

4 North Carolina EOG

GRADE
6
MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

4

**PRINTED
TESTS**



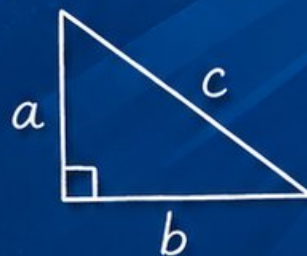
2

**ONLINE
TESTS**



- ✓ Build Confidence
- ✓ Master Key Math Skills
- ✓ Answer Explanations for Every Question
- ✓ Test-Taking Strategies That Work

$$2x + 5 = 21$$
$$x = 8$$



$$\frac{3}{4} + \frac{1}{2} = \frac{5}{4}$$



**USE THESE TWO
ADDITIONAL ONLINE
PRACTICE TESTS**

**FOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.**

4 North Carolina EOG Grade 6 Math Practice Tests

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

$436 + 289$ $A = 24$

1 2 3 4

4×10 $\frac{4}{5}$

complete North Carolina practice rounds

Four 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!

Four focused rounds using mountain-to-coast math practice

This book gives you four 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 four-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?

Four EOG tests, 160 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 and final stamina rounds with expressions, equations, geometry, data, and problem models.
Answer Pages	Compact keys and explanations that show why each answer works.

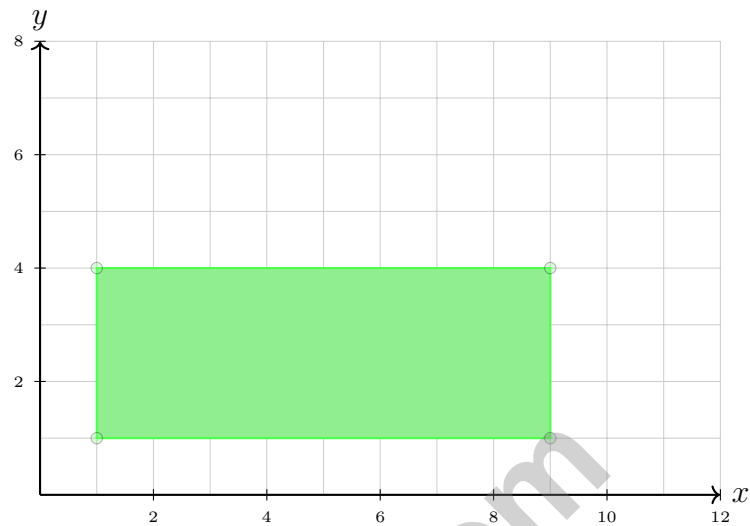
The tests are mixed on purpose. Mountain-to-coast math practice means recognizing the skill even when the next question changes topic, changes format, or asks for an explanation.



Scan me!
For more practice
& answers

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1)

A garden plot is rectangular with vertices at $(1, 1)$, $(9, 1)$, $(9, 4)$, and $(1, 4)$. What is the area of the garden?

- A. 18 square units C. 24 square units
 B. 21 square units D. 27 square units

2) A cube has a surface area of 54 cm^2 . What is the length of one edge?

- A. 3 cm C. 9 cm
 B. 6 cm D. 27 cm

3) On a number line, if point A is at $-\frac{5}{6}$ and point B is at $\frac{1}{6}$, what is the distance between them?

- A. $\frac{1}{6}$ C. 1
 B. $\frac{2}{3}$ D. $1\frac{1}{6}$



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4) A point on the y -axis must have which coordinate equal to zero?

- A. The x -coordinate C. Both coordinates
 B. The y -coordinate D. Neither (the origin only)

5)

Player	Score
Alice	8
Bob	-3
Carol	5
David	-1

Who has the lowest score?

