10 North Carolina EOG

GRADE 6 MATH

PRACTICE TESTS

Standards-Aligned Review
Mixed Practice & Answer Key

10 PRINTED TESTS
Realistic practice to build confidence and mastery

2 ONLINE TESTS
Extra practice for continued success

DETAILED ANSWER EXPLANATIONS
Learn with step-by-step solutions

FOCUSED & EFFECTIVE
Target key math skills with purposeful practice

10 PRINTED TESTS +2 ONLINE TESTS

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

PRACTICE • REVIEW • SUCCEED

10 North Carolina EOG Grade 6 Math Practice Tests

Standards-Aligned Balanced Problem Solving for End-of-Grade Tests

Ten complete 40-question Grade 6 practice rounds for EOG, with ratios, rational numbers, expressions, equations, geometry, statistics, answer keys, and clear explanations for every item.

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Welcome, North Carolina Math Explorer!

Ten steady rounds on a mountains-to-coast math path

This book gives you ten full Grade 6 practice tests for EOG. Each round uses Blue Ridge views, coastal plains, and careful classroom work 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

Balance computation with reasoning so the answer makes sense. I will slow down for the question, circle what matters, solve one step at a time, and use mistakes as clues for getting stronger.

How to Use This Book

A ten-session routine for balanced problem solving

1. **Preview the skills.** Read the quick review pages before the first test.
2. **Take one test at a time.** Work in a quiet place and answer all 40 questions.
3. **Mark your confidence.** Put a small star beside problems you solved with a strong plan.
4. **Check, then retry.** For missed questions, try the problem again before reading the explanation.
5. **Track your next move.** Use the growth log to name one habit and one skill for the next test.

North Carolina review rhythm: Test one day, correct carefully the next day, then return for the next round when your corrections feel clear.

What Is Inside?

Ten EOG tests, 400 questions, and a full review path

Part	What You Will Practice
Tests 1–3	Warm-up rounds for ratios, rational numbers, operations, and careful reading.
Tests 4–6	Skill-building rounds with expressions, equations, geometry, data, and problem models.
Tests 7–9	Stamina rounds for mixed review, neat work, and flexible strategy choices.
Test 10	Final North Carolina round to show growth across the whole book.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Balanced problem solving means recognizing the skill even when the next question changes topic.

Table of Contents

1) Which ordered pair is located in Quadrant III?

☐ A. $(2, 5)$
☐ B. $(-1, 3)$
☐ C. $(-4, -2)$
☐ D. $(3, -6)$

2) A clothing store offers layered discounts: first take 20% off, then take an additional 10% off the already-reduced price. If an item originally costs \$100, what is the final price?

☐ A. \$70
☐ B. \$90
☐ C. \$80
☐ D. \$72

3) An error was found in a proportional relationship table. The equation should be $y = 6x$. Which point does NOT fit the pattern?

x	1	2	3	4
y	6	12	18	25

☐ A. $(1, 6)$ does not fit
☐ B. $(2, 12)$ does not fit
☐ C. $(3, 18)$ does not fit
☐ D. $(4, 25)$ does not fit

4) A business had a monthly budget of \$8000. They overspent by \$1200. What is the actual spending, and what percent over budget were they?

☐ A. Spent \$9200; 15% over
☐ B. Spent \$9200; 13% over
☐ C. Spent \$6800; 15% under
☐ D. Spent \$9200; 12% over

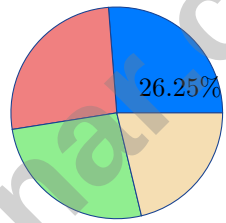
5) A student uses a scale drawing where 1 inch = 4 feet. She measures a desk as 3 inches in the drawing. She says the actual desk is $\frac{3}{4}$ feet long. Which is the student's error?

☐ A. The units are wrong; she should say inches, not feet.
☐ B. She divided instead of multiplied; the actual length is 12 feet.
☐ C. She used the scale backward; the actual length is 12 inches.
☐ D. The measurement of 3 inches is wrong.

6) The absolute value of a negative number is:

☐ A. Always negative
☐ B. Always positive
☐ C. Always zero
☐ D. Sometimes negative and sometimes positive

7)



A store sold 640 items. The circle graph shows 26.25% were on sale. How many items were on sale?

☐ A. 168
☐ B. 156
☐ C. 174
☐ D. 188

8) A rectangular prism has a surface area of 270 cm^2. Its length is 11 cm and its width is 5 cm. What is the height of the prism (in cm)?

9) A circle graph (pie chart) shows the distribution of 360 students by lunch preference: pizza 120 students, tacos 90 students, salad 60 students, other 90 students. What angle in degrees should the pizza section span?

☐ A. 180 degrees
☐ B. 90 degrees
☐ C. 60 degrees
☐ D. 120 degrees

10) Which ratio is equivalent to 5 : 15?

