

$\frac{2}{3}$

# FULL-LENGTH

$\frac{2}{4}$

# North Carolina

$7 \times 8 =$

$0,25$



\*\*\*\*\*  
Aligned to State Standards

$7 \times 8$

# EOG

$56 \div 7$

# MATH

Grade

# 5

$(a+b)^2$

# PRACTICE TESTS

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



**3 Full-Length Practice Tests**  
Aligned to State Standards



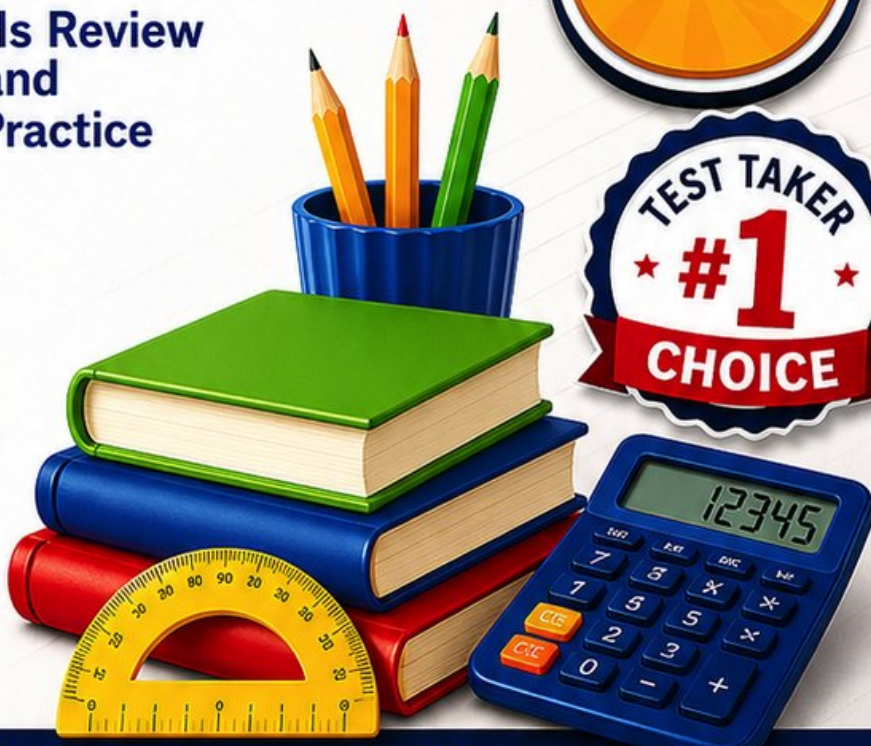
**Covers All Grade 5 Math Topics**  
Numbers & Operations, Fractions,  
Decimals, Geometry, Measurement,  
Data & Problem Solving



**Build Confidence**  
Strengthen Skills • Improve Accuracy  
• Boost Test Readiness



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



WRITTEN FOR  
GRADE 5 STUDENTS



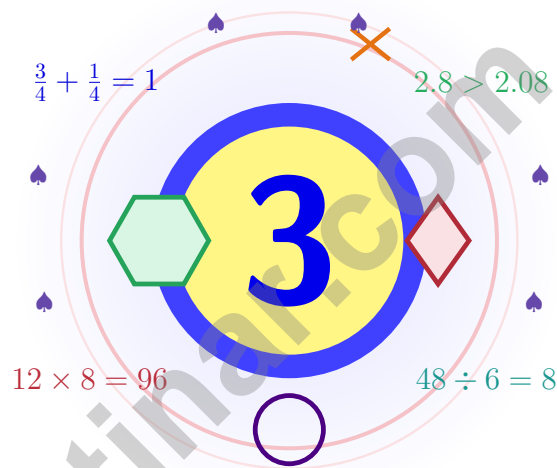
PERFECT FOR  
TEST PREP & REVIEW



CLASSROOM, HOME,  
OR SELF-STUDY USE

# 3 North Carolina EOG Grade 5 Math Practice Tests

*Tar-heel math for thinkers who keep going*



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

**Jay Daie and Reza Nazari**



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# North Carolina Thinkers, Sharpen Your Pencils

Tar-heel math for thinkers who keep going

## North Carolina Mathematicians, Read This First

Math practice is like the Outer Banks shoreline – it shifts with every wave, but the careful walker still finds the path.

