

# 6

# North Carolina

# EOG

# GRADE 3

# MATH

# PRACTICE TESTS

Standards-Aligned Practice with  
Review, Answer Keys, and Explanations



6 Full-Length  
Practice Tests



Detailed Answer Keys  
and Explanations



Master Skills.  
Boost Scores.  
Succeed!

# 6 North Carolina EOG Grade 3 Math Practice Tests

*Standards-Aligned Review with Mixed Practice and Answer Key*



Six complete 30-question practice labs for Grade 3 math: operations, fractions, measurement, data, area, shapes, answer keys, and clear explanations for every item.

**Jay Daie and Reza Nazari**



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# Welcome to the Six Skill Labs

Six full tests, six focused resets, and a stronger Grade 3 problem solver



Notice the pattern. Choose a tool. Explain the answer.

## To the Grade 3 Math Builder

This book gives you six practice labs for the North Carolina EOG. Each lab is a complete 30-question test, so students can practice accuracy, stamina, and clear mathematical thinking.

North Carolina brings mountain trails, coastal sounds, pine forests, and research labs. Strong math uses that same care: read the task, select a strategy, build the solution, and match each problem with the right model.

### Decode

Find the question, the units, and the useful numbers.

### Design

Use an equation, array, number line, graph, or sketch.

### Confirm

Make sure the answer matches the question.

**Six-lab promise:** I will work with patience, show useful thinking, and treat corrections as part of learning.

# How to Use This Book

A six-lab routine for steady Grade 3 growth

Use one practice lab at a time. The goal is not only to finish more pages. The goal is to finish, review, repair, and bring a smarter habit to the next test. For North Carolina students, each lab is a short route through mountain trails, coastal sounds, pine forests, and research labs: steady, alert, and ready for the next clue.

1. **Warm up.** Skim the reference materials and remind yourself of common tools.
2. **Take one test.** Work steadily and mark problems that need a second look.
3. **Check answers.** Use the compact answer keys first.
4. **Read explanations.** Study missed items and any lucky guesses.
5. **Redo two problems.** Rewrite the work cleanly without peeking.
6. **Set the next lab goal.** Choose one skill or habit to improve.

**Best review habit:** A mistake is most useful when you can say why it happened and what you will do differently next time.



## What Is Inside?

Six complete practice tests with review support

Part	What You Do	Why It Helps
Practice Tests 1–6	Solve six different 30-question tests.	Build stamina and see Grade 3 skills mixed together.
Answer Keys	Check each answer in compact boxes.	Find mistakes quickly without losing your place.
Explanations	Read why each answer works.	Turn missed items into a clear next step.
Standards Reference	See how North Carolina Grade 3 standards connect to practice.	Understand the skills behind the questions.

Each test has 26 multiple-choice questions, 1 select-all question, and 3 open-ended questions. This gives students practice with quick decisions, careful reading, and short written math answers for the North Carolina EOG path.



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For more practice  
& answers

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1) A candy bar is divided into 2 equal pieces. You eat one piece. What fraction of the candy bar do you eat?

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

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

2) Which list shows unit fractions in order from smallest to largest?

- A.  $\frac{1}{2}, \frac{1}{4}, \frac{1}{8}$   
 B.  $\frac{1}{8}, \frac{1}{4}, \frac{1}{2}$

- C.  $\frac{1}{4}, \frac{1}{8}, \frac{1}{2}$   
 D.  $\frac{1}{8}, \frac{1}{2}, \frac{1}{4}$

3) Complete:  $\square \div 5 = 8$

- A. 35  
 B. 40

- C. 45  
 D. 13

4)  $\frac{1}{2} = \frac{?}{6}$ . What is the missing numerator?

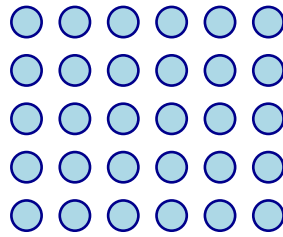
- A. 1  
 B. 2

- C. 3  
 D. 4

5) Ava wants to build a square using unit squares (each 1 inch by 1 inch). If her square is 5 inches on each side, how many unit squares does she need?



