

6

Michigan

M STEP

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



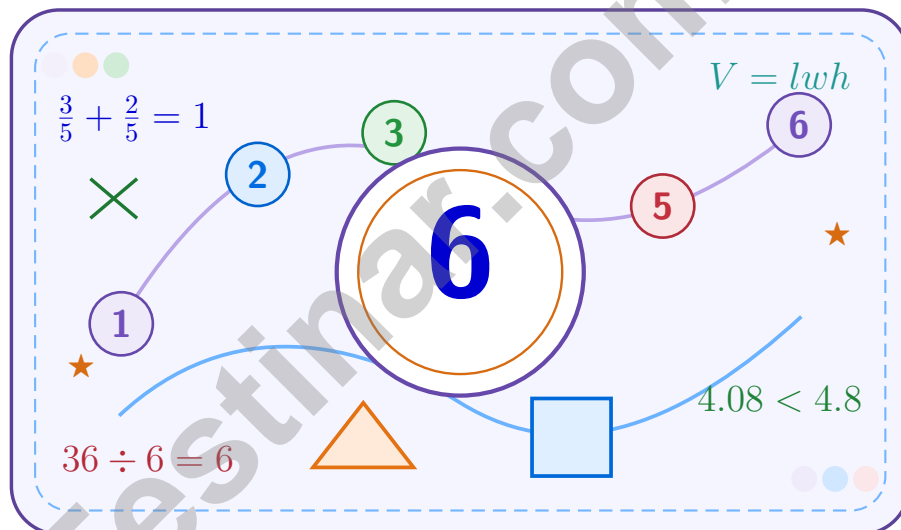
**BUILD CONFIDENCE.
IMPROVE SCORES.**

Target weak areas and
achieve success

★ STRONG PRACTICE. BRIGHT FUTURE. ★

6 Michigan M-STEP 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.



Scan me

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 Michigan M-STEP. 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

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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 rectangular container has base area 72 cm^2 and volume 432 cm^3 . What is the height?

- A. 5 cm C. 7 cm
 B. 8 cm D. 6 cm

2) A rectangular prism is formed from 48 unit cubes arranged 4 deep, 3 wide, and 4 tall. If we remove one complete layer from the height, what is the new volume?

Prism
 $4 \times 3 \times 4$ – remove one layer from height

- A. 24 cubic units C. 36 cubic units
 B. 30 cubic units D. 45 cubic units
- 3) Estimate: $7\frac{1}{12} + 2\frac{11}{12}$.
- A. 9 C. 11
 B. 10 D. 12
- 4) A warehouse stores canned goods. There are 35 shelves with 22 cans on each shelf. How many cans are stored?

- A. 750 C. 770
 B. 760 D. 780

5) Complex problem: Write the decimal for $1 + \frac{3}{10} + \frac{6}{100}$, then identify all the digits and their place values.

- A. 1.36; 1 in ones, 3 in tenths, 6 in hundredths C. 1.63; 1 in ones, 6 in tenths, 3 in hundredths
 B. 1.306; 1 in ones, 3 in tenths, 0 in hundredths, 6 in thousandths D. 0.136; correct place values



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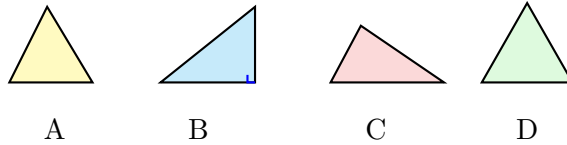
1 day = 24 hours (hr) 1 year = 52 weeks



1) Pattern: 1, 2, 4, 7, 11, ... Which rule explains the pattern and gives the next number?

- A. Add 3 each time; next is 14
- B. Add 1, then 2, then 3, then 4; next is 15
- C. Add 1, then 2, then 3, then 4, then 5; next is 16
- D. Multiply by 2; next is 22

2) Look at the triangles. Which one is a right triangle?



