

5 FULL-LENGTH North Carolina EOG

GRADE 5 MATH

★ PRACTICE TESTS ★



5 FULL-LENGTH
PRACTICE TESTS



COMPLETE
STANDARDS
REVIEW



SKILL PRACTICE,
WORD PROBLEMS,
AND MORE!

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



$$12 \times 3 = 36$$



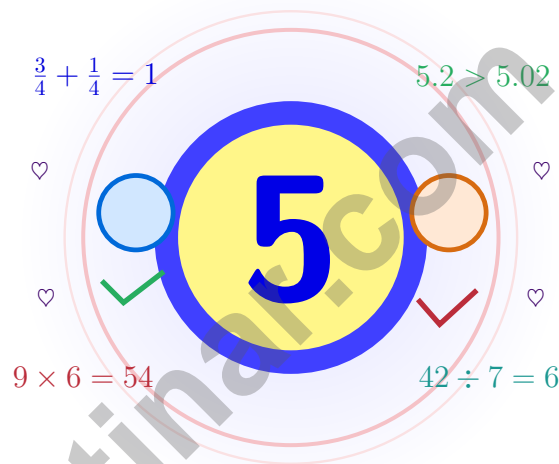
$$\frac{7}{10} = 0.7$$



BUILT FOR SUCCESS. DESIGNED TO HELP EVERY STUDENT.

5 North Carolina EOG Grade 5 Math Practice Tests

Five full tests and a coach's voice on every page



Five full tests, a friendly quick review, smart strategy pages, and student-tested support that turn Grade 5 practice in The Tar Heel State into a steady quest of real growth.

Jay Daie and Reza Nazari



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Strap In, North Carolina – Five-Test Trail

Five full tests and a coach's voice on every page

North Carolina Mathematicians, Read This First

This book is your practice zone, not a place to be perfect. Each of the five tests gives you a chance to notice clues, choose a strategy, check your thinking, and come back stronger for the next round. 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 right away. Some will make you slow down, draw, estimate, or retry. That is excellent news. It means your math brain is doing real work.

Notice

Read closely and spot what the problem is really asking.

Try

Pick a plan and work through it one step at a time.

Level Up

Use every correction like a clue for what to practice next.

A strong quest habit for North Carolina: slow down, write neatly, estimate before you solve, and keep going even when a problem looks tricky at first. That is exactly how confident math students are built.

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Scan me



From Cover to Final Test

A simple routine that turns five tests into real growth

Step 1: Power Up

Warm up with the quick review.
Wake up important ideas before you begin so your brain is ready to use them.

Step 2: Take the Checkpoint

Take one full practice test.
Find a quiet space, work carefully, and let accuracy matter more than speed.

Step 3: Decode Mistakes

Check your answers honestly.
Circle missed questions and look for patterns. Which skill or habit needs another try?

Step 4: Bring the Lesson Forward

Study, fix, and retry.
Read the explanation, repair the work, and carry that lesson into the next test.

A Five-Week North Carolina Quest Map

Week	Mission Focus
Week 1	Take Test 1 like a calm morning on the dunes.
Week 2	Take Test 2 and notice one habit that grew steadier.
Week 3	Take Test 3 and lift fractions, decimals, and conversions.
Week 4	Take Test 4 and slow down on multi-step problems.
Week 5	Take Test 5 with calm, careful, friendly focus.



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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.)

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Metric

1 meter (m) = 100 centimeters (cm)

1 centimeter (cm) = 10 millimeters (mm)

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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)

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WEIGHT AND MASS

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1 kilogram (kg) = 1,000 grams (g)

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TIME

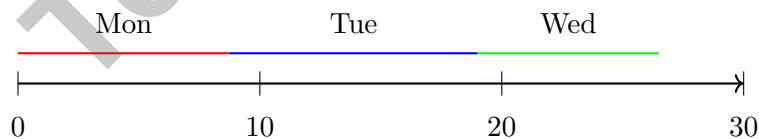
1 minute (min) = 60 seconds (sec) 1 week = 7 days