6) Look at this array. Count the objects.



5 rows with 6 objects in each row

- A. 25 objects                       C. 30 objects  
 B. 28 objects                       D. 36 objects
- 7) Which expression shows the same product as  $2 \times 9$ ?
- A. 11 objects in a row               C.  $9 \times 9$   
 B.  $2 + 9$                                D.  $9 \times 2$
- 8) On a number line from 0 to 1 with 4 equal parts, which pair names the same point?
- 
- A.  $\frac{2}{4}$  and  $\frac{3}{4}$                                C.  $\frac{2}{4}$  and  $\frac{2}{2}$   
 B.  $\frac{2}{4}$  and  $\frac{1}{2}$                                D.  $\frac{2}{4}$  and  $\frac{4}{4}$
- 9) Why do we add a zero when we multiply  $8 \times 40$ ?
- A. Because 40 has a zero in it.               C. Because we always add a zero when multiplying.  
 B. Because  $40 = 4 \times 10$ , and we multiply by 10 at the end.               D. Because the answer needs to be bigger.



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10)



Which color represents odd numbers?

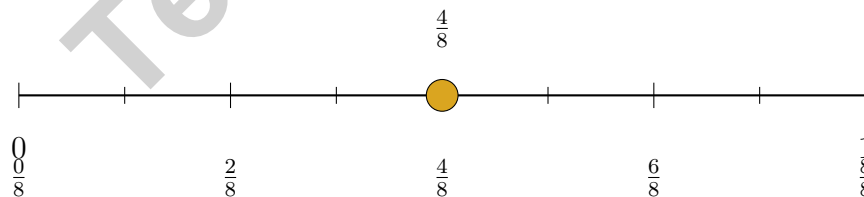
- A. Blue (1, 3, 5)
  C. Both colors  
 B. Red (2, 4)
  D. Neither color

11) Look at the line plot showing pencil lengths in inches:  $5$ ,  $5\frac{1}{4}$ ,  $5\frac{1}{2}$ ,  $5\frac{3}{4}$ ,  $6$ . There are 2 X's at 5 inches, 1 X at  $5\frac{1}{4}$  inches, 3 X's at  $5\frac{1}{2}$  inches, 2 X's at  $5\frac{3}{4}$  inches, and 1 X at 6 inches. How many pencils are there in total?

12) A rectangular rug has an area of 36 square feet. If the width is 4 feet, what is the length?

- A. 9 feet
  C. 40 feet  
 B. 8 feet
  D. 32 feet

13) Which of the following is equivalent to  $\frac{2}{4}$ ?



- A.  $\frac{2}{8}$ 
 C.  $\frac{1}{3}$   
 B.  $\frac{4}{8}$ 
 D.  $\frac{3}{8}$



1) Which number sentence shows the distributive property?

A.  $(2 + 3) \times 4 = 2 \times 4 + 3 \times 4$

C.  $(2 + 3) \times 4 = 5 \times 4$

B.  $(2 + 3) \times 4 = 2 + 3 + 4$

D.  $(2 + 3) \times 4 = 2 \times 3 \times 4$

### Addition

2)

Hundreds	Tens	Ones
4	7	8
+	+	+
2	5	4

Using the place-value chart, what is  $478 + 254$ ?

A. 722

C. 832

B. 742

D. 732

3) Eli has 5 coin pouches. Each pouch has 4 coins. How many coins does Eli have altogether?

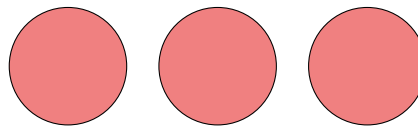
A. 9

C. 15

B. 1

D. 20

4) The circles below are completely shaded. How many wholes do they show?



