

4

Colorado CMAS

Grade 3

MATH

PRACTICE TESTS

Standards-Aligned Practice



STANDARDS-ALIGNED

Practice to build skills and boost confidence



4 FULL-LENGTH TESTS

Realistic questions to prepare for test day



ANSWER KEYS & EXPLANATIONS

Detailed solutions to learn and improve



4 Colorado CMAS Grade 3 Math Practice Tests

Standards-Aligned Review with Mixed Practice and Answer Key



Four focused 30-question missions for Grade 3 math: number facts, fractions, measurement, data, area, shapes, answer keys, and clear explanations for every item.

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Welcome to the Colorado Math Launch

Four missions, careful work, and a stronger Grade 3 thinker



Read the mission. Show the work. Check the answer. Launch again.

To the Grade 3 Mission Leader

This book is a four-mission practice launch for the Colorado CMAS. Each test gives you a fresh chance to multiply, divide, read graphs, compare fractions, measure, find area, and explain math in a way someone else can follow.

Colorado has mountain passes, high plains, and trail maps that make planning important. Good math uses the same habit: pause, check the details, and move forward with a steady plan.

Notice

Find the numbers, units, and question before choosing a path.

Model

Draw an array, number line, table, or quick equation.

Verify

Ask whether your answer fits the story and the unit.

Launch promise: I will slow down at the important moments, show the work I can, and use every miss as a clue for the next mission.

How to Use This Book

A four-mission routine for steady Grade 3 growth

1. Warm Up the System

Read the review pages first. Remind your brain how equal groups, fractions, clocks, graphs, and area models work.

2. Fly One Mission

Take one complete 30-question test. Keep your work neat enough that you can check it later.

3. Review the Flight

Use the answer key, then pause. A wrong answer is useful when you can name what happened.

4. Repair and Relaunch

Rework a few missed questions before starting the next test. The repair step is where the score begins to move.

A Four-Session Plan

Session 1	Take Test 1 and mark the topics that need attention.
Session 2	Take Test 2 and focus on showing every step clearly.
Session 3	Take Test 3 and watch for units, labels, and two-step problems.
Session 4	Take Test 4 and finish with calm, careful checking.

Best mission habit: After checking answers, write one sentence: “Next time I will pay attention to _____.”



Test Overview

What each Grade 3 math mission asks you to do

Each practice test has 30 questions. Across four tests, you will practice the kind of Grade 3 math thinking used on the Colorado CMAS: reading carefully, choosing a strategy, doing accurate computation, and explaining enough work to make your answer clear.

Multiple Choice

Look for the best answer. Estimate first when you can, cross out choices that do not fit, and reread the question before you choose.

Open Response

Write the answer and show the reason. A good Grade 3 response may use a drawing, equation, table, number line, or a few clear words.

Math Ideas Inside the Four Tests

- multiplication, division, arrays, missing factors, and two-step word problems
- place value, rounding, addition, subtraction, and multiplying by tens
- unit fractions, number lines, equivalent fractions, and comparing fractions
- time, mass, liquid volume, picture graphs, bar graphs, and line plots
- area, perimeter, unit squares, rectangles, and shape categories

What strong CMAS work looks like: the answer matches the question, the units make sense, and the work is clear enough to check.



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- 1) Two pies are the same size. Pie A is cut into 4 slices and 3 are eaten. Pie B is cut into 8 slices and 6 are eaten. How much pie is left in each case?
- A. Cannot tell without tasting. C. Pie B has more left.
 B. The same amount left. D. Pie A has more left.
- 2) How many sides does a rhombus have, and are they all equal?
- A. 3 sides, all equal C. 5 sides, all equal
 B. 4 sides, some equal D. 4 sides, all equal
- 3) Mia spent \$176 on books and \$245 on pencils. How much did Mia spend in total?
- A. \$411 C. \$420
 B. \$431 D. \$421
- 4) A tiling splits a rectangle into $2 \times (9 + 1)$. What is the total area of both smaller rectangles?
- A. 11 C. 20
 B. 18 D. 10
- 5) Two buckets hold water. Bucket A holds 4000 mL and Bucket B holds 2500 mL. How much more water does Bucket A hold?
- A. 1000 mL C. 2000 mL
 B. 1500 mL D. 4000 mL
- 6) A floor has unit tiles arranged in 4 rows and 8 columns. How many unit tiles cover the floor?
- A. 12 C. 24
 B. 32 D. 48



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7) $\frac{3}{4} = \frac{?}{8}$. What is the missing numerator?