1 hour (hr) = 60 minutes (min) 1 year = 12 months

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



- 1) A student made an error. She calculated $7.5 \div 100$ and got 750. What is her mistake?
- A. She moved the decimal to the right instead of left
- B. She divided by 10 instead of 100
- C. She multiplied instead of dividing
- D. She ignored the decimal point
- 2) What is 5×10^1 ?
- A. 50
- B. 5
- C. 500
- D. 5000
- 3) A recipe calls for $2 \times (3 + 1)$ cups of flour. What is the interpretation?
- A. Double the sum of 3 and 1 cups
- B. 2 cups plus 3 cups plus 1 cup
- C. 2 times 3, plus 1 cup
- D. Half the sum of 3 and 1 cups
- 4) Which fraction is NOT equivalent to $\frac{2}{4}$?
- A. $\frac{1}{2}$
- B. $\frac{3}{6}$
- C. $\frac{4}{8}$
- D. $\frac{3}{5}$
- 5) A cyclist rides 8.75 kilometers on Monday, 10.25 kilometers on Tuesday, and 7.5 kilometers on Wednesday. What is the total distance ridden?



Total Distance?

- A. 25.75 km
- B. 26.00 km
- C. 26.50 km
- D. 27.00 km



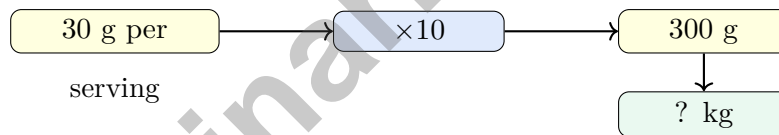
- 6) Convert: 4 feet = ? inches.

Record your answer in the space provided.

- 7) Multiplying by 1,000 moves each digit three places to the left in the place-value chart. What is $1.2 \times 1,000$?

- A. 0.0012 C. 1,200
 B. 12 D. 12,000

- 8) A nutrition label shows that one serving of cereal weighs 30 grams. A box contains 10 servings. How many kilograms does the entire box weigh?



- A. 0.03 kg C. 3 kg
 B. 0.3 kg D. 30 kg



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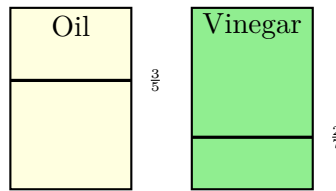
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1) A recipe needs $\frac{3}{5}$ cup of oil and $\frac{2}{7}$ cup of vinegar. Which ingredient is more?



- A. Oil is more
- B. Vinegar is more
- C. They are equal
- D. Cannot determine

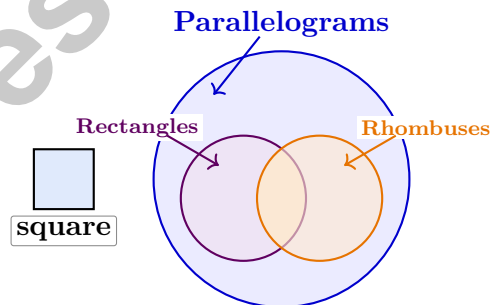
2) Compare: $(47 + 13) - 10$ $47 + (13 - 10)$

- A. >
- B. <
- C. =
- D. Cannot tell

3) What is $7 \div \frac{1}{4}$?

- A. 28
- B. 14
- C. 35
- D. 21

4) A square is shown below. A Venn diagram has circles for rectangles, rhombuses, and parallelograms. Where does the square belong?



- A. In rectangles only
- B. In all three circles
- C. Outside all three circles
- D. In rhombuses only



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1) Which decimal point position is correct for 6.5×100 ?

6.5×100

A. 6.50 (1 place right)

B. 65.0 (1 place right)

C. 650 (2 places right)

D. 6500 (3 places right)

A. A

C. C

B. B

D. D

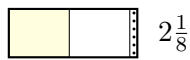
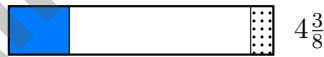
2) **Error Analysis:** A student says a box with volume 270 cm^3 , length 15 cm, and width 9 cm has height 3 cm. What is the correct height?