☐ A. 1 : 2
☐ B. 5 : 10
☐ C. 10 : 30
☐ D. 1 : 3

11) The image shows counters arranged to show the ratio of blue to red.

3 blue, 2 red

Which statement describes this ratio correctly?

☐ A. For every 3 blue there is 1 red.
☐ B. For every 5 blue there are 2 red.
☐ C. For every 2 blue there are 3 red.
☐ D. For every 3 blue there are 2 red.

12) A student reads 45 pages in $\frac{3}{4}$ hour. What is the reading rate in pages per hour?

☐ A. 34 pages per hour
☐ B. 45 pages per hour
☐ C. 60 pages per hour
☐ D. 68 pages per hour

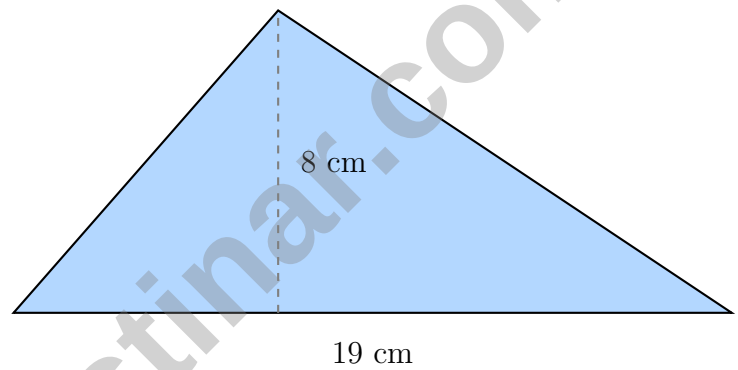
13) A restaurant uses 5 pounds of butter to make 80 cookies. How much butter is used per cookie in pounds?

☐ A. 0.0625 pounds
☐ B. 0.125 pounds
☐ C. 0.25 pounds
☐ D. 0.5 pounds

1) Two summer camps compare camper satisfaction scores (0–100) using histograms. Camp A has a symmetric, bell-shaped distribution. Camp B has a right-skewed distribution. Both have the same median of 75. What is most likely different?

☐ A. Camp A's mean is higher than Camp B's
☐ B. Means cannot be compared for differently-shaped distributions
☐ C. Both have the same mean
☐ D. Camp B's mean is higher than Camp A's

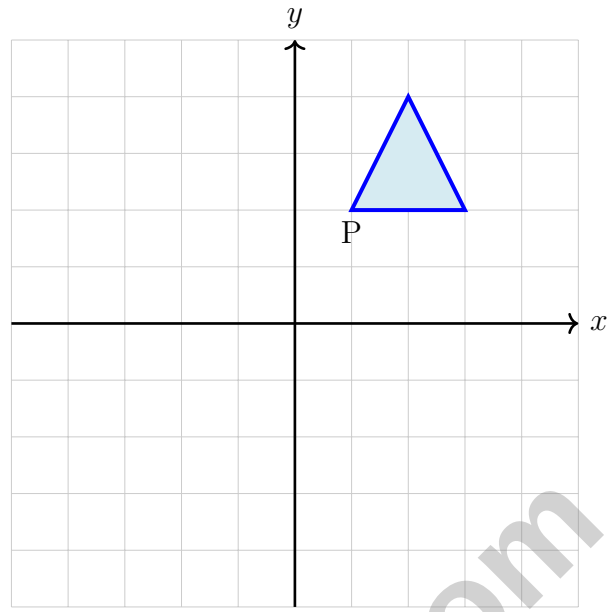
2) An acute triangle has a base of 19 centimeters and a height of 8 centimeters. What is its area?



☐ A. 27 cm^2
☐ B. 38 cm^2
☐ C. 76 cm^2
☐ D. 152 cm^2

3) A cube is unfolded into a net. Starting with 6 faces arranged in a T-shape, how many ways can you refold it into a cube (considering each rotation as the same cube)?

☐ A. 1
☐ B. 2
☐ C. 3
☐ D. 6



4)

A triangle has vertices at $P(1, 2)$, $Q(3, 2)$, and $R(2, 4)$. If the triangle is translated 3 units right and 1 unit up, what are the coordinates of the image vertex P'?

☐ A. $(4, 3)$
☐ B. $(4, 5)$
☐ C. $(-2, 1)$
☐ D. $(1, 3)$

5) Data Set 1: mean=50, median=50, range=10. Data Set 2: mean=50, median=45, range=50. Which statement is true?

☐ A. Set 1 is symmetric; Set 2 is skewed right
☐ B. Both data sets have identical distributions
☐ C. Set 1 is symmetric; Set 2 is skewed left
☐ D. Both are skewed right with the same spread

1) Maya is building a garden box with dimensions $3\frac{1}{2}$ ft long, 2 ft wide, and $1\frac{1}{2}$ ft deep. How many cubic feet of soil does she need?