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

C.  $\frac{3}{1}$

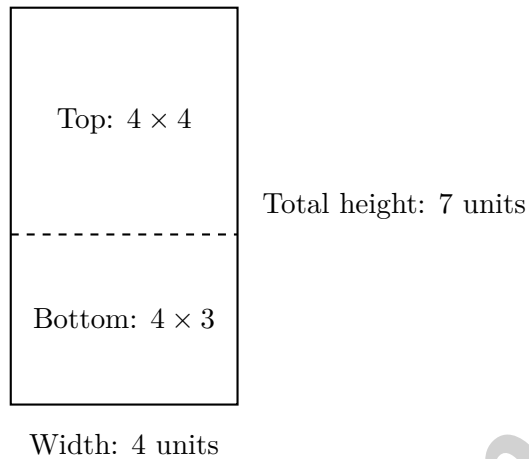
B.  $\frac{1}{1}$

D.  $\frac{1}{3}$



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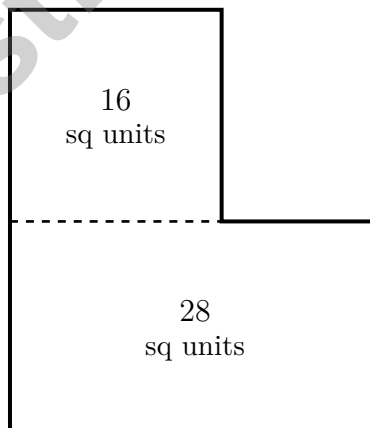
5) A rectangle is split horizontally:



What is the correct distributive statement?

- A.  $4 \times (4 + 3) = (4 \times 4) + (4 \times 3) = 16 + 12 = 28$
- B.  $4 + 3 = 7$  units
- C.  $4 \times 7 = 28$
- D.  $(4 + 4) + (4 + 3) = 15$

6) An L-shaped courtyard has areas of 28 sq units and 16 sq units marked. Find the total area.



- A. 12 sq units
- B. 44 sq units
- C. 56 sq units
- D. 448 sq units



1) Which pair of equations shows the commutative property with 3, 4, and 12?

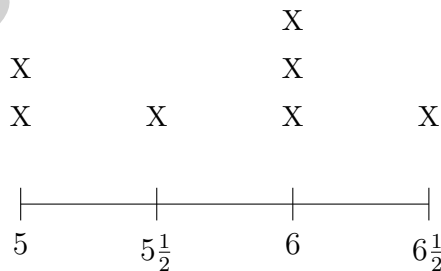
- A.  $3 + 4 = 7$  and  $4 + 3 = 7$ 
 C.  $12 - 3 = 9$  and  $12 - 4 = 8$   
 B.  $3 \times 3 = 9$  and  $4 \times 3 = 12$ 
 D.  $3 \times 4 = 12$  and  $4 \times 3 = 12$

2) A bar graph shows books. Maya's bar is 7 units (scale: 2 books per unit). Leo's bar is 5 units (scale: 2 books per unit). How many fewer books does Leo have than Maya?

3) A runner drove 268 miles on Monday and 305 miles on Tuesday. She estimates the total distance by rounding each number to the nearest hundred. What is her estimate?

- A. 500 miles
  C. 700 miles  
 B. 800 miles
  D. 600 miles

4) Ava measured the heights of plant stems in inches using halves: 5,  $5\frac{1}{2}$ , 6,  $6\frac{1}{2}$ .



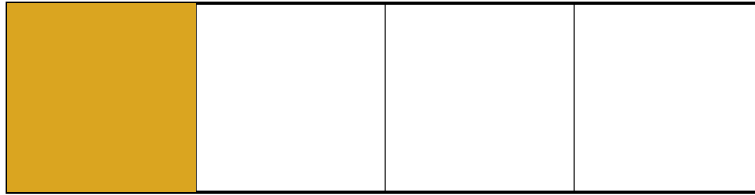
How many plant stems are 6 inches or taller?