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.

### Watch

Watch what the problem actually wants from you.

### Choose

Choose the operation, model, or table that fits.

### Polish

Check labels, units, and the final word of the question.

**A North Carolina promise to yourself:** I will keep going the way Tar Heels do – steady, friendly, and never giving up.

# From Cover to Cover

A simple game plan that turns practice into real progress

## Step 1: Open

**Open the quick review and warm up your math brain.**

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

## Step 2: Test

**Take a full practice test like the real day.**

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

## Step 3: Reflect

**Notice what felt strong and what felt shaky.**

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

## Step 4: Sharpen

**Practice the shaky skills, then try the next test.**

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

## Three-Week North Carolina Game Plan

<b>Week 1</b>	Take Test 1 and write down one thing you noticed about your work.
<b>Week 2</b>	Take Test 2 and aim to fix one habit you noticed last week.
<b>Week 3</b>	Take Test 3 and celebrate the habits you carried through.



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# What These Tests Are For

## What these practice tests help Grade 5 students build

These three practice tests prepare Grade 5 students in the Tar Heel State for the North Carolina EOG with the calm, careful focus of a Smoky Mountain 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 EOG:** 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





Square

All angles =  $90^\circ$   
All sides equal

1)

Which statement is TRUE?

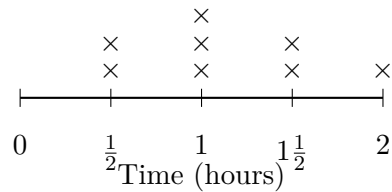
- A. A square is never a parallelogram.       C. A square has exactly one pair of parallel sides.
- B. A square is always a parallelogram.       D. A square is never a rectangle.
- 2) A water tank in the shape of a rectangular prism has dimensions 14 feet, 10 feet, and 8 feet. What is its volume?
- A. 280 cubic feet       C. 1,120 cubic feet
- B. 840 cubic feet       D. 1,400 cubic feet
- 3) Round 4.387 to the nearest tenth.

*Record your answer in the space provided.*



- 4) The line plot displays time (in hours) students spent reading books:

Reading Time



Which time value appears the fewest times?

- A.  $\frac{1}{2}$  hour  
 B. 1 hour  
 C.  $1\frac{1}{2}$  hours  
 D. 2 hours
- 5) Without calculating, which expression is three times as much as  $(8 + 5)$ ?
- A.  $3 + (8 + 5)$   
 B.  $(8 + 5) - 3$   
 C.  $(8 + 5) \div 3$   
 D.  $3 \times (8 + 5)$
- 6) Write  $10^3$  as a standard number.

*Record your answer in the space provided.*

- 7) Which statement about quadrilaterals is true?
- A. All quadrilaterals have 4 equal sides.  
 B. All quadrilaterals have at least one right angle.  
 C. Some quadrilaterals have no right angles.  
 D. No quadrilateral has parallel sides.



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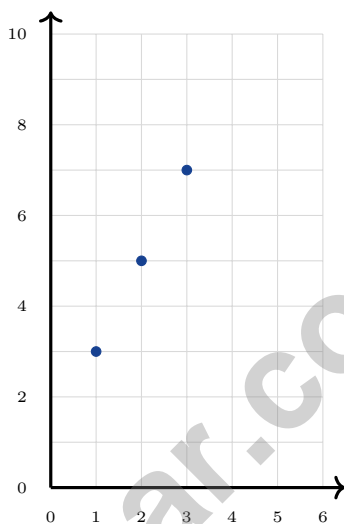
1 day = 24 hours (hr) 1 year = 52 weeks



1) Lily says 2 quarts = 8 cups. Is she correct? (1 quart = 2 pints, 1 pint = 2 cups)

- A. Yes, she is correct                       C. No, 2 quarts = 16 cups  
 B. No, 2 quarts = 4 cups                       D. No, 2 quarts = 2 cups

2) Which rule describes the relationship in the ordered pairs (1, 3), (2, 5), (3, 7)?