☐ A. 7 ft^3
☐ B. 8.5 ft^3
☐ C. 10.5 ft^3
☐ D. 14 ft^3

2) A recipe scales proportionally. The table shows ingredients for one batch. How much flour is needed for 4 batches?

Flour (cups)	Batches
2.5	1
?	4

3) A vehicle travels at a constant speed. The graph shows the relationship between time and distance. If the point $(2, 110)$ is on the line (meaning 2 hours $\rightarrow$ 110 miles), which equation models this relationship?

☐ A. $d = 50t$
☐ B. $d = 55t$
☐ C. $d = 110t$
☐ D. $d = 220t$

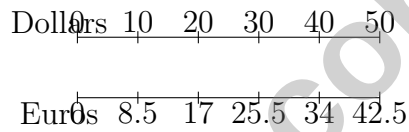
4) Which three representations are equivalent?

☐ A. 0.2, $\frac{1}{5}$, and 20%
☐ B. 0.2, $\frac{2}{5}$, and 20%
☐ C. 0.4, $\frac{1}{5}$, and 40%
☐ D. 0.4, $\frac{4}{10}$, and 20%

5) A restaurant bill comes to \$45. The customer wants to leave a 20% tip. How much is the tip?

☐ A. \$4.50
☐ B. \$9.00
☐ C. \$18.00
☐ D. \$27.00

6) An exchange rate is 1 dollar = 0.85 euros. How many euros is \$50?



☐ A. 35.5 euros
☐ B. 40.25 euros
☐ C. 42.5 euros
☐ D. 58.8 euros

7) Find the LCM of 12 and 15 using the table below.

Multiples of 12	12	24	36	48	60	72
Multiples of 15	15	30	45	60	75	90

☐ A. 30
☐ B. 36
☐ C. 48
☐ D. 60

8) Factor $12 + 20$ using the distributive property.

☐ A. $4(3 + 5)$
☐ B. $2(6 + 10)$
☐ C. $3(4 + 20)$
☐ D. $5(2 + 4)$

North Carolina EOG Practice Test Answer Keys

How to use this section with a Grade 6 student:

1. check the answer first
2. mark questions to try again
3. rework the problem before reading the full explanation

A calm correction routine turns every missed item into useful practice.

Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

1) **Choice C is correct.** NC.6.RP.2 Quadrant III contains points where both coordinates are negative. The point $(-4, -2)$ has negative x and negative y, so it is in Quadrant III.
2) **Choice D is correct.** NC.6.NS.8 After first discount: $\$100 - 0.20 \times 100 = \$80$. After second discount: $\$80 - 0.10 \times 80 = \$72$.
3) **Choice D is correct.** NC.6.SP.2 For $y = 6x$: when $x = 4$, $y = 6(4) = 24$, not 25. The point should be $(4, 24)$.
4) **Choice A is correct.** NC.6.SP.4 Actual spending: $\$8000 + \$1200 = \$9200$. Percent over: $\$1200 \div \$8000 = 0.15 = 15\%$.
5) **Choice B is correct.** NC.6.RP.4 To find the actual length from a drawing length, multiply by the scale factor: 3 inches $\times$ 4 feet per inch = 12 feet. The student divided ($3 \div 4 = \frac{3}{4}$) instead of multiplying.
6) **Choice B is correct.** NC.6.NS.8 Absolute value is defined as the distance from zero, which is always non-negative (positive or zero).
7) **Choice A is correct.** NC.6.NS.8 26.25% of 640 is $0.2625 \times 640 = 168$ items.
8) **The correct answer is 5.** NC.6.EE.1 $SA = 2LW + 2LH + 2WH = 2(11)(5) + 2(11)H + 2(5)H = 110 + 32H$. Since $270 = 110 + 32H$, $160 = 32H$, so $H = 5$ cm.
9) **Choice D is correct.** NC.6.EE.6 Pizza accounts for $\frac{120}{360} = \frac{1}{3}$ of students. The angle is $\frac{1}{3} \times 360° = 120°$.
10) **Choice D is correct.** NC.6.G.2 A helpful way to check is to simplify. Divide both parts of 5 : 15 by 5: $\frac{5}{5} : \frac{15}{5} = 1 : 3$.
11) **Choice D is correct.** NC.6.NS.4 Count the counters in the order named: 3 blue and 2 red. That gives 3 : 2, so the matching language is "for every 3 blue there are 2 red."
12) **Choice C is correct.** NC.6.SP.5 Divide pages by time: $45 \div \frac{3}{4} = 45 \times \frac{4}{3} = \frac{180}{3} = 60$ pages per hour.
13) **Choice A is correct.** NC.6.NS.3 $5 \div 80 = 0.0625$ pounds per cookie.
14) **Choice D is correct.** NC.6.NS.8 The ratio is 4 : 5. When roses are 16 (multiply by 4), tulips are $5 \times 4 = 20$.
15) **Choice B is correct.** NC.6.EE.6 If lawns mowed is on the x-axis and dollars earned is on the y-axis, the unit rate is $\frac{45}{3} = 15$ dollars per lawn.
16) **Choice A is correct.** NC.6.SP.1 $\frac{7}{20} = \frac{35}{100} = 0.35 = 35\%$ (multiply numerator and denominator by 5).
17) **Choice D is correct.** NC.6.EE.3 Increase is $\$44,000 - \$40,000 = \$4,000$. Percent increase is $\frac{4000}{40000} = 0.10 = 10\%$.
18) **The correct answer is The correct formula and calculation are $A = \frac{1}{2}(9 + 11) \times 6 = \frac{1}{2}(20)(6) = 60$ in^2..** NC.6.EE.3 Statements A and B are both correct. Statement C is wrong because height is also needed. Statement D is wrong because height is a perpendicular distance, not the sum of the bases. Statement E gives 120 in^2, which is incorrect.
19) **Choice C is correct.** NC.6.NS.6 Unit price: $12 \div \frac{3}{4} = 12 \times \frac{4}{3} = 16$ dollars per pound.
20) **Choice A is correct.** NC.6.G.4 Divide: $20 \div 8 = 2.5$ gallons.
21) **Choice C is correct.** NC.6.NS.1 $\frac{7}{8} \times \frac{4}{1} = \frac{28}{8} = \frac{7}{2} = 3\frac{1}{2}$.
22) **Choice D is correct.** NC.6.EE.3 Using partial quotients: $200 + 20 + 8 = 228$. Verify: $24 \times 228 = 5{,}472$.
23) **Choice B is correct.** NC.6.G.4 Multiply: $2.5 \times 3 = 7.5$ kg.
24) **Choice A is correct.** NC.6.G.3 Multiples of 4: $4, 8, 12, 16, \ldots$. Multiples of 6: $6, 12, 18, \ldots$. The least common multiple is 12.
25) **Choice A is correct.** NC.6.SP.2 The rectangle shows a common factor of 6 with addends 3 and 8. The area is $6 \times 3 + 6 \times 8 = 18 + 48 = 66 = 6(3 + 8)$. Choice A is correct.
26) **The correct answer is $(3, 2)$.** NC.6.SP.4 Reflection over the y-axis negates the x-coordinate: $(-3, 2) \to (3, 2)$.
27) **Choice D is correct.** NC.6.SP.1 The student went from +25 to −5. The change is $-5 - 25 = -30$, meaning the lunch cost 30 dollars.
28) **Choice B is correct.** NC.6.SP.4 The point 2.6 is six tenths of the way from 2 to 3, making it exactly the position given.

Hi, Math Champion!

◇ You trained hard! 10 full practice tests is real practice. Your math game is way better now than when you started. ◇

⋆ **Coach's truth:** kids who practice get better. You practiced. You got better. That's how it works! ⋆

Your Game Stats

- **Energy:** HIGH! You can finish a long test.
- **Smart Plays:** You know lots of strategies.
- **Calm Head:** You stay cool with hard problems.
- **Game-Day Ready:** You feel strong and prepared.

Coach's tip: the night before the test, get good sleep. Eat a good breakfast. Bring a sharp pencil. Trust your training!

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

Jay Daie

Your Math Coach

PRACTICE MORE. ACHIEVE MORE. SUCCEED!

This **Grade 6 Math Practice Tests** book is designed to help students build strong math skills, deepen their understanding of key concepts, and gain the confidence they need to succeed on any test.

With 10 full-length printed tests and 2 online tests, students get the review, practice, and realistic test experience they need to improve accuracy, strengthen problem-solving abilities, and reach their full potential.

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

PERFECT FOR:

- Classroom Practice
- Homework & Review
- Independent Learning
- Test Preparation
- Skill Reinforcement
- Building Confidence

CONFIDENCE TODAY. SUCCESS TOMORROW!

WHAT STUDENTS WILL GAIN

Stronger Math Skills
Build a solid foundation through targeted practice and review.

Better Problem Solving
Develop logical thinking and effective solution strategies.

Deepen Understanding
Reinforce key math concepts aligned with standards.

Test Confidence
Get familiar with test formats and improve accuracy.

Achieve Success
Build confidence and perform your best on test day.

TOPICS COVERED

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

2 ONLINE TESTS

Extra online practice to reinforce learning and build confidence.

MORE PRACTICE. GREATER RESULTS.

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

10 PRINTED PRACTICE TESTS | **2 ONLINE PRACTICE TESTS** | **DETAILED ANSWER EXPLANATIONS**