

# 9

# Minnesota

## MCA III

# GRADE 5 MATHEMATICS PRACTICE TESTS

Full-Length Standards-Aligned Practice  
for Strong Math Performance

$$A = l \times w$$

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

$$y = 2x + 1$$



**9**  
FULL-LENGTH  
PRACTICE  
TESTS

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



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

$$7.2 \div 0.8 = 9$$



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



Build Confidence



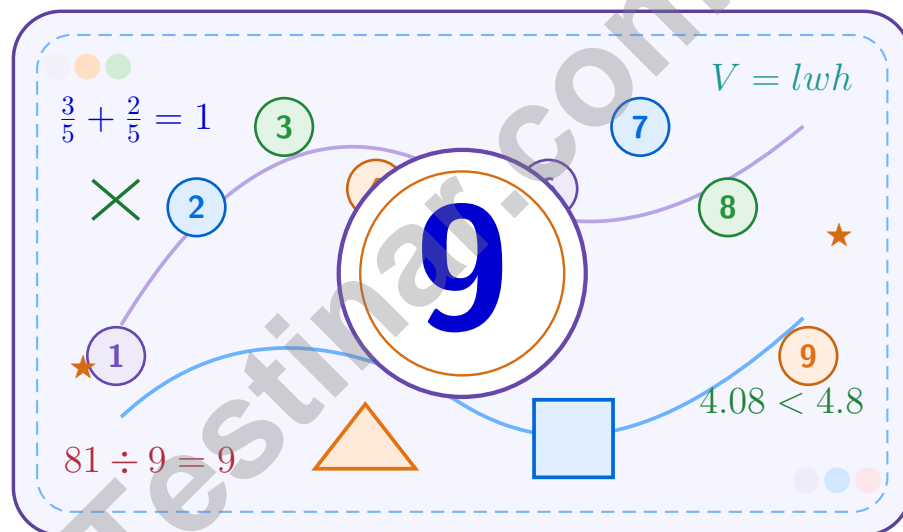
Improve Math Skills



Achieve Success

# 9 Minnesota MCA-III 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.



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 Minnesota MCA-III. 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 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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1 kilogram (kg) = 1,000 grams (g)

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### TIME

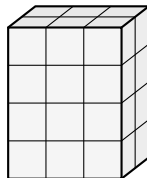
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- 1) A rectangular prism has 4 layers, each with 6 unit cubes arranged in a 2 by 3 pattern. What is the total volume?



- A. 6 unit cubes
- B. 10 unit cubes
- C. 24 unit cubes
- D. 12 unit cubes
- 2) A student incorrectly added  $\frac{1}{3} + \frac{1}{4}$  and got  $\frac{2}{7}$ . What is the correct answer?
- A.  $\frac{7}{12}$
- B.  $\frac{2}{7}$  (the student is correct)
- C.  $\frac{2}{12}$
- D.  $\frac{1}{12}$
- 3) What is  $0.4 \times 0.6$ ?
- A. 0.24
- B. 0.024
- C. 2.4
- D. 24
- 4) How many  $\frac{1}{6}$  slices fit in 2 wholes?



Whole 1    Whole 2

- A. 6
- B. 8
- C. 10
- D. 12





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1) Which whole number divided by  $\frac{1}{4}$  gives 28?

A. 4

C. 14

B. 7

D. 21

2) Simplify:  $2 \times \frac{3}{8}$

A.  $\frac{3}{16}$

C.  $\frac{3}{4}$

B.  $\frac{7}{8}$

D.  $\frac{5}{8}$

3) The value of  $(6 + 9) \div 3$  is what fraction of the value of  $(6 + 9)$ ?

*Record your answer in the space provided.*

4) Two students multiply  $3 \times 10^2$ . Student A gets 300; Student B gets 30. Which student is correct and why?