- A. Alice C. Carol
 B. David D. Bob
- 6) A rectangle has vertices at $(1, 1)$, $(5, 1)$, $(5, 4)$, and $(1, 4)$. What is the perimeter of this rectangle?
- A. 14 units C. 18 units
 B. 16 units D. 20 units
- 7) A city's elevation is 385 feet above sea level. A valley is at -215 feet below sea level. What is the elevation difference between the city and the valley?
- A. 170 feet C. 600 feet
 B. 385 feet D. -215 feet



8) A rectangular aquarium has volume 50 liters, width $\frac{5}{2}$ dm, and height 4 dm. Find the length.

A. 2 dm

C. 10 dm

B. 20 dm

D. 5 dm

9) A rectangle has area 35 square units. One dimension is 7 units. What is the perimeter?

A. 18 units

C. 28 units

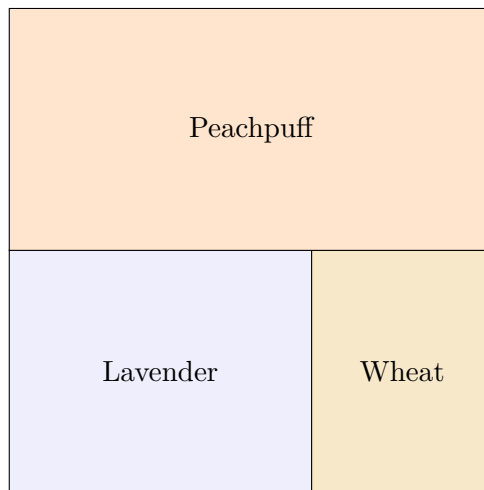
B. 32 units

D. 24 units

10) Convert $\frac{3}{8}$ to a percent.



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& answers



4)

A square is chosen at random from the grid. What is the probability that it is wheat-colored?

A. $\frac{3}{32}$

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

C. $\frac{3}{8}$

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

5) A coach records vertical jump heights (in inches) for basketball players:

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

How many players jumped at least 24 inches?

A. 3

B. 5

C. 6

D. 7



- 1) During winter, a city's average temperature dropped from 8° to -12° C. What was the temperature change?
- A. -20° C C. 4° C
 B. -4° C D. 20° C
- 2) A shipping company receives 8,925 packages to distribute to 35 regional centers. How many packages per center, and how many are left over?
- A. 255 packages per center, 0 left over C. 254 packages per center, 35 left over
 B. 255 packages per center, 10 left over D. 250 packages per center, 75 left over
- 3) Order these decimals from greatest to least: 0.38, 0.8, 0.308, 0.83
- A. 0.83, 0.8, 0.38, 0.308 C. 0.308, 0.38, 0.8, 0.83
 B. 0.8, 0.83, 0.308, 0.38 D. 0.308, 0.38, 0.83, 0.8
- 4) Factor $14 + 21$ using the GCF.
- A. $2(7 + 10.5)$ C. $3(4.67 + 7)$
 B. $7(2 + 3)$ D. $21(1 + 0.67)$
- 5) If a number is x units to the left of zero on a number line, how can we express its distance from zero?
- A. $-x$ C. 0
 B. x D. $2x$



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6) Which statement about the number line is FALSE?

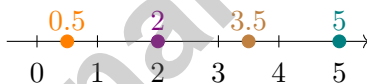
- A. -0.2 is between -0.5 and 0.1
- B. $-\frac{3}{10}$ is equivalent to -0.3
- C. The distance from -2 to 3 is 5 units
- D. -1.5 is less than -1.4

7) Which ordered pair has an x -coordinate of -5 and shares the same y -coordinate as the point $(2, 8)$?

- A. $(-5, 8)$
- B. $(8, -5)$
- C. $(-5, 2)$
- D. $(-5, -8)$

8) The table shows $h = 2, 4, 6$ and $s = 8, 16, 24$. What is the constant of proportionality?

9)



All shown numbers are in order. Which could be added between 2 and 3.5?