- A. 2
  C. 4  
 B. 3
  D. 5



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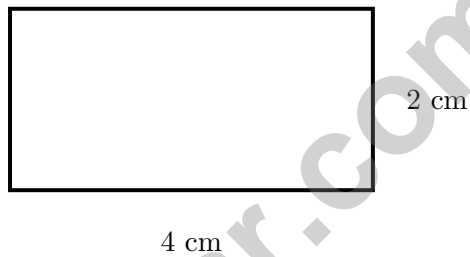
5) Look at the rectangle. It is divided into equal parts, and one part is shaded.



What fraction is shaded?

- A.  $\frac{1}{4}$   
 B.  $\frac{1}{3}$

- C.  $\frac{2}{4}$   
 D.  $\frac{1}{5}$



6)

What is the perimeter of this rectangle?

- A. 6 cm  
 B. 8 cm

- C. 12 cm  
 D. 16 cm

7) Which is greater:  $\frac{2}{3}$  or  $\frac{2}{6}$ ?



## Practice Test Answer Keys

**How to use this section with a Grade 3 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.**

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## Practice Test Answers and Explanations

### Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** (NC.3.NF.1) A candy bar divided into 2 equal pieces means each piece is a unit fraction of  $\frac{1}{2}$  (one-half).
- 2) **Choice B is correct.** (NC.3.NBT.3) Larger denominators give smaller fractions.  $\frac{1}{8} < \frac{1}{4} < \frac{1}{2}$ .
- 3) **Choice B is correct.** (NC.3.OA.6) If  $\square \div 5 = 8$ , then to find the missing dividend, we use the inverse:  $8 \times 5 = \square$ . Since  $8 \times 5 = 40$ , the answer is 40. Options A and C are off-by-one products. Option D adds instead of multiplies.
- 4) **Choice C is correct.** (NC.3.NF.3) The denominator was multiplied by 3 (from 2 to 6). Multiply the numerator by 3:  $1 \times 3 = 3$ .
- 5) **The correct answer is 25 unit squares.** (NC.3.MD.5) A square with side length 5 inches has area  $5 \times 5 = 25$  square inches, which equals 25 unit squares.
- 6) **Choice C is correct.** (NC.3.NBT.3) There are 5 rows with 6 objects in each row.  $5 \times 6 = 30$  objects in total.
- 7) **Choice D is correct.** (NC.3.OA.1)  $2 \times 9$  and  $9 \times 2$  both equal 18 by the commutative property of multiplication.
- 8) **Choice B is correct.** (NC.3.NF.3) Both  $\frac{2}{4}$  and  $\frac{1}{2}$  name the same point, the middle of the number line from 0 to 1.
- 9) **Choice B is correct.** (NC.3.NBT.3) When we multiply  $8 \times 40$ , we can break it down:  $8 \times 40 = 8 \times (4 \times 10) = (8 \times 4) \times 10 = 32 \times 10 = 320$ . The zero comes from multiplying by 10, not from the zero in "40".
- 10) **Choice A is correct.** (NC.3.MD.7) 1, 3, and 5 are odd numbers (shown in blue). 2 and 4 are even (shown in red).
- 11) **The correct answer is 9 pencils.** (NC.3.MD.5) Add all X's:  $2 + 1 + 3 + 2 + 1 = 9$  pencils total.
- 12) **Choice A is correct.** (NC.3.MD.5) Area = length  $\times$  width, so  $36 = \text{length} \times 4$ . Therefore, length =  $36 \div 4 = 9$  feet. Choice B (8) is a common error; C (40) confuses with perimeter; D (32) is area minus width.
- 13) **Choice B is correct.** (NC.3.NF.4)  $\frac{2}{4}$  and  $\frac{4}{8}$  both equal half of a whole and mark the same point.
- 14) **Choice D is correct.** (NC.3.NF.1) Making equal groups (necklaces) is a division problem. Divide 28 by 7 to find how many beads per necklace:  $28 \div 7 = 4$ .
- 15) **Choices C and D are correct.** (NC.3.MD.5) C and D are both correct because they show the same total area using the distributive property. The second rectangle has area 21 square units and width 3 units, so A and B are false. E is false because the total area is 63, not 105.