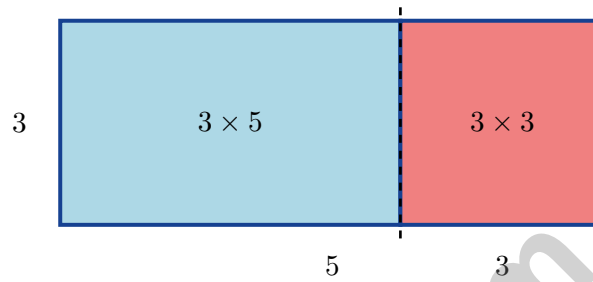
A. 4

C. 6

B. 5

D. 7

8) Mia splits a rectangle to show $3 \times 8 = 3 \times (5 + 3)$.



What is $3 \times 5 + 3 \times 3$?

A. 14

C. 27

B. 20

D. 24

9) A picture graph shows cupcakes baked for a party. Each cupcake icon is 5 cupcakes. There are 7 icons. How many cupcakes were baked?

A. 12

C. 35

B. 30

D. 40

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

A. 9 feet

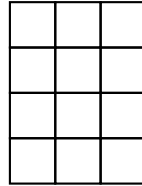
C. 40 feet

B. 8 feet

D. 32 feet



11) Ava is looking at this shape made of unit squares:



How many unit squares cover this shape?

- A. 7 unit squares C. 12 unit squares
 B. 10 unit squares D. 15 unit squares

12) On a number line from 0 to 1 split into 4 equal parts, what fraction comes after $\frac{2}{4}$?



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

13) A composite floor shape is split by dashed lines into four rectangles. The areas are 8 sq units, 6 sq units, 6 sq units, and 4 sq units. What is the total floor area?

- A. 24 sq units C. 48 sq units
 B. 12 sq units D. 18 sq units

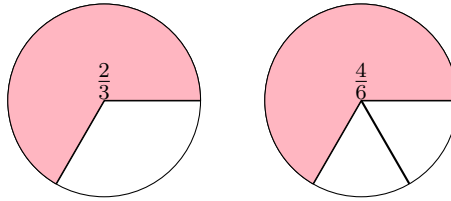
14) Select the TWO numbers that round to 80 when rounded to the nearest 10.

- A. 74
 B. 76
 C. 84
 D. 85
 E. 91



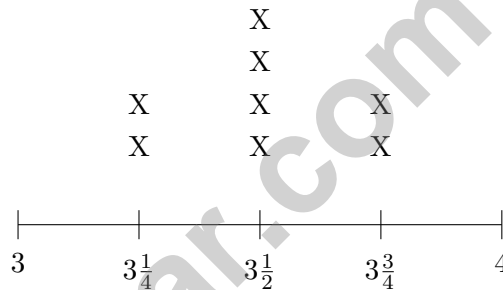
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4) Look at the pies. Are $\frac{2}{3}$ and $\frac{4}{6}$ equivalent?



- A. Yes, they are equivalent C. No, the second is larger
 B. No, the first is larger D. They are different fractions

5) A line plot shows butterfly wingspans in inches: $3, 3\frac{1}{4}, 3\frac{1}{2}, 3\frac{3}{4}, 4$.



How many butterflies have wingspans of exactly $3\frac{1}{2}$ inches?

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

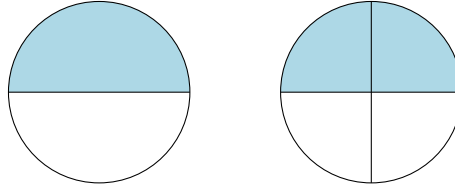
6) Mia computed $456 + 237$ and got 693. Is her answer reasonable? Explain by rounding to the nearest hundred.