- A. Add 1 to the first coordinate                       C. Triple the first coordinate  
 B. Double the first coordinate, then add 1                       D. Add 3 to the first coordinate

3) Rewrite  $\frac{2}{5}$  and  $\frac{3}{10}$  using the least common denominator.

- A.  $\frac{8}{20}$  and  $\frac{6}{20}$                        C.  $\frac{20}{50}$  and  $\frac{15}{50}$   
 B.  $\frac{6}{15}$  and  $\frac{9}{15}$                        D.  $\frac{4}{10}$  and  $\frac{3}{10}$



## Grade 5 Mathematics Reference Materials

### PERIMETER AND AREA

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### CAPACITY

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1 gallon (gal) = 4 quarts (qt)	

### WEIGHT AND MASS

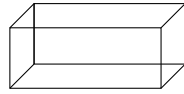
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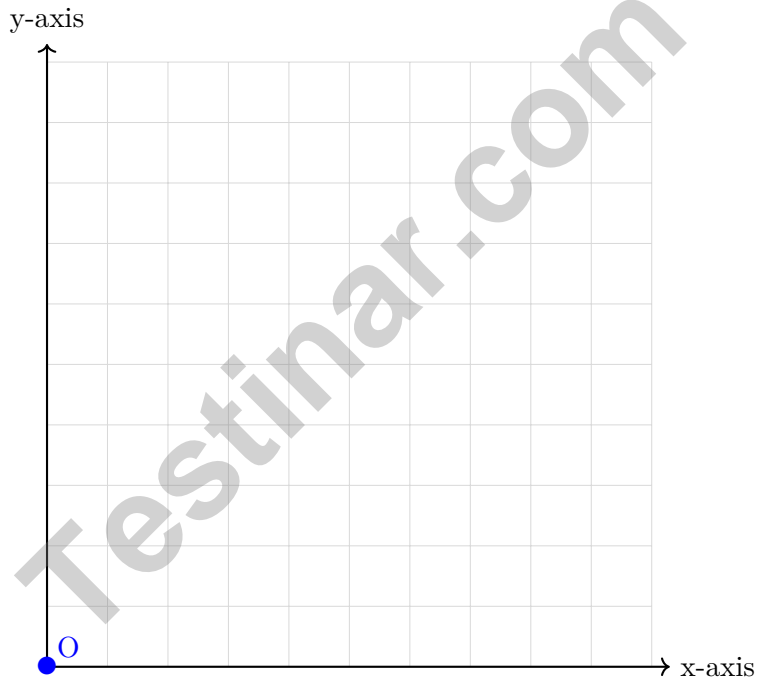
1) Which is the best unit for measuring the volume of a swimming pool?



Swimming pool

- A. Cubic millimeters
- B. Cubic centimeters
- C. Cubic meters
- D. Cubic inches

2) Where is the origin on a coordinate grid?



- A. In the top right corner
- B. On the x-axis only
- C. At point (5, 5)
- D. Where the x-axis and y-axis meet