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

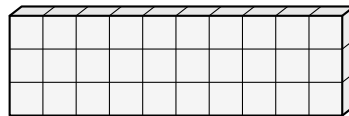
3) Compare: 5×12 6×10

- A. >
- B. <
- C. =
- D. Cannot tell

4) A right triangle has angles of 90 degrees, 45 degrees, and 45 degrees. Are any sides equal?

- A. All three sides are equal
- B. Two sides are equal
- C. No sides are equal
- D. Cannot be determined

5) A rectangular prism with dimensions 10 by 1 by 3 contains how many unit cubes?



- A. 14 unit cubes
- B. 30 unit cubes
- C. 20 unit cubes
- D. 13 unit cubes



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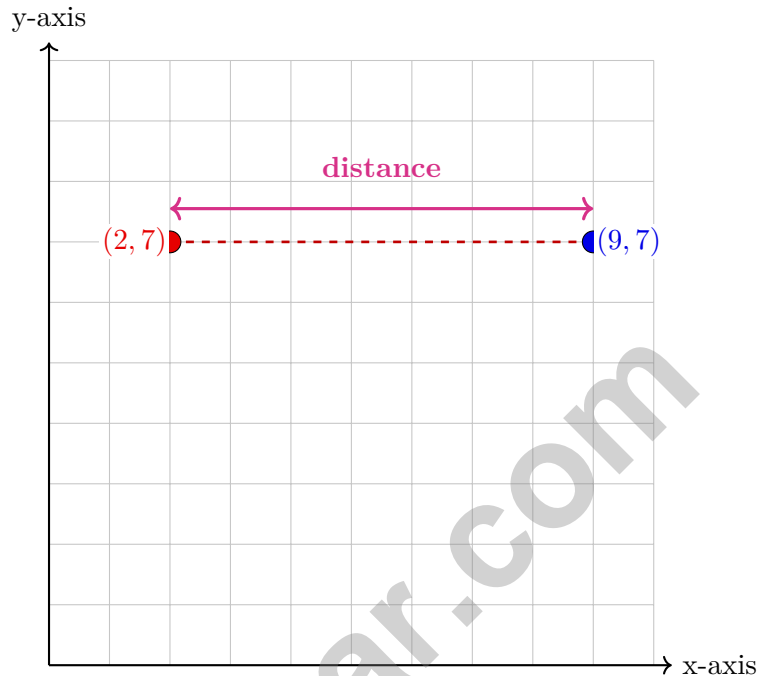
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- 1) Two points share the same y-coordinate of 7. One point is at $(2, 7)$ and the other is at $(9, 7)$. How far apart are they horizontally?



- A. 2 units
- B. 5 units
- C. 7 units
- D. 9 units
- 2) A runner jogs 6.5 miles. She has already run 4.18 miles. How many more miles does she need to run?
- A. 3.15 miles
- B. 2.42 miles
- C. 2.27 miles
- D. 2.32 miles



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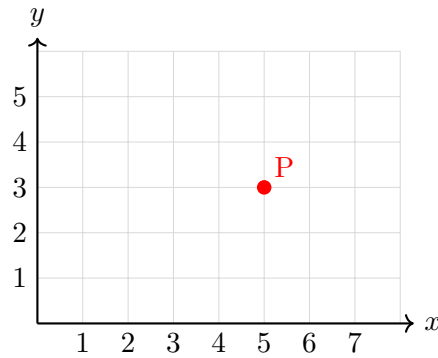
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- 1) From the coordinate grid, which ordered pair is shown?



- A. (3, 5) C. (5, 5)
- B. (5, 3) D. (3, 3)
- 2) Simplify: $\frac{9}{12} - \frac{3}{12}$
- A. $\frac{5}{12}$ C. $\frac{3}{4}$
- B. $\frac{2}{3}$ D. $\frac{1}{2}$
- 3) Find: $612 \div 18$.

Record your answer in the space provided.

- 4) A shipping container has volume 800 cubic meters. Its base is 20 m by 8 m. What is the height of the container?