- A. Yes; $500 + 200 = 700$, which is close to 693 C. Yes; the exact answer is 693
 B. No; $500 + 200 = 700$, but she wrote 693 D. No; $400 + 300 = 700$, but she wrote 693



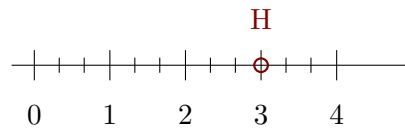
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- 1) Look at the two circles. Circle A shows $\frac{1}{2}$ shaded. Circle B shows $\frac{2}{4}$ shaded. Both circles are the same size. What can you say about these fractions?



Circle A: $\frac{1}{2}$ shaded Circle B: $\frac{2}{4}$ shaded

- A. They are not related C. $\frac{1}{2} > \frac{2}{4}$
 B. $\frac{1}{2} < \frac{2}{4}$ D. $\frac{1}{2} = \frac{2}{4}$
- 2) A square tile has side length 3 inches. What is its area?
- A. 9 sq in C. 12 sq in
 B. 6 sq in D. 15 sq in
- 3) A bag of flour weighs 3 kilograms. If a baker buys 7 bags of flour, how much flour does he have in total?
- A. 10 kg C. 4 kg
 B. 20 kg D. 21 kg



4)

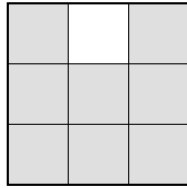
The number line from 0 to 4 is divided into thirds. Point H is at the whole number 3. How many thirds from 0 to reach 3?

- A. $\frac{3}{3}$ C. $\frac{9}{3}$
 B. $\frac{6}{3}$ D. $\frac{12}{3}$



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- 5) Eli sees a checkerboard with a 3×3 pattern of unit squares. How many unit squares are on the board?



- A. 6 unit squares
- B. 8 unit squares
- C. 9 unit squares
- D. 12 unit squares
- 6) A rectangle has length 4 and width 2. How many sides does it have?



- 7) A picture graph shows books checked out. Each book symbol is 10 books. Class A checked out 5 symbols, Class B checked out 3 symbols. How many more books did Class A check out?
- A. 2
- B. 20
- C. 50
- D. 80
- 8) Pedro thinks of a multiplication fact to solve $54 \div 9$. Which multiplication fact helps him most?
- A. $9 \times 6 = 54$
- B. $9 \times 8 = 72$
- C. $9 \times 9 = 81$
- D. $8 \times 6 = 48$