## 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

- Choice B is correct.** (NC.5.G.3) A square has two pairs of opposite sides parallel, which makes it a parallelogram. In fact, a square is a special type of parallelogram.
- Choice C is correct.** (NC.5.MD.4) The base is  $14 \times 10 = 140$  square feet. With a height of 8 feet, the volume is  $140 \times 8 = 1,120$  cubic feet.
- The correct answer is 4.4.** (NC.5.NBT.1) Hundredths digit is 8, which rounds the tenths up:  $4.3 \rightarrow 4.4$ .
- Choice D is correct.** (NC.5.NF.1) Count X marks:  $\frac{1}{2}$  has 2, 1 has 3,  $1\frac{1}{2}$  has 2, and 2 has 1. The fewest marks are at 2 hours.
- Choice D is correct.** (NC.5.NBT.5) The phrase “three times as much” tells us to take the whole amount  $(8 + 5)$  and multiply it by 3. That gives  $3 \times (8 + 5)$ .
- The correct answer is 1000.** (NC.5.NBT.1)  $10^3$  is a 1 followed by 3 zeros: 1,000.
- Choice C is correct.** (NC.5.OA.2) Quadrilaterals all have 4 sides, but their angles can look different. A slanted parallelogram can have no right angles.
- Choice A is correct.** (NC.5.NF.1)  $\text{LCM}(4,3) = 12$ .  $\frac{3}{4} = \frac{9}{12}$  and  $\frac{2}{3} = \frac{8}{12}$ .  $\frac{9}{12} + \frac{8}{12} = \frac{17}{12} = 1\frac{5}{12}$  cups.
- The correct answer is  $\frac{3}{5}$ .** (NC.5.NF.1) Divide both by 5:  $\frac{15 \div 5}{25 \div 5} = \frac{3}{5}$ .
- Choice B is correct.** (NC.5.NBT.5) Both expressions have the same factor, 3. Since 25 is less than 27, 3 groups of 25 are less than 3 groups of 27.
- Choice D is correct.** (NC.5.G.1) Cat is 3 times Dog:  $6 \div 2 = 3$ ,  $12 \div 4 = 3$ ,  $18 \div 6 = 3$ ,  $24 \div 8 = 3$ .
- Choice B is correct.** (NC.5.G.1) Point V is positioned 6 units right and 8 units up from the origin, giving the coordinates  $(6, 8)$ .
- Choice A is correct.** (NC.5.OA.2) The student added before multiplying. Multiplication should happen first:  $6 \times 2 = 12$ , and then  $4 + 12 = 16$ .
- Choice C is correct.** (NC.5.NF.7) Convert:  $\frac{3}{4} = \frac{6}{8}$ . Then  $\frac{6}{8} + \frac{2}{8} = \frac{8}{8} = 1$  mile total.
- Choice C is correct.** (NC.5.OA.3) List the doubles carefully: 1st is 1, 2nd is 2, 3rd is 4, 4th is 8, 5th is 16, 6th is 32, and 7th is 64.
- Choice D is correct.** (NC.5.NBT.1) 5.4 has 1 decimal place.  $54 \times 3 = 162$ , so we move the decimal 1 place left: 16.2.
- Choice A is correct.** (NC.5.G.1) The phrase means double  $x$  and then add 5. For  $x = 2$ ,  $2 \times 2 + 5 = 4 + 5 = 9$ , so  $(2, 9)$  works.
- Choices A, B are correct.** (NC.5.NF.1) C is 3; D is  $3\frac{3}{4}$ .
- Choice A is correct.** (NC.5.NF.4)  $\frac{1}{2} \times \frac{7}{8} = \frac{7}{16}$  liter.
- Choice B is correct.** (NC.5.G.3) Two sides measure 9 cm (equal), and one side measures 5 cm (different). This is an isosceles triangle.
- The correct answer is 30.** (NC.5.OA.2) Left:  $3 + 3 = 6$ ,  $36 \div 6 = 6$ . Right:  $2 \times 3 = 6$ ,  $6 \times 4 = 24$ . Sum:  $6 + 24 = 30$ .
- Choice D is correct.** (NC.5.NF.7)  $5 \div \frac{1}{4} = 5 \times 4 = 20$  bags.
- Choice C is correct.** (NC.5.MD.4) The base is  $10 \times 5 = 50$  square feet. Since the volume is 200 cubic feet,  $200 \div 50 = 4$ , so the depth is 4 feet.
- Choice C is correct.** (NC.5.NBT.1)  $0.072 \times 1000 = 72$  (move decimal 3 places right).
- Choice B is correct.** (NC.5.NF.4) Any positive number multiplied by a factor between 0 and 1 produces a smaller result than the original number.
- Choice A is correct.** (NC.5.G.1) The x-axis is time, so the x-coordinate 12 means 12 seconds. The y-axis is distance, so the y-coordinate 3 means 3 meters. The interpretation matches the axes.
- Choice B is correct.** (NC.5.NF.4)  $8 \times \frac{1}{2} = 4$  yards. The bar diagram shows the scaled length is half the original, as  $\frac{1}{2} < 1$ .
- Choice B is correct.** (NC.5.MD.4) Use the rectangular-prism volume formula:  $5 \times 5 \times 5 = 125$ . So the volume is 125 cubic inches.