- A. 4 m C. 6 m
- B. 5 m D. 8 m



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 D is correct.** **(5.MD.C.5)** The base area is 72 square centimeters. Since $432 \div 72 = 6$, the height is 6 cm.
- 2) **Choice C is correct.** **(5.MD.C.3b)** Original: $4 \times 3 \times 4 = 48$. Remove one layer: height becomes 3. New volume: $4 \times 3 \times 3 = 36$ cubic units.
- 3) **Choice B is correct.** **(5.NF.A.2)** $7\frac{1}{12} \approx 7$ and $2\frac{11}{12} \approx 3$. So $7\frac{1}{12} + 2\frac{11}{12} \approx 7 + 3 = 10$.
- 4) **Choice C is correct.** **(5.NBT.B.5)** Multiply: $35 \times 22 = 35 \times (20 + 2) = (35 \times 20) + (35 \times 2) = 700 + 70 = 770$ cans.
- 5) **Choice A is correct.** **(5.NBT.A.3a)** $1 + \frac{3}{10} + \frac{6}{100} = 1 + 0.3 + 0.06 = 1.36$. The digit 1 is in the ones place, 3 in tenths, 6 in hundredths.
- 6) **Choice B is correct.** **(5.NF.A.1)** Add: $\frac{5}{6} + 2\frac{1}{6} = 2\frac{6}{6} = 3$.
- 7) **Choice D is correct.** **(5.G.A.1)** Points on the same horizontal grid line have the same second coordinate, but their first coordinates can be different. Points A, B, C are all 5 units above the x-axis and have first coordinates 2, 5, and 8.
- 8) **Choice D is correct.** **(5.NBT.B.6)** $3,135 \div 45 = 69$ R30. Check: $(45 \times 69) + 30 = 3,105 + 30 = 3,135$.
- 9) **The correct answer is equilateral.** **(5.G.B.4)** The side lengths are 5 cm, 5 cm, and 5 cm, so all 3 sides are equal. The triangle is equilateral.
- 10) **Choice D is correct.** **(5.MD.C.5)** Use the rectangular-prism volume formula: $10 \times 3 \times 5 = 150$. So the volume is 150 cubic meters.
- 11) **Choice C is correct.** **(5.MD.A.1)** Since 16 ounces = 1 pound, multiply 3 by 16: $3 \times 16 = 48$ ounces. The pattern shows each pound adds 16 ounces.
- 12) **Choice D is correct.** **(5.G.A.2)** Each time x increases by 2, y increases by 3. From (8, 12): x becomes 10, y becomes 15.
- 13) **Choice D is correct.** **(5.MD.B.2)** There are $2+3+2+1 = 8$ students. The total time is $(2 \times 2) + (4 \times 3) + (6 \times 2) + (8 \times 1) = 4 + 12 + 12 + 8 = 36$ hours.
- 14) **Choice A is correct.** **(5.NF.B.5a)** $4 \times \frac{1}{2} = 2$. The product is less than 4 because the scaling factor is less than 1.
- 15) **Choice C is correct.** **(5.MD.C.5)** Choose the operation from the story, then keep the unit with the answer. Subtract: $64.75 - 8.50 = 56.25$ dollars. This confirms the answer.
- 16) **Choice B is correct.** **(5.NF.B.4)** The six jumps each move $\frac{1}{2}$. Counting them lands at 3, so $6 \times \frac{1}{2} = \frac{6}{2} = 3$.
- 17) **Choice A is correct.** **(5.NF.B.6)** First find $\frac{1}{6}$ of 240 gallons: $\frac{1}{6} \times 240 = 40$. Half of that amount is $\frac{1}{2} \times 40 = 20$ gallons.
- 18) **Choice C is correct.** **(5.NF.A.2)** $\frac{2}{9} + \frac{4}{9} = \frac{6}{9} = \frac{2}{3}$ of the wall is painted.
- 19) **Choice A is correct.** **(5.OA.A.1)** Multiply first: $3 \times 2 = 6$. Then add and subtract from left to right: $12 + 6 = 18$, and $18 - 3 = 15$.
- 20) **The correct answer is 10.** **(5.NF.A.2)** A common denominator must be a multiple of each denominator. Since 10 is a multiple of 5, 2, and 10, the LCD is 10.
- 21) **Choice C is correct.** **(5.MD.C.5a)** C is correct: $6 \times 5 \times 4 = 120$ cubic units. A: volume is 60. B: volume uses cubic units. D: doubling one dimension doubles the volume.
- 22) **Choices A, C are correct.** **(5.OA.A.1)** A uses parentheses to group $3 + 2$ before subtracting. C uses parentheses to group $4 + 2$ before multiplying by 3. B and D do not use grouping symbols, so they follow the usual order of operations.
- 23) **Choice C is correct.** **(5.NF.B.7c)** The unit fraction is the amount being shared, so divide $\frac{1}{3}$ by 4. The equation is $\frac{1}{3} \div 4 = n$.
- 24) **Choice D is correct.** **(5.NF.B.5a)** $\frac{4}{3} > \frac{3}{3} > \frac{2}{3}$, so $10 \times \frac{4}{3}$ is the largest product.
- 25) **The correct answer is $\frac{1}{3}$.** **(5.NF.B.4b)** $2 \times 3 = 6$ parts; overlap is $1 \times 2 = 2$ parts: $\frac{2}{6} = \frac{1}{3}$.
- 26) **Choice B is correct.** **(5.NBT.A.2)** $15 \times 10^7 = 15 \times 10,000,000 = 150,000,000$, which is 150 million.
- 27) **Choice B is correct.** **(5.NF.A.2)** $\frac{1 \times 5}{6 \times 5} = \frac{5}{30}$.
- 28) **The correct answer is 42.** **(5.MD.C.4)** A 7 by 2 layer has 14 cubes. With 3 layers, $14 \times 3 = 42$ cubic units.
- 29) **The correct answer is 70.** **(5.NBT.A.2)** Multiplying by 1,000 moves the decimal point three places right: $0.07 \rightarrow 70$.
- 30) **Choice A is correct.** **(5.NBT.A.4)** The hundredths place is 5. The thousandths place is 1. Since $1 < 5$, keep the hundredths digit the same. So 9.951 rounds to 9.95.