- 16) **Choice B is correct.** (NC.3.NF.3) 6 halves divided by 2 halves per whole =  $6 \div 2 = 3$  wholes.
- 17) **Choice D is correct.** (NC.3.MD.5) Left side:  $7 \times 5 = 35$  sq units. Right side:  $3 \times 2 = 6$  sq units. Total:  $35 + 6 = 41$  sq units.
- 18) **Choice D is correct.** (NC.3.NBT.3) The tens digit is 8. Since  $8 \geq 5$ , round up: 589 rounds to 600.
- 19) **Choice A is correct.** (NC.3.NBT.3) Ones:  $4 + 2 = 6$ . Tens:  $2 + 1 = 3$ . Hundreds:  $5 + 3 = 8$ . Answer: 836.
- 20) **Choice D is correct.** (NC.3.NF.4)  $\frac{2}{3} = \frac{4}{6}$  because both represent two-thirds of the pizza.
- 21) **Choice D is correct.** (NC.3.OA.8) Multiply: 8 rows  $\times$  4 columns = 32 soldiers.
- 22) **Choice B is correct.** (NC.3.MD.1) The minute hand points to 52 (just before the 11), and the hour hand is between 4 and 5. The time is 4 : 52.
- 23) **Choice B is correct.** (NC.3.MD.5) Count the rows: 9 rows. Count across: 6 unit squares per row. Total:  $6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 = 54$  unit squares cover the playground.
- 24) **The correct answer is 24.** (NC.3.NBT.3)  $(2 \times 3) \times 4 = 6 \times 4 = 24$ .
- 25) **Choice B is correct.** (NC.3.G.1) A square must have both 4 equal sides AND 4 right angles. If a shape has 4 equal sides but no right angles, it is a rhombus, not a square.
- 26) **Choice B is correct.** (NC.3.NF.4) Same numerator: sixths are bigger pieces than eighths. Five sixths is greater than five eighths.
- 27) **Choice D is correct.** (NC.3.NF.1) Eight equal slices mean each slice is  $\frac{1}{8}$  of the whole circle.
- 28) **Choice B is correct.** (NC.3.MD.5)  $\frac{8}{8} = 1$  and  $\frac{16}{8} = 2$ . Since  $2 > 1$ ,  $\frac{16}{8}$  is larger.
- 29) **Choice C is correct.** (NC.3.MD.5)  $8 \times 4 = 32$  unit squares.
- 30) **Choice A is correct.** (NC.3.OA.6) Think:  $32 \div 8 = 4$ . Check:  $8 \times 4 = 32$ .



## Hi, Brave Explorer!

◇ What a trip! You explored 6 full tests. You went to many math places: multiplication, fractions, area, time, and more. ◇

★ **Smart explorers know:** every trip teaches something. Through 6 tests, you learned a lot. You are a stronger math explorer now. ★

### Your Explorer Tools

- **Map Reading:** You read problems carefully.
- **Trail Skills:** You take steps in the right order.
- **Backpack:** You have many math tools.
- **Brave Heart:** You explore even hard problems.

**Explorer tip:** on test day, use the tools you packed. You have the skills. You are ready!

If you want to share something or ask a question, please email me at [jay@testinar.com](mailto:jay@testinar.com).

**Jay Daie**

Your Math Trail Guide

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This **Grade 3 Math Practice Tests** book is the perfect companion for students who want to strengthen their math skills and excel in school. With **6** full-length practice tests designed to reflect real test formats, students get the practice they need to understand key concepts, build problem-solving skills, and tackle any challenge with confidence.

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- ✓ Graphing & Data Analysis
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