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

- Choice B is correct.** **(3.NF.A.3a)** Pie A has $\frac{1}{4}$ left. Pie B has $\frac{2}{8}$ left. These are equivalent: $\frac{1}{4} = \frac{2}{8}$.
- Choice D is correct.** **(3.G.A.1)** A rhombus is a quadrilateral with 4 sides that are all equal in length. This is the defining characteristic of a rhombus.
- Choice D is correct.** **(3.NBT.A.2)** Add: $176 + 245 = 421$. Ones: $6 + 5 = 11$ (write 1, carry 1). Tens: $7 + 4 + 1 = 12$ (write 2, carry 1). Hundreds: $1 + 2 + 1 = 4$.
- Choice C is correct.** **(3.MD.C.7c)** $2 \times (9 + 1) = 2 \times 10 = 20$ or $(2 \times 9) + (2 \times 1) = 18 + 2 = 20$.
- Choice B is correct.** **(3.MD.A.2)** Subtract: $4000 - 2500 = 1500$ mL.
- Choice B is correct.** **(3.MD.C.7a)** $4 \text{ rows} \times 8 \text{ columns} = 4 \times 8 = 32$ tiles. Reverse order from typical.
- Choice C is correct.** **(3.NF.A.3b)** The denominator was multiplied by 2 (from 4 to 8). Multiply the numerator by 2: $3 \times 2 = 6$. So $\frac{3}{4} = \frac{6}{8}$.
- Choice D is correct.** **(3.OA.B.5)** $3 \times 5 = 15$ and $3 \times 3 = 9$, so $15 + 9 = 24$. The distributive property shows $3 \times (5 + 3) = 24$.
- Choice C is correct.** **(3.MD.B.3)** $7 \times 5 = 35$ cupcakes.
- Choice A is correct.** **(3.MD.C.7b)** 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.
- Choice C is correct.** **(3.MD.C.5b)** 3 columns and 4 rows: $3 \times 4 = 12$ unit squares.
- Choice C is correct.** **(3.NF.A.2)** Moving right from $\frac{2}{4}$, the next tick mark shows $\frac{3}{4}$.
- Choice A is correct.** **(3.MD.C.7d)** Add all four parts: $8 + 6 + 6 + 4 = 24$ square units.
- Choices B and C are correct.** **(3.NBT.A.1)** Numbers from 75 to 84 round to 80 when rounded to the nearest 10. Choice A (74) has ones digit $4 < 5$, so it rounds to 70. Choice B (76) has ones digit $6 \geq 5$, so it rounds to 80. Choice C (84) has ones digit $4 < 5$, so it rounds to 80. Choice D (85) has ones digit $5 \geq 5$, so it rounds to 90. Choice E (91) has ones digit $1 < 5$, so it rounds to 90.
- The correct answer is 26 minutes.** **(3.MD.A.1)** From 11 : 38 to 12 : 00 is 22 minutes. From 12 : 00 to 12 : 04 is 4 minutes. Total: $22 + 4 = 26$ minutes.
- Choice D is correct.** **(3.OA.A.4)** Use the inverse: $8 \times 5 = 40$, so $40 \div 5 = 8$.
- Choice A is correct.** **(3.OA.A.3)** Divide: $48 \div 8 = 6$ bracelets.
- The correct answer is $\frac{2}{3}$.** **(3.NF.A.1)** $\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$.
- Choice C is correct.** **(3.NBT.A.3)** $8 \times 20 = 8 \times (2 \times 10) = (8 \times 2) \times 10 = 16 \times 10 = 160$. Multiply the single-digit factors first, then multiply by 10.
- Choice B is correct.** **(3.NF.A.2a)** The number line has 8 equal parts, so the first tick is at $\frac{1}{8}$.
- Choice C is correct.** **(3.MD.C.7)** Area = $6 \times 3 = 18$ square units. You can also count by adding: $3 + 3 + 3 + 3 + 3 + 3 = 18$ (six rows of three units each).
- Choice B is correct.** **(3.NF.A.3d)** $\frac{3}{8} < \frac{3}{4}$ because eighths are smaller parts than fourths. Also, $\frac{2}{2} = 1$, so the order is $\frac{3}{8}, \frac{3}{4}, \frac{2}{2}$.
- The correct answer is $\frac{1}{3}$.** **(3.G.A.2)** If 2 out of 3 parts are shaded, then 1 part is not shaded, which is $\frac{1}{3}$.
- Choice D is correct.** **(3.OA.B.6)** The bar is divided into 6 equal parts with a total of 48. Each part is $48 \div 6 = 8$. You can check: $8 \times 6 = 48$.
- Choice B is correct.** **(3.NF.A.3c)** $18 \text{ sixths} = 18 \div 6 = 3$ wholes. Six sixths make one whole.
- Choice B is correct.** **(3.OA.D.8)** Step 1: Add total students: $15 + 15 = 30$ students. Step 2: Make groups: $30 \div 5 = 6$ groups. (Choice D is step 1 only; choice A is incomplete.)
- Choice B is correct.** **(3.MD.C.5a)** $4 \text{ cm} \times 2 \text{ cm} = 8$ square centimeters, which equals 8 unit squares of 1 cm each.
- Choice C is correct.** **(3.MD.B.4)** Shorter than $4\frac{1}{2}$ inches means 4 and $4\frac{1}{4}$ inches: that is $2 + 1 = 3$ pots.
- Choice C is correct.** **(3.MD.C.5)** To cover the inside area of a square frame with side 5 inches, you need $5 \times 5 = 25$ square inches of paper.



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Jay Daie

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