

North Carolina

EOG

GRADE 6

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs



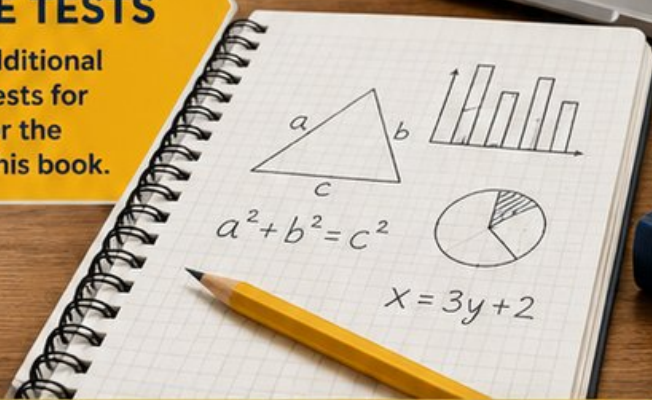
5 PRINTED TESTS

- ✓ Full-Length Practice Tests
- ✓ Realistic Questions
- ✓ Answer Key & Explanations



+ 2 ONLINE TESTS

Use these two additional online practice tests for extra review after the printed tests in this book.

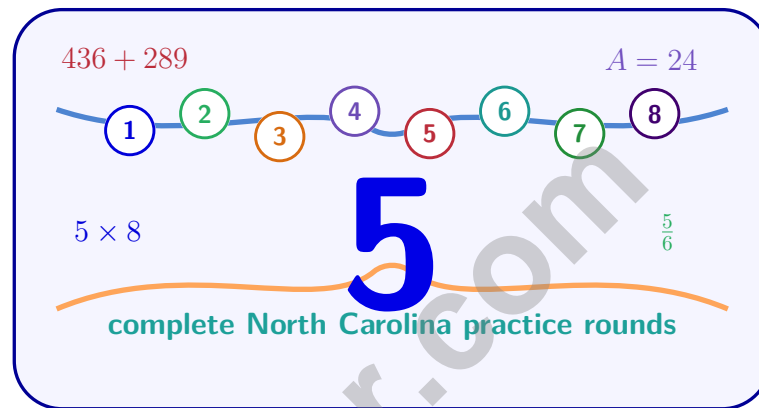


PREPARE • PRACTICE • SUCCEED



5 North Carolina EOG Grade 6 Math Practice Tests

Standards-Aligned Mountain-To-Coast Math Practice for End-of-Grade Tests



Five complete 40-question Grade 6 practice rounds for EOG, built for mountain-to-coast math practice with ratios, rational numbers, expressions, equations, geometry, statistics, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari



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Welcome, North Carolina Math Explorer!

Eight focused rounds using mountain-to-coast math practice

This book gives you five full Grade 6 practice tests for EOG. Each round uses Blue Ridge paths, city streets, and coastal routes as a fresh mental backdrop while you read closely, choose a smart strategy, show your work, and check whether your answer makes sense.

Your North Carolina Practice Promise

Travel from clue to answer: identify the task, model the math, and check the units.

Read

Plan

Check

How to Use This Book

A five-session routine for mountain-to-coast math practice

1. **Preview the skills.** Scan the quick review pages before beginning the first round.
2. **Mark confidence.** Put a small star beside problems where your plan felt strong.
3. **Work in order.** Take one 40-question test at a time in a quiet place.
4. **Plan the next round.** Use the growth log to choose one habit and one skill to practice.
5. **Correct actively.** Retry missed items before reading the full explanation.

North Carolina review rhythm: Finish a round, review the route, and use corrections to prepare for the next test.



What Is Inside?

Eight EOG tests, 320 questions, and a full review path

Part	What You Will Practice
Tests 1–2	Foundation rounds for ratios, rational numbers, operations, and careful reading.
Tests 3–4	Skill-building rounds with expressions, equations, geometry, data, and problem models.
Test 5	Final stamina round for mixed review, neat work, and flexible strategy choices.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Mountain-to-coast math practice means recognizing the skill even when the next question changes topic, changes format, or asks for an explanation.



