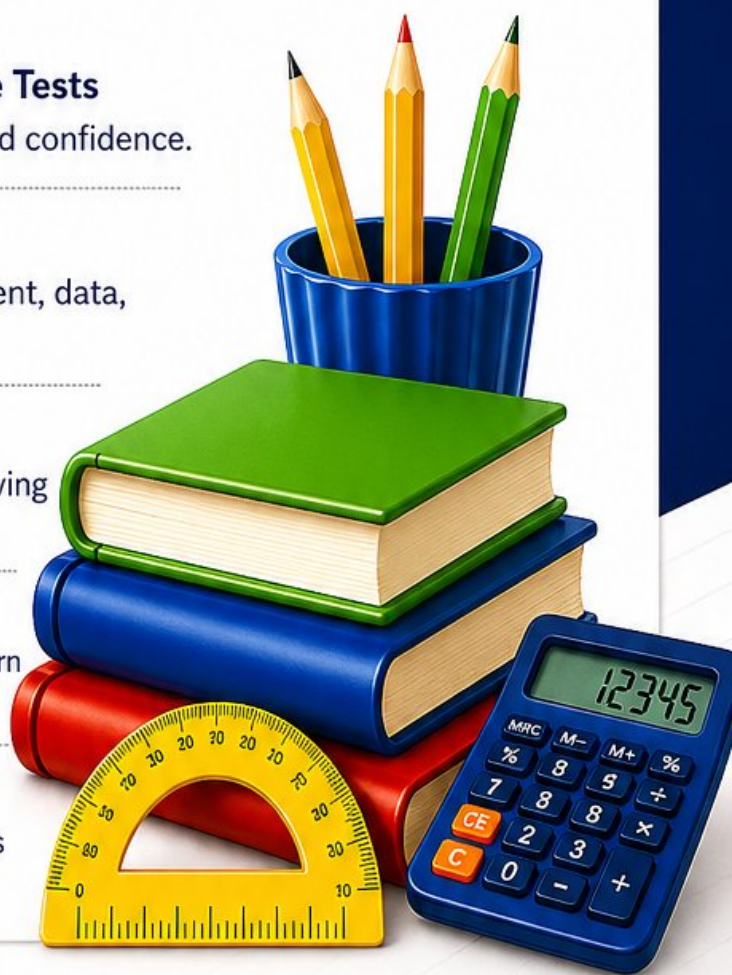
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Step-by-step explanations to help your child learn from mistakes and improve.



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Use score trackers to identify strengths and focus on areas that need more practice.



The Smarter Way to Prepare!

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- ✓ Reinforce classroom learning
- ✓ Improve accuracy and speed
- ✓ Reduce test anxiety
- ✓ Achieve your best score!



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and practice materials!