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**Champion's Training Log**

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**Dear Math Champion,**

◇ Look at what you did. 3 full practice tests. Hundreds of math problems. Every one of them strengthened your mind. You walked into this prep series as a learner, and you are walking out as a math athlete who knows how to compete. ◇

★ **What champions know:** talent is helpful, but training is everything. You trained. You showed up. You did the work. That is why your skills are sharp today. ★

**Champion's Skill Card**

- **Focus:** MAXED OUT! You can lock onto a problem and stay there.
- **Speed:** CALIBRATED! You move quickly without rushing.
- **Accuracy:** HIGH! You catch your own mistakes.
- **Mindset:** CHAMPION-LEVEL! You believe in your skills.

**Final champion tip:** on test day, walk in like you have trained for it—because you have. Sit down. Breathe. Read carefully. Work steadily. Check confidently. You will be amazed at how prepared you actually are.

If you want to share a proud moment or ask a question, please email me at [jay@testinar.com](mailto:jay@testinar.com). I'd love to hear from you!

**Jay Daie**

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

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## WHAT'S INSIDE:



### 3 Full-Length Grade 5 Math Practice Tests

Realistic test format to build familiarity and confidence.



### 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.



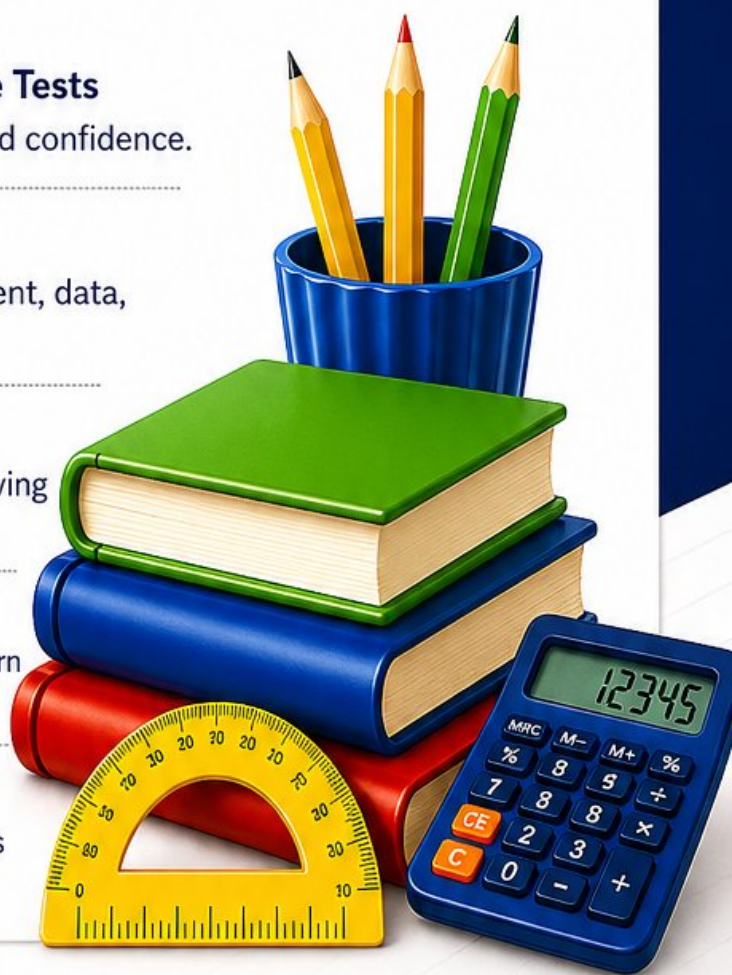
### Detailed Answer Key

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



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Consistent practice builds stronger skills, sharper thinking, and test-day success.

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