A. Student B;  $10^2 = 10$

C. Neither is correct; the answer is 3,000.

B. Both are correct for different values of 10.

D. Student A;  $10^2 = 100$



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- 1) A gardener planted flowers in two beds. One bed is  $\frac{3}{10}$  meter wide and the other is  $\frac{1}{5}$  meter wide. What is the total width in simplest form?
- A.  $\frac{4}{15}$  meter                       C.  $\frac{5}{10}$  meter  
 B.  $\frac{1}{2}$  meter                          D.  $\frac{3}{5}$  meter
- 2) Which statement compares  $14 + 7 \times 3$  and  $(14 + 7) \times 3$  correctly?
- A.  $14 + 7 \times 3 < (14 + 7) \times 3$   
 B.  $14 + 7 \times 3 > (14 + 7) \times 3$   
 C. They are equal  
 D. Cannot compare
- 3) What is  $15.7 \div 100$ ?
- A. 1.57                                  C. 157  
 B. 0.015                                D. 0.157
- 4) A sports equipment bin measures 11 centimeters long, 5 centimeters wide, and 8 centimeters tall. What is its volume?
- A. 440 cubic centimeters            C. 88 cubic centimeters  
 B. 55 cubic centimeters               D. 40 cubic centimeters
- 5) 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
- 6) Add:  $\frac{7}{8} + 3\frac{3}{8}$
- A.  $3\frac{9}{8}$                                        C.  $4\frac{3}{8}$   
 B.  $4\frac{1}{4}$                                        D.  $4\frac{1}{2}$



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1) Pattern:  $8 \times 5 = 40$ ;  $80 \times 5 = 400$ ;  $800 \times 5 = ?$

- A. 400                       C. 40,000  
 B. 4,000                     D. 40

2) Using the definition that isosceles means at least two equal sides, which statement is true?

- A. Every isosceles triangle is equilateral     C. Every scalene triangle is obtuse  
 B. Every right triangle is isosceles         D. Every equilateral triangle is isosceles

3) Find:  $15.05 - 8.27$ .

*Record your answer in the space provided.*

4) A poster is  $\frac{8}{10}$  meter wide. You cut off  $\frac{1}{4}$  of the width. What is the remaining width?

- A.  $\frac{8}{40}$  meter                       C.  $\frac{5}{10}$  meter  
 B.  $\frac{2}{10}$  meter                         D.  $\frac{6}{10}$  meter

5) Look at the table. Which expression has the greatest value without evaluating?

Letter	Expression
A	$(75 + 25) \times 10$
B	$(75 + 25) \times 5$
C	$(75 + 25)$
D	$(75 + 25) \div 2$

- A. A                                       C. C  
 B. B                                       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 Minnesota scores.**

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## Practice Test Answers and Explanations

### Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** (5.3.2.3)  $6 \times 4 = 24$  unit cubes total (6 cubes per layer, 4 layers).
- 2) **Choice A is correct.** (5.3.2.3) The correct answer is  $\frac{1}{3} + \frac{1}{4} = \frac{4}{12} + \frac{3}{12} = \frac{7}{12}$ . The student incorrectly added numerators and denominators.
- 3) **Choice A is correct.** (5.1.2.3) Multiply:  $4 \times 6 = 24$ , then count decimal places: 0.4 has 1 place, 0.6 has 1 place, so  $1 + 1 = 2$  places. Result: 0.24.
- 4) **Choice D is correct.** (5.1.2.3)  $2 \div \frac{1}{6} = 2 \times 6 = 12$ . There are 12 one-sixth slices.
- 5) **Choice B is correct.** (5.3.2.2) The base area is  $12 \times 10 = 120$  square centimeters. Since  $1440 \div 120 = 12$ , the tank is 12 cm deep.
- 6) **The correct answer is 3.47.** (5.3.2.2) Read the place value to decide whether the decimal uses tenths, hundredths, or thousandths. Three wholes, then 47 hundredths: 3.47. This confirms the answer.
- 7) **Choice B is correct.** (5.1.2.1) The digit in the hundredths place is 8. The number is 5.382.
- 8) **Choice B is correct.** (5.1.3.4) To add fractions, first rewrite with a common denominator:  $\frac{1}{2} = \frac{3}{6}$  and  $\frac{1}{3} = \frac{2}{6}$ , giving  $\frac{5}{6}$ .
- 9) **Choice C is correct.** (5.1.2.2) Multiplying by 1,000 means multiplying by  $10^3$ , so the decimal moves three places right. That makes statement C true.
- 10) **Choice D is correct.** (5.1.2.2) Dividing by 1,000 moves the decimal point three places to the left.  $9,200 \div 1,000 = 9.2$ .
- 11) **The correct answer is  $3\frac{5}{8}$ .** (5.1.2.2)  $6\frac{1}{4} = 6\frac{2}{8} = 5\frac{10}{8}$ . Subtract:  $(5 - 2) + (\frac{10}{8} - \frac{5}{8}) = 3\frac{5}{8}$ .
- 12) **Choice B is correct.** (5.1.2.3) Odd numbers increase by 2 each time. The 10th odd number is 19, so the 20th odd number is 20 more: 39.
- 13) **Choice C is correct.** (5.2.1.2) Sugar for cake =  $\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$  of the 5-pound bag. Since  $\frac{3}{8} \times 5 = \frac{15}{8} = 1\frac{7}{8}$ , she used  $1\frac{7}{8}$  pounds.
- 14) **Choice B is correct.** (5.1.3.4) Each dollar buys 5 one-fifth-dollar tokens.  $6 \div \frac{1}{5} = 6 \times 5 = 30$  tokens.
- 15) **Choice A is correct.** (5.1.3.4) All three angles measure 60 degrees, which is less than 90 degrees. A triangle with all angles less than 90 degrees is acute.
- 16) **Choice D is correct.** (5.2.2.1) The student added before multiplying, as if the expression were  $(8 + 3) \times 2$ . In the original expression, multiplication comes first:  $8 + (3 \times 2) = 8 + 6 = 14$ .
- 17) **Choice A is correct.** (5.2.2.1) Do the division and multiplication first:  $48 \div 6 = 8$  and  $3 \times 2 = 6$ . Then add the results:  $8 + 6 = 14$ .
- 18) **Choice A is correct.** (5.2.2.1) Pattern J is twice Pattern I:  $2 \times 2 = 4$ ,  $5 \times 2 = 10$ ,  $8 \times 2 = 16$ ,  $11 \times 2 = 22$ .
- 19) **Choice B is correct.** (5.1.3.4) The x-coordinate (30) is time in minutes, and the y-coordinate (250) is calories burned. So 30 minutes of exercise burned 250 calories.
- 20) **Choice C is correct.** (5.1.3.3) To round 3.765 to the nearest hundredth, look at the thousandths digit. It is 5, so the hundredths digit rounds up from 6 to 7, giving 3.77 m.
- 21) **Choices A, B are correct.** (5.1.3.3) Add the four lengths to get 4 inches in all. The value 1 inch appears twice, more than any other value; C and D do not match the line plot.
- 22) **Choice A is correct.** (5.1.3.4) Use total amount divided by the size of one piece. The equation is  $2 \div \frac{1}{8} = n$ .
- 23) **The correct answer is 13.** (5.1.3.4) The rectangles are also parallelograms, so add both regions:  $8 + 5 = 13$ .
- 24) **Choice B is correct.** (5.1.3.4) The denominator 10 is multiplied by 3 to make 30. Multiply the numerator by 3:  $\frac{7}{10} = \frac{21}{30}$ .
- 25) **Choice B is correct.** (5.1.3.4)  $5\frac{3}{4} \approx 6$ . So  $12 - 5\frac{3}{4} \approx 12 - 6 = 6$ .
- 26) **Choice C is correct.** (5.1.3.3) Choose the operation from the story, then keep the unit with the answer. Multiply:  $48 \times 0.75 = 36.00$  dollars. This confirms the answer.
- 27) **Choice D is correct.** (5.1.3.3) Shapes with two pairs of parallel sides and equal sides are Rhombuses or Squares. A Rhombus has equal sides but not all right angles; a Square has both.
- 28) **Choice C is correct.** (5.2.2.1) The correct product is  $15 \times 12 = 180$ . David listed the right four partial products, but his final total should be  $100 + 20 + 50 + 10 = 180$ , not 170.



## Math Athlete, Listen Up!

◇ 9 practice tests done. That's serious training. Your math muscles are strong, your endurance is high, and your reflexes (recognizing problem types) are quick. You're in great shape for the big test. ◇

★ **Trainer's wisdom:** muscle memory is real, even in math. The more you do something, the more your brain knows how to do it without thinking. You've built that muscle memory over 9 tests. Now it's automatic. ★

### Athlete's Performance Card

- **Endurance:** TOP-TIER! You can finish a long test without burnout.
- **Strength:** STRONG! You handle multi-step problems with power.
- **Speed:** SHARP! You move efficiently from question to question.
- **Recovery:** GREAT! You bounce back fast from tough questions.

**Trainer's tip:** on test day, hydrate, breathe deeply, and warm up with the easier questions first. Build your rhythm. Your training will carry you the rest of the way.

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

**Reza Nazari & Jay Daie**

Your Math Trainer (You're In Great Shape)

# 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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