- A. 1.5
- B. 3
- C. 5.5
- D. 0.25

10) Marcus found the distance between $(5, 2)$ and $(5, 6)$ by computing $5 - 6 = -1$ units. What did Marcus do wrong?

- A. He subtracted the y -coordinates instead of the x -coordinates
- B. He did not use absolute value
- C. He used the wrong coordinates
- D. He forgot to identify which coordinates were the same

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.



Scan me!
For more practice
& answers

North Carolina Practice Test Answers and Explanations

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

Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** **(NC.6.G.3)** Width: $9 - 1 = 8$ units. Height: $4 - 1 = 3$ units. Area = $8 \times 3 = 24$ square units.
- 2) **Choice A is correct.** **(NC.6.G.4)** A cube has 6 equal square faces. If $SA = 54$, then each face has area $54 \div 6 = 9 \text{ cm}^2$. Since each face is a square, $s^2 = 9$, so $s = 3$ cm.
- 3) **Choice C is correct.** **(NC.6.NS.6)** Distance = $\frac{1}{6} - (-\frac{5}{6}) = \frac{1}{6} + \frac{5}{6} = \frac{6}{6} = 1$.
- 4) **Choice A is correct.** **(NC.6.NS.8)** All points on the y -axis have an x -coordinate of 0, regardless of the y -coordinate value.
- 5) **Choice D is correct.** **(NC.6.NS.6)** Bob has a score of -3 , which is the lowest of all scores: $-3 < -1 < 5 < 8$.
- 6) **Choice A is correct.** **(NC.6.NS.8)** Length is $|5 - 1| = 4$ units and width is $|4 - 1| = 3$ units. The perimeter is $2(4 + 3) = 14$ units.
- 7) **Choice C is correct.** **(NC.6.NS.3)** Elevation difference: $385 - (-215) = 385 + 215 = 600$ feet.
- 8) **Choice D is correct.** **(NC.6.G.2)** $50 = L \times 2.5 \times 4 = L \times 10$, so $L = 5$ dm.
- 9) **Choice D is correct.** **(NC.6.NS.8)** If area = 35 and one dimension is 7, then the other dimension is $35 \div 7 = 5$ units. Perimeter = $2(7 + 5) = 2(12) = 24$ units.
- 10) **The correct answer is 37.5%.** **(NC.6.RP.2)** $\frac{3}{8} = 0.375$, and $0.375 \times 100 = 37.5\%$.
- 11) **Choice B is correct.** **(NC.6.G.3)** The y -coordinate stays -2 ; the x -coordinate changes sign from -4 to 4 . This is reflection over the y -axis.
- 12) **Choice B is correct.** **(NC.6.NS.4)** Multiples of 8: 8, 16, 24, 32, ... Multiples of 12: 12, 24, 36, ... The least common multiple is 24.
- 13) **Choice C is correct.** **(NC.6.EE.3)** Zero is neither positive nor negative; it is the reference point. Statements A, B, and D are all true, but C is false because 0 is not classified as positive or negative.
- 14) **Choice B is correct.** **(NC.6.NS.3)** Positive divided by negative is negative: $\frac{32}{-4} = -8$.
- 15) **Choice D is correct.** **(NC.6.EE.8)** "More than 12" means strictly greater: $h > 12$.
- 16) **Choice A is correct.** **(NC.6.RP.2)** Plan A: $c = 30m$ (passes through origin, proportional). Plan B: $c = 10m + 20$ (has constant term, not proportional because when $m = 0$, $c = 20 \neq 0$).
- 17) **Choice D is correct.** **(NC.6.EE.9)** 3 years = 36 months. Total: $\$75 \times 36 = \2700 .
- 18) **Choice A is correct.** **(NC.6.RP.3)** Rectangle 1: $4 \times 5 = 20$ m and $2 \times 5 = 10$ m, so area = 200 sq m. Rectangle 2: $5 \times 4 = 20$ m and $2 \times 4 = 8$ m, so area = 160 sq m. Rectangle 1 is larger.
- 19) **The correct answer is 60.** **(NC.6.RP.3)** Markup is 50% of $\$40 = 0.50 \times 40 = \20 . Selling price is $\$40 + \$20 = \$60$.
- 20) **Choice B is correct.** **(NC.6.NS.2)** Invert $\frac{4}{5}$ to $\frac{5}{4}$, then multiply: $\frac{2}{3} \times \frac{5}{4} = \frac{10}{12}$. That reduces nicely to $\frac{5}{6}$.
- 21) **The correct answer is The unit rate is 25 items per hour, and the y-value when x = 1 is 25.** **(NC.6.NS.6)** A is correct because $50 \div 2 = 25$ items per hour. D is correct because when $x = 1$, $y = 25$. Choice B is false for a proportional relationship; Choice C should be $y = 25x$, and Choice E is false.
- 22) **Choice A is correct.** **(NC.6.NS.3)** $3,675 \div 25 = 147$. Each project receives 147 nails.
- 23) **Choice A is correct.** **(NC.6.NS.3)** Round: $19.8 \approx 20$ and $4.1 \approx 4$. Then $20 \div 4 = 5$. The exact answer is ≈ 4.83 .
- 24) **Choice A is correct.** **(NC.6.NS.1)** Distributive property: $9(3 + 4) = 9 \cdot 3 + 9 \cdot 4 = 27 + 36 = 63$. Choice A shows the expanded form.
- 25) **Choice B is correct.** **(NC.6.NS.6)** Absolute value measures distance from zero. Distance is always positive or zero, so $|-8| = 8$.