A Message From Your Math Partner

Hey there, Problem Solver!

◇ Incredible work! You've journeyed through six complete practice tests, and that's no small accomplishment! Each question you tackled strengthened your mathematical thinking. When you began, some problems might have felt overwhelming, but now you've developed the skills to break them down systematically. You've transformed into a confident mathematician who understands that persistence beats perfection every single time! ◇

★ **Here's something mathematicians understand:** mistakes are simply opportunities to learn something new. The greatest problem-solvers in history made countless errors before their breakthroughs. Through these six tests, you've practiced that same growth mindset. You've discovered that every challenging problem teaches you something valuable, and that knowledge stays with you forever! ★

Your Mathematical Growth Journey

- **Problem-Solving Skills:** EXCEPTIONALLY DEVELOPED! You can analyze complex situations with confidence!
- **Strategic Thinking:** SIGNIFICANTLY STRENGTHENED! You recognize patterns and apply effective strategies!
- **Persistence Level:** REMARKABLY HIGH! You've proven you can work through any challenge!
- **Test Readiness:** COMPLETELY PREPARED! You have all the tools you need to succeed!

Remember this: test day is your opportunity to demonstrate everything you've learned! You've completed six comprehensive practice tests; that's substantial preparation! You've analyzed problems, applied strategies, and developed mathematical confidence. Now it's time to showcase your abilities! Take a calming breath, trust your preparation, and remember that every skill you've built is ready to support you. You've got this!

I'm genuinely proud of your dedication and effort! If you'd like to share your experiences, ask questions, or simply need encouragement, please email me at reza@testinar.com. I'd be delighted to hear from you!

Reza Nazari & Jay Daie

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.