

# 9

# North Carolina

# EOG

# 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



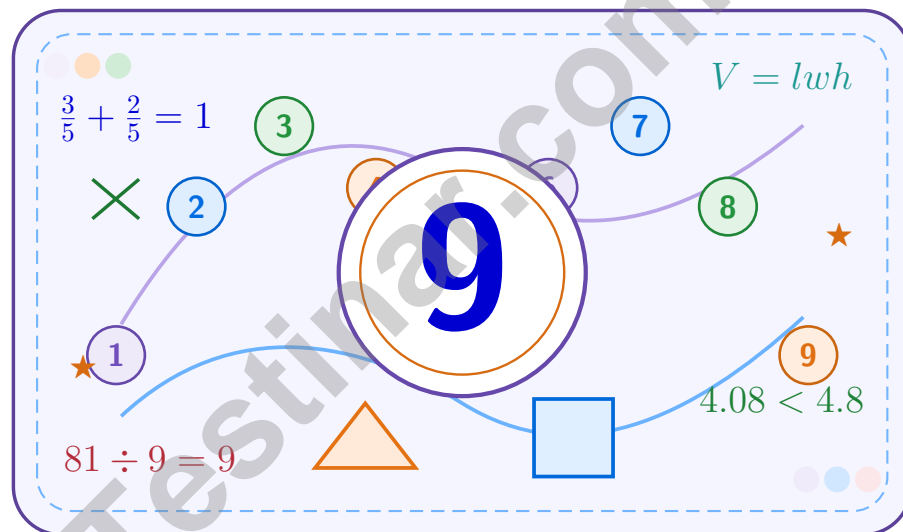
Improve Math Skills



Achieve Success

# 9 North Carolina EOG 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 North Carolina EOG. 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

|   |       |            |
|---|-------|------------|
| ★ Practice Test 1                             | _____ | 13         |
| ★ Practice Test 2                             | _____ | 28         |
| ★ Practice Test 3                             | _____ | 42         |
| ★ Practice Test 4                             | _____ | 56         |
| ★ Practice Test 5                             | _____ | 71         |
| ★ Practice Test 6                             | _____ | 85         |
| ★ Practice Test 7                             | _____ | 101        |
| ★ Practice Test 8                             | _____ | 115        |
| ★ Practice Test 9                             | _____ | 131        |
| <b>Practice Test Answer Keys</b>              | _____ | <b>145</b> |
| <b>Practice Test Answers and Explanations</b> | _____ | <b>151</b> |

## 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

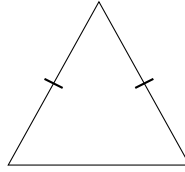
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1 day = 24 hours (hr)    1 year = 52 weeks



- 1) Look at the triangle. Two sides are marked with tick marks. What kind of triangle is it based on its sides?



- A. Scalene
- B. Isosceles
- C. Equilateral
- D. Right
- 2) Simplify before multiplying:  $\frac{6}{8} \times \frac{4}{9}$ . Which choice shows the product in simplest form?
- A.  $\frac{24}{72}$
- B.  $\frac{3}{4} \times \frac{4}{9} = \frac{1}{3}$
- C.  $\frac{1}{2}$
- D.  $\frac{12}{17}$
- 3) A composite garden block is made from two non-overlapping rectangular prisms. Prism A is 4 centimeters long, 2 centimeters wide, and 4 centimeters tall. Prism B is 3 centimeters long, 3 centimeters wide, and 4 centimeters tall. What is the total volume?
- A. 68 cubic centimeters
- B. 32 cubic centimeters
- C. 36 cubic centimeters
- D. 76 cubic centimeters
- 4) Starting with term 1 equal to 0, Pattern A adds 1 each time and Pattern B adds 4 each time. What is  $B$  divided by  $A$  at term 5?
- A. 2
- B. 3
- C. 4
- D. 5
- 5) Add:  $3.45 + 1.39 = ?$
- A. 4.83
- B. 4.84
- C. 4.85
- D. 4.86





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- 1) 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

- 2) Find:  $1\frac{1}{2} \times 2\frac{1}{3}$ .

*Record your answer in the space provided.*

- 3) Write  $5 + \frac{8}{100}$  as a decimal.

- A. 5.8                               C. 5.008  
 B. 5.08                             D. 50.8

- 4) Maria has \$15.50. She spends \$8.25 on supplies. How much money does she have left?