A. 2 cm

C. 4 cm

B. 3 cm

D. 5 cm



3)

Add: $4\frac{3}{8} + 2\frac{1}{8}$

A. $6\frac{1}{4}$

C. $6\frac{3}{8}$

B. $6\frac{1}{2}$

D. 7



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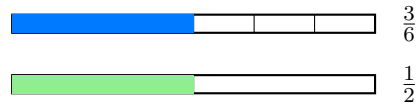
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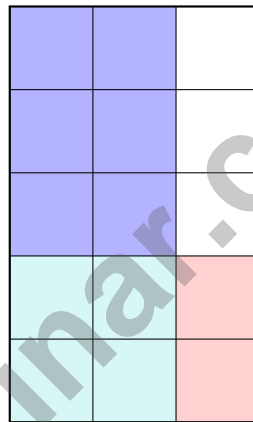


1) The fraction bars show $\frac{3}{6}$ and $\frac{1}{2}$. Which explanation best justifies the relationship shown?



- A. Divide both 3 and 6 by 3 to get $\frac{1}{2}$.
 B. Divide only the denominator by 3 to get $\frac{3}{2}$.
 C. Add 3 to the numerator and denominator to get $\frac{6}{9}$.
 D. The bars use different-sized wholes.

2) Find: $\frac{2}{3} \times \frac{2}{5}$



- A. $\frac{4}{15}$
 B. $\frac{2}{8}$
 C. $\frac{3}{8}$
 D. $\frac{5}{8}$

3) A distance-time pattern begins at (0, 0). Each step increases time by 1 and distance by 2. Which rule describes this pattern?

- A. Distance equals time
 B. Distance is twice the time
 C. Distance is 2 more than time
 D. Distance is half the time



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.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- Choice A is correct.** (NC.5.NBT.1) The correct answer is $7.5 \div 100 = 0.075$. She incorrectly moved decimal right (multiplying behavior) rather than left.
- Choice A is correct.** (NC.5.NBT.1) Multiplying by a power of 10 shifts the value to a larger place. $10^1 = 10$, so $5 \times 10 = 50$. This confirms the answer.
- Choice A is correct.** (NC.5.NBT.5) The parentheses make $3 + 1$ one grouped amount. Multiplying by 2 means doubling that whole sum.
- Choice D is correct.** (NC.5.NF.1) Check: $\frac{1}{2} = \frac{2}{4}$, $\frac{3}{6} = \frac{1}{2} = \frac{2}{4}$, $\frac{4}{8} = \frac{1}{2} = \frac{2}{4}$. But $\frac{3}{5} \neq \frac{2}{4}$.
- Choice C is correct.** (NC.5.OA.2) Add: $8.75 + 10.25 + 7.5 = 26.50$ kilometers.
- The correct answer is 48.** (NC.5.MD.1) $4 \times 12 = 48$ inches. Each foot has 12 inches, so 4 feet has four groups of 12.
- Choice C is correct.** (NC.5.NBT.1) Multiplying by 1,000 makes the number 1,000 times as large, so the digits shift three places left in the place-value chart: $1.2 \rightarrow 1,200$.
- Choice B is correct.** (NC.5.MD.1) Total grams: $30 \times 10 = 300$ g. Convert: $300 \div 1000 = 0.3$ kg.
- Choice C is correct.** (NC.5.G.1) Lily: 2, 3, 4, 5, 6. Zoe: 3, 5, 7, 9, 11. Point (5, 10) doesn't match—it should be (5, 9).
- Choice D is correct.** (NC.5.NF.1) The most common value is the one with the greatest number of X marks. 5 has 4 X marks, which is more than 2 (2 marks), 3 (1 mark), 4 (3 marks), or 6 (2 marks).
- Choice D is correct.** (NC.5.NF.4) $50 \times \frac{3}{10} = 15$ liters. Multiplying by $\frac{3}{10}$ (less than 1) gives a smaller result.
- The correct answer is (6, 4).** (NC.5.G.1) Move 6 units right for the x-coordinate and 4 units up for the y-coordinate, so the ordered pair is (6, 4).
- The correct answer is 32448.** (NC.5.NBT.5) $507 \times 4 = 2,028$ and $507 \times 60 = 30,420$. Sum: $2,028 + 30,420 = 32,448$.
- Choice C is correct.** (NC.5.MD.4) The base is $4 \times 3 = 12$ square feet. With a depth of 2 feet, the volume is $12 \times 2 = 24$ cubic feet.
- Choice B is correct.** (NC.5.NBT.7) Task 1: 7:00 AM to 12:15 PM = 5 hours 15 minutes. Task 2: 1:00 PM to 6:30 PM = 5 hours 30 minutes. Total: 5h 15m + 5h 30m = 10 hours 45 minutes.
- Choice D is correct.** (NC.5.NBT.1) To convert meters to centimeters, multiply by 100: $1.5 \times 100 = 150$ cm.
- Choice A is correct.** (NC.5.NBT.3) Compare place by place: 0.06 (6 hundredths) < 0.16 (16 hundredths) < 0.6 (60 hundredths) < 0.66 (66 hundredths).
- Choice D is correct.** (NC.5.NBT.1) 2.48 is 0.08 away from 2.4 and only 0.02 away from 2.5, so it is closer to 2.5. When rounded to the nearest tenth, 2.48 rounds to 2.5.
- Choice C is correct.** (NC.5.MD.4) Use the rectangular-prism volume formula: $9 \times 7 \times 2 = 126$. So the volume is 126 cubic feet.
- Choice B is correct.** (NC.5.NF.1) Borrow 1: $5\frac{2}{8} = 4\frac{10}{8}$. Then $4\frac{10}{8} - 4\frac{5}{8} = \frac{5}{8}$ ft.
- Choices A, B are correct.** (NC.5.NBT.1) Dividing 10 by a value less than 1 gives a quotient greater than 10, so A and B work. C and D have divisors greater than 1, so those quotients are less than 10.
- Choice A is correct.** (NC.5.NF.4) $\frac{1}{10} \div 3 = \frac{1}{10} \times \frac{1}{3} = \frac{1}{30}$.
- Choice B is correct.** (NC.5.NF.7) Find common denominator: $\frac{1}{3} = \frac{4}{12}$ and $\frac{1}{4} = \frac{3}{12}$. So $\frac{4}{12} + \frac{3}{12} = \frac{7}{12}$ mile.
- Choice C is correct.** (NC.5.NF.4) The student correctly used the distributive property: both the 2 and the $\frac{1}{4}$ must be multiplied by 2. That gives $4 + \frac{2}{4} = 4\frac{1}{2}$.
- Choice C is correct.** (NC.5.G.3) All three sides have different lengths (3 cm, 4 cm, and 5 cm), so this is a scalene triangle.
- Choice B is correct.** (NC.5.NF.1) $\frac{6}{7} \approx 1$, $\frac{4}{9} \approx \frac{1}{2}$, and $\frac{1}{10} \approx 0$. So $\frac{6}{7} + \frac{4}{9} + \frac{1}{10} \approx 1 + \frac{1}{2} + 0 = 1\frac{1}{2}$.
- Choice B is correct.** (NC.5.NF.4) Multiplying by a factor less than 1 makes a positive quantity smaller. Since $\frac{3}{4} < 1$, the new length is less than the original.
- Choice B is correct.** (NC.5.NF.1) Add whole: $1 + 3 = 4$. Add fractions: $\frac{2}{5} + \frac{1}{5} = \frac{3}{5}$. Result: $4\frac{3}{5}$.