Scan me!
For more practice
& answers

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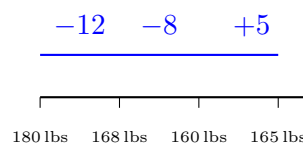
★ Practice Test 1	_____	13
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5) A set of data has the stem-and-leaf plot below. Find the median.

Stem	Leaf
3	2, 5, 8
4	1, 3, 6, 9
5	0, 4

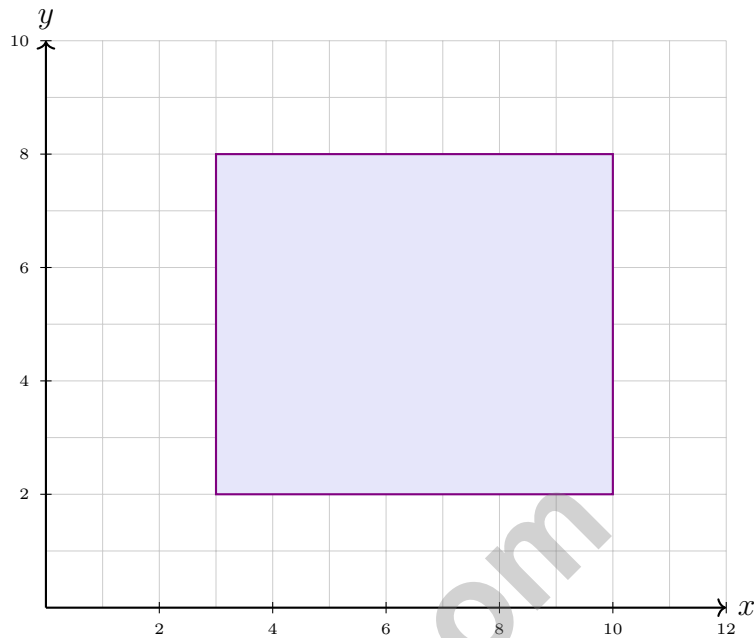
6) A bar graph shows the number of students in each grade level. Grade 4 has 35 students, Grade 5 has 42 students, and Grade 6 has 38 students. How many more students are in Grade 5 than Grade 4?

7) An athlete's weight tracking: Started at 180 lbs, lost 12 lbs in month 1, lost 8 lbs in month 2, gained 5 lbs in month 3. What is the current weight?



- A. 155 lbs
- B. 160 lbs

- C. 205 lbs
- D. 165 lbs



8)

A rectangle has vertices at $(3, 2)$, $(10, 2)$, $(10, 8)$, and $(3, 8)$. What is its area?

- A. 36 square units C. 48 square units
 B. 40 square units D. 42 square units

9) Which net cannot fold into a cube without overlapping faces?

- A. T-shaped net with 6 squares C. Cross with 6 squares
 B. Zigzag with 6 squares D. Straight line of 6 squares



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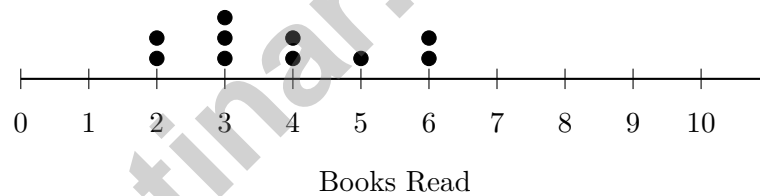
1) A scale drawing uses a scale of 1 inch = 5 feet. A rectangular room is drawn with dimensions 4 inches by 3 inches. What is the perimeter of the actual room?

- A. 28 feet C. 70 feet
 B. 35 feet D. 140 feet

2) A teacher asks: “What is a typical shoe size for sixth graders?”
Which statement is true?

- A. This is not statistical because all sixth graders wear the same shoe size. C. This is statistical because the teacher asked it.
 B. This is non-statistical because it is about shoes. D. This is statistical because shoe sizes vary among sixth graders.

3) The dot plot below shows the number of books read by students in one month.



What is the median number of books read?