- A. \$7.35                             C. \$6.95  
 B. \$8.50                             D. \$7.25

- 5) Error analysis: Which student made an error multiplying  $7 \times \frac{2}{9}$ ?

| Student | Work   |
|---------|--|
| A       | $7 \times \frac{2}{9} = \frac{14}{9}$                                |
| B       | $7 \times \frac{2}{9} = \frac{7 \times 2}{7 \times 9} = \frac{2}{9}$ |
| C       | $7 \times \frac{2}{9} = 1\frac{5}{9}$                                |
| D       | $7 \times \frac{2}{9} = 1\frac{5}{9}$                                |

- A. A made an error                       C. C made an error  
 B. B made an error                       D. D made an error



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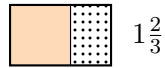
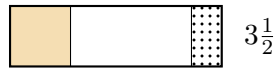
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1)

Add:  $3\frac{1}{2} + 1\frac{2}{3}$

A.  $4\frac{1}{6}$

B.  $5\frac{1}{6}$

C.  $5\frac{1}{2}$

D.  $4\frac{1}{2}$

2) “Add 14 and 6. Then divide by 4.” Which expression models this?

A.  $14 + 6 \div 4$

B.  $(14 + 6) \div 4$

C.  $14 \div 4 + 6$

D.  $6 \div 4 + 14$

3) A 4-meter ribbon is cut into pieces that are each  $\frac{1}{2}$  meter long. How many pieces are there?

4 meters, cut every  $\frac{1}{2}$  m



A. 2 pieces

B. 4 pieces

C. 6 pieces

D. 8 pieces

4) What rule defines: 1, 2, 4, 8, 16?

A. Add 1 each time

B. Multiply by 2 each time

C. Multiply by 3 each time

D. Subtract 2 each time



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- 1) Rosa uses two number patterns to create ordered pairs. Pattern 1 uses 5, 10, 15, 20. Pattern 2 uses 2, 4, 6, 8. What ordered pair is first?
- A. (2, 5)  C. (20, 8)  
 B. (10, 4)  D. (5, 2)
- 2) A triangle with all sides different is called:
- A. Equilateral  C. Scalene  
 B. Isosceles  D. Right
- 3) Compute  $11.25 - 5.43$ .
- A. 5.82  C. 5.72  
 B. 6.15  D. 6.82
- 4) Which list shows the first three common denominators for  $\frac{1}{2}$  and  $\frac{1}{3}$ ?
- A. 6, 12, 18  C. 1, 2, 3  
 B. 2, 3, 6  D. 12, 24, 36
- 5) Without calculating the products, which expression is greatest?
- A.  $18 \times 25$   C.  $17 \times 25$   
 B.  $18 \times 26$   D.  $17 \times 26$
- 6) Find  $7 \times 10^2$ .

*Record your answer in the space provided.*



## 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 North Carolina scores.**

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## Practice Test Answers and Explanations

### Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** (NC.5.G.3) Two sides have the same tick marks, indicating they are equal in length, making this an isosceles triangle.
- 2) **Choice B is correct.** (NC.5.NF.4) Simplify  $\frac{6}{8} = \frac{3}{4}$ . Then  $\frac{3}{4} \times \frac{4}{9} = \frac{12}{36} = \frac{1}{3}$ .
- 3) **Choice A is correct.** (NC.5.MD.4) Find each part first: Prism A is  $4 \times 2 \times 4 = 32$  cubic centimeters, and Prism B is  $3 \times 3 \times 4 = 36$  cubic centimeters. Because the parts do not overlap, add them:  $32 + 36 = 68$  cubic centimeters.
- 4) **Choice C is correct.** (NC.5.G.1) Since term 1 is 0, term 5 has  $A = 4$  and  $B = 16$ . Then  $16 \div 4 = 4$ .
- 5) **Choice B is correct.** (NC.5.G.1) Hundredths:  $5 + 9 = 14$ , so write 4 and regroup 1 tenth. Tenths:  $4 + 3 + 1 = 8$ . Ones:  $3 + 1 = 4$ . The sum is 4.84.
- 6) **Choice B is correct.** (NC.5.NF.1)  $35 \times \frac{3}{7} = 15$  km. Since  $\frac{3}{7} < 1$ , the shortcut is much shorter than the original road.
- 7) **Choice C is correct.** (NC.5.NF.4) The parentheses make  $5 + 3 = 8$ . Then division and multiplication go left to right:  $40 \div 8 = 5$ , and  $5 \times 2 = 10$ .
- 8) **Choice A is correct.** (NC.5.OA.2) Convert to fourths:  $2\frac{2}{4} + 1\frac{3}{4} = 3\frac{5}{4} = 4\frac{1}{4}$ .
- 9) **Choice B is correct.** (NC.5.MD.4) Volume:  $8 \times 6 \times 3 = 144$  cubic meters. Volume always uses cubic units, not square units.
- 10) **Choice B is correct.** (NC.5.NF.7) A meter has 10 tenths, so  $1 \div \frac{1}{10} = 10$  fixtures.
- 11) **The correct answer is 3645.** (NC.5.NF.7)  $135 \times 7 = 945$  and  $135 \times 20 = 2,700$ . Sum:  $945 + 2,700 = 3,645$ .
- 12) **Choice B is correct.** (NC.5.NBT.5) A vertical line has the same  $x$ -coordinate for both points. Choice B has both points at  $x = 4$ , making them vertical.
- 13) **Choice B is correct.** (NC.5.NBT.1) The hundredths digit is 4. The thousandths digit is 4. Since  $4 < 5$ , keep hundredths as 4. So \$5.944 rounds to \$5.94.
- 14) **Choice B is correct.** (NC.5.NBT.1)  $1.5 \times 100 = 150$ .
- 15) **Choice A is correct.** (NC.5.NBT.1) Sandy is right because the grouped product is  $2 \times 4 = 8$ . So  $8 + (2 \times 4)$  becomes  $8 + 8$ .
- 16) **The correct answer is 8 cm.** (NC.5.NBT.5) Divide the volume by the base area:  $240 \div 30 = 8$ , so the height is 8 cm.
- 17) **Choice B is correct.** (NC.5.MD.4) The GCF of 10 and 25 is 5. Divide:  $\frac{10}{25} = \frac{10 \div 5}{25 \div 5} = \frac{2}{5}$ .
- 18) **Choice B is correct.** (NC.5.NF.1) The basic fact stays  $2 \times 3 = 6$ . Since 2,000 has three zeros, the product is 6,000.
- 19) **Choice B is correct.** (NC.5.G.3) The number 3 is in the intersection. A square has four right angles and four equal sides, so it belongs in both circles.
- 20) **The correct answer is  $\frac{1}{6} \div 3 = n$ .** (NC.5.NF.7) The one-sixth piece is shared among 3 children, so divide by 3. Accept equivalent division equations; the final value  $\frac{1}{18}$  may be included if the equation is shown.
- 21) **Choice A is correct.** (NC.5.NF.7)  $\frac{4}{7} \times \frac{1}{2} = \frac{4}{14}$ . The overlap has 4 squares out of 14 total.
- 22) **Choices A, C are correct.** (NC.5.NBT.5) A is true because  $20 + 1$  creates one extra group of 5. C is true because  $100 - 1$  creates one fewer group of 9 than 100 groups. B changes the grouping, and D is equal rather than greater.
- 23) **Choice A is correct.** (NC.5.NF.4)  $11 \div \frac{1}{4} = 11 \times 4 = 44$ .
- 24) **Choice B is correct.** (NC.5.NF.4) Pattern B is made by multiplying by 3 each time:  $2 \times 3 = 6$ ,  $6 \times 3 = 18$ , and  $18 \times 3 = 54$ .
- 25) **Choice A is correct.** (NC.5.G.1) Both J at (2,4) and K at (7,4) have  $y$ -coordinate 4, so they share the same  $y$ -coordinate.
- 26) **Choice B is correct.** (NC.5.NF.1)  $\text{LCM}(7,4) = 28$ .  $\frac{2}{7} = \frac{8}{28}$  and  $\frac{3}{4} = \frac{21}{28}$ .  $\frac{8}{28} + \frac{21}{28} = \frac{29}{28} = 1\frac{1}{28}$ .
- 27) **Choice A is correct.** (NC.5.NF.1) Starting at (0,0), adding 2 to  $x$  and 1 to  $y$  each time gives (0,0), (2,1), (4,2), (6,3). Graph A shows those points.
- 28) **Choice A is correct.** (NC.5.MD.4) Pair A:  $4 \times 5 \times 9 = 180 \text{ cm}^3$  and  $5 \times 6 \times 6 = 180 \text{ cm}^3$ ; total =  $360 \text{ cm}^3$  ✓. Pair B:  $3 \times 5 \times 8 = 120 \text{ cm}^3$  and  $4 \times 3 \times 5 = 60 \text{ cm}^3$ ; total =  $180 \text{ cm}^3$ .
- 29) **The correct answer is  $4\frac{1}{4}$  feet.** (NC.5.NF.7)  $3 \times \frac{3}{4} + 2 \times \frac{1}{2} + 1 = 2\frac{1}{4} + 1 + 1 = 4\frac{1}{4}$  feet.



### A Message From Your Math Partner

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#### Hey there, Problem Solver!

◇ Incredible work! You've journeyed through 9 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 9 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 9 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!

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**

Math Teacher and Your Cheer Squad

# 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**

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### Build Confidence

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



### Strengthen Skills

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



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



### Track Progress

Identify strengths and target areas with purposeful practice.



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- ✓ Graphing & Data Analysis
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