A Note From Your Math Friend

Hi, Math Star!

◇ Wow! You finished 4 full practice tests. That is a LOT of math problems. You worked hard, and your brain got stronger every time. ◇

★ **Here is a big idea:** mistakes are okay! Every time you got something wrong, you got smarter. Through 4 tests, you learned that trying is the most important thing. ★

Look What You Did!

- **Hard Worker:** You did not give up!
- **Smart Thinker:** You used your math tools.
- **Brave Learner:** You tried hard problems.
- **Test Ready:** You feel proud and prepared.

Big tip for test day: take your time. Read each problem twice. Show your work. Check your answer. You can do this!

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

Jay Daie

Your Math Friend

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes 4 full-length Math practice tests and 2 online tests to help Grade 6 students build confidence, strengthen skills, and excel on standardized assessments.

Each practice test is carefully crafted to reflect the latest standards and includes a variety of question types, realistic test conditions, and detailed answer explanations.

Perfect for classroom use, homework, test preparation, and extra practice at home.

THIS BOOK INCLUDES:

4 Full-Length Printed Tests

2 Online Practice Tests

 Detailed Answer Explanations

 **MORE PRACTICE.
GREATER RESULTS.**

Give your child the tools to build strong math skills, confidence, and a positive attitude toward learning.

WHAT YOU'LL GAIN



Stronger Math Skills

Build a solid foundation through targeted practice and review.



Better Problem Solving

Develop logical thinking and effective solution strategies.



Deeper Understanding

Reinforce key concepts with clear explanations and meaningful practice.



Test Confidence

Familiarize with test formats and improve accuracy and speed.



Achieve Success

Build confidence and perform your best on test day.

TOPICS COVERED

- ✓ Ratios & Rates
- ✓ Percents
- ✓ The Number System
- ✓ Statistics & Probability
- ✓ Expressions & Equations
- ✓ Data Analysis
- ✓ Geometry
- ✓ Measurement & Conversions
- ✓ Fractions & Decimals
- ✓ And More!



2 ONLINE TESTS

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



VISIT [TESTINAR.COM/MATH6](https://www.testinar.com/math6)
FOR MORE PRACTICE TESTS
AND LEARNING RESOURCES



PRACTICE
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