- A. 3 C. 5
 B. 4 D. 6

4) For the data set 5, 8, 12, x , if the median is 10, what must x be?

- A. 8 C. 12
 B. 10 D. Any value ≥ 12



Scan me!
For more practice
& answers

North Carolina EOG Practice Test Answer Keys

How to use this North Carolina EOG answer section with a Grade 6 student:

1. check the answer first, then write one quick reason the choice is correct
2. mark questions to try again, especially the skills that feel connected to mountain-to-coast math practice
3. rework the problem before reading the full explanation, using this reminder:
Travel from clue to answer: identify the task, model the math, and check the units.

A calm North Carolina correction routine turns every missed item into useful practice. Finish a round, review the route, and use corrections to prepare for the next test.



North Carolina Practice Test Answers and Explanations

Review the five printed EOG tests with balanced, careful, and ready for the next route habits.

Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** **(NC.6.SP.1)** $\frac{1}{4} = 25\%$. So $0.25 \times 560 = 140$ chocolate chip cookies.
- 2) **Choice B is correct.** **(NC.6.RP.3)** Step 1: Rate is $120 \div 2 = 60$ mph. Step 2: Distance in 5 hours is $60 \times 5 = 300$ miles.
- 3) **The correct answer is $\frac{3}{10}$.** **(NC.6.RP.4)** Total marbles = $7 + 3 = 10$. Red marbles = 3. Probability = $\frac{3}{10}$. This fraction is already in lowest terms.
- 4) **Choice D is correct.** **(NC.6.NS.3)** Multiply: $120 \times 3 = 360$ feet.
- 5) **The correct answer is 43.** **(NC.6.SP.4)** In order: 32, 35, 38, 41, 43, 46, 49, 50, 54. With 9 values (odd), the median is the 5th value: 43.
- 6) **The correct answer is 7.** **(NC.6.SP.4)** Subtract: $42 - 35 = 7$ students more in Grade 5.
- 7) **Choice D is correct.** **(NC.6.NS.8)** Weight changes: $180 - 12 - 8 + 5 = 180 - 20 + 5 = 165$ lbs.
- 8) **Choice D is correct.** **(NC.6.G.3)** Width: $10 - 3 = 7$ units. Height: $8 - 2 = 6$ units. Area = $7 \times 6 = 42$ square units.
- 9) **Choice D is correct.** **(NC.6.G.4)** A straight line of 6 squares cannot fold into a cube. Valid cube nets require the squares to be arranged in 2D such that when folded in 3D, no faces overlap and all edges meet properly. A straight line does not satisfy this geometric constraint.
- 10) **Choice A is correct.** **(NC.6.RP.1)** The first group has 2 shaded out of 7. The second has 4 shaded out of 14, and $4 : 14$ simplifies to $2 : 7$. So both groups show the same part-to-whole ratio.
- 11) **Choice C is correct.** **(NC.6.RP.3)** Divide total cost by number of notebooks: $6.40 \div 8 = 0.80$ dollars per notebook.
- 12) **Choice B is correct.** **(NC.6.RP.2)** From the double number line, 3 miles in 10 minutes gives $3 \div 10 = 0.3$ miles per minute.
- 13) **Choice C is correct.** **(NC.6.RP.3)** Each apple costs \$0.50. So 9 apples cost $9 \times 0.50 = \$4.50$.
- 14) **Choice A is correct.** **(NC.6.NS.6)** For a proportional relationship through the origin, when $x = 0$, $y = 0$. The unit rate is $\frac{12}{3} = 4$, so the equation is $y = 4x$. When $x = 0$, $y = 4(0) = 0$.
- 15) **Choice A is correct.** **(NC.6.RP.2)** Counting the shaded squares: 18 in the upper region + 8 in the right region = 26 squares out of 100. So 26%.
- 16) **Choice C is correct.** **(NC.6.RP.3)** 35% of \$60 = $0.35 \times 60 = \$21$. Sale price is $\$60 - \$21 = \$39$.
- 17) **Choice A is correct.** **(NC.6.NS.9)** Remainder after rent and food: $\$500 - \$200 - \$100 = \200 . Savings: 38% of $\$200 = 0.38 \times 200 = \76 .
- 18) **Choice A is correct.** **(NC.6.RP.2)** For apples at \$2 each, the equation is $c = 2a$. The graph passes through $(0, 0)$, $(1, 2)$, $(2, 4)$, $(3, 6)$, and $(4, 8)$, representing a proportional relationship with a unit rate of \$2 per apple.
- 19) **The correct answer is IQR and middle 50%.** **(NC.6.SP.5)** (A) $IQR = Q3 - Q1 = 45 - 20 = 25$. (D) By definition, the middle 50% of data falls between $Q1$ and $Q3$. (B) is false because the box plot is not definitely symmetric. (C) is false because the range is $80 - 10 = 70$, not 75. (E) is false because $30 - 20 = 10$ while $45 - 30 = 15$, showing asymmetry.
- 20) **Choice C is correct.** **(NC.6.EE.9)** In 8 weeks, there are $8 \div 2 = 4$ two-week periods. Total saved: $\$25 \times 4 = \100 .
- 21) **Choice B is correct.** **(NC.6.RP.3)** The pattern is $1'' = 8$ ft, so $3'' = 3 \times 8 = 24$ ft.
- 22) **Choice C is correct.** **(NC.6.NS.2)** Friendly reminder: when you divide by a fraction, you can multiply by its reciprocal ("flip" the divisor and multiply). $\frac{3}{4} \div \frac{1}{2} = \frac{3}{4} \times \frac{2}{1} = \frac{6}{4}$, which simplifies to $\frac{3}{2}$, or $1\frac{1}{2}$.
- 23) **Choice A is correct.** **(NC.6.NS.3)** $6,216 \div 38 = 163$ remainder 22. Verify: $38 \times 163 + 22 = 6,216$.
- 24) **Choice B is correct.** **(NC.6.NS.3)** $4.2 \times 0.5 = 2.1 = 2.10$. They have the same value; trailing zeros do not change the decimal's worth.
- 25) **Choice A is correct.** **(NC.6.NS.1)** $6(7 + 4) = 6 \cdot 7 + 6 \cdot 4 = 42 + 24$. The area model shows the two parts: height 6 with widths 7 and 4. Only Choice A shows the correct expansion.



