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Colorado CMAS

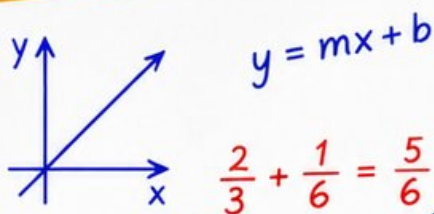
GRADE

7

MATH

PRACTICE TESTS

Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs

**5 PRINTED TESTS****2 ONLINE TESTS**

USE THESE TWO
ADDITIONAL ONLINE
PRACTICE TESTS
FOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.



Build
Confidence



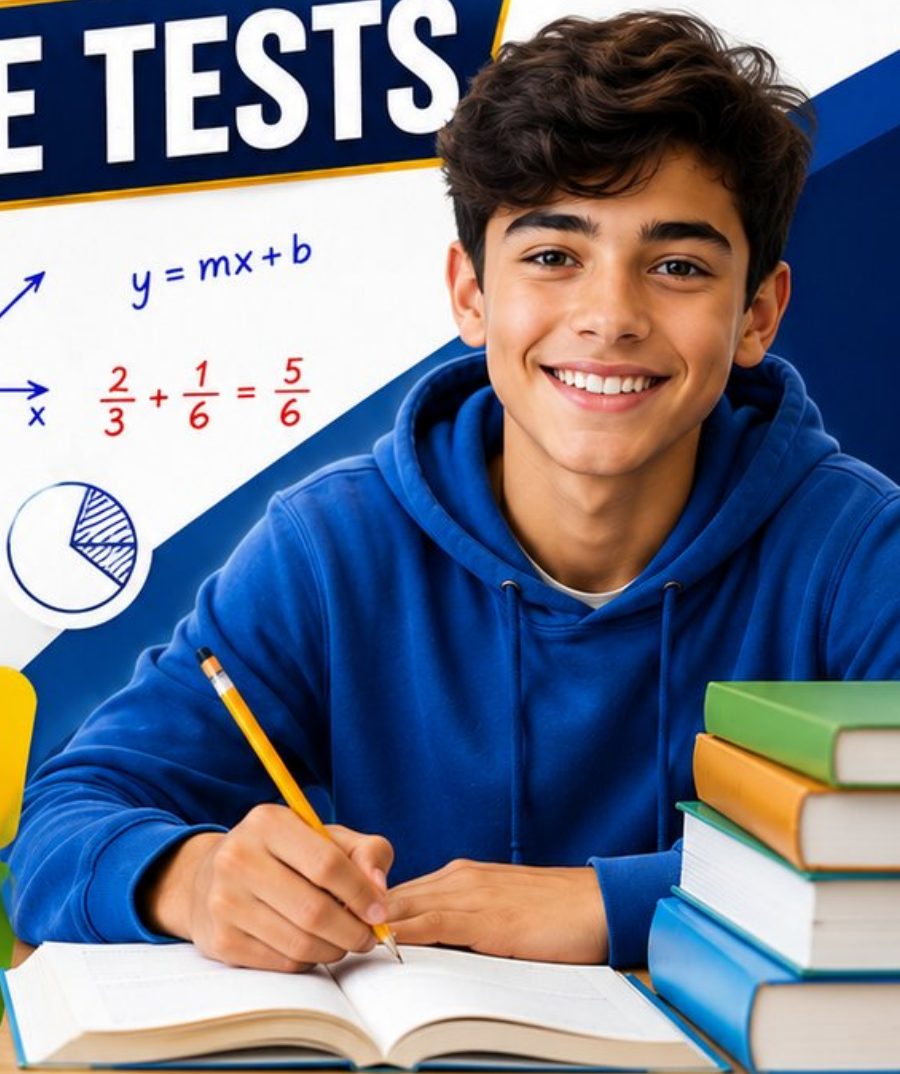
Strengthen
Math Skills



Detailed Answers
& Explanations

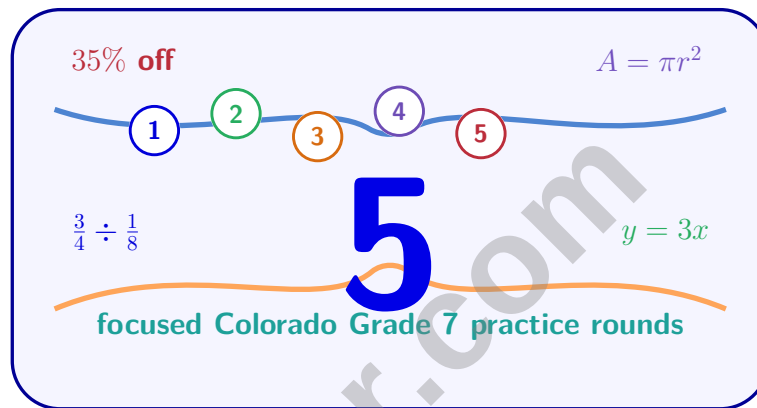


Improve Test
Performance



5 Colorado CMAS Grade 7 Math Practice Tests

Complete Grade 7 Review with Practice Tests, Keys, and Explanations



Five complete 40-question Grade 7 CMAS practice rounds with proportional relationships, percents, rational numbers, expressions, equations, geometry, statistics, probability, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari



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Welcome, Colorado Grade 7 Problem Solver!

Five focused rounds for sharper CMAS math thinking

This book gives you