Hey there, Master Engineer!

★ Excellent engineering work! You've successfully designed and tested five complete mathematical systems, applying principles, calculating specifications, and optimizing solutions like a professional engineer! Every problem presented unique design challenges, and you approached each one methodically, testing your designs and making improvements. Your engineering mindset has developed beautifully! ★

◇ **Here's what successful engineers know:** great engineering requires planning, calculation, testing, and refinement. Engineers build prototypes, identify weaknesses, and improve their designs iteratively. You've practiced that exact engineering cycle through these five tests! Each test helped you refine your mathematical engineering skills, and now your designs are structurally sound and ready for implementation! ◇

Engineering Quality Control

- **System Design:** Your problem-solving frameworks are logically structured!
- **Precision Engineering:** You calculate with accuracy and attention to detail!
- **Stress Testing:** You've proven your methods work under challenging conditions!
- **Project Approved:** Your mathematical engineering is ready for deployment!

Remember this engineering principle: well-designed systems function reliably when needed. You've engineered five successful mathematical systems. On test day, deploy your proven designs with confidence. If you encounter an unexpected specification, apply your engineering principles to design an appropriate solution. Your training has prepared you for any design challenge!

Want to share your mathematical engineering innovations or discuss an elegant system design? Submit your technical specifications to reza@testinar.com. I appreciate innovative engineering!

Reza Nazari & Jay Daie

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