Inventor's Workshop Note

Hi, Math Inventor!

◇ 5 practice tests. 5 chances to invent new ways to think. You tried things. You changed them. You made your math brain stronger! ◇

★ **Inventors know:** the first try isn't always the best try. Sometimes you fix it. Sometimes you start over. You did all of that! ★

Inventor's Workshop

- **Sketch Pad:** Full of ideas!
- **Toolbox:** Lots of math strategies.
- **Workbench:** Neat and organized.
- **Brave Mind:** You try new things.

Inventor tip: on test day, if your first try doesn't work, switch tools. Inventors don't get stuck on one tool. Pick the right one for the job!

If you want to share something or ask a question, please email me at jay@testinar.com.

Jay Daie

Your Math Inventor

PRACTICE MORE. ACHIEVE MORE.

This book provides **5 full-length Math practice tests** designed to help Grade 6 students strengthen their skills, build confidence, and excel on standardized assessments.

Each test is carefully crafted to reflect the latest standards and covers a wide range of math topics with realistic questions and detailed answer explanations.



BUILD CONFIDENCE

Practice builds familiarity and reduces test anxiety.



IMPROVE ACCURACY

Sharpen skills and avoid common mistakes.



ACHIEVE SUCCESS

Consistent practice leads to greater results.

WHAT'S INSIDE?



5 Full-Length Practice Tests

Realistic tests designed to mirror actual exam conditions.



Realistic Questions

A variety of question types to strengthen problem-solving skills.



Answer Keys & Explanations

Detailed solutions to help students learn and improve.



Performance Tracking

Track progress and identify areas that need improvement.



Comprehensive Coverage

All essential topics aligned with Grade 6 math standards.



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BRIGHTLY

PREPARE TODAY. **SUCCEED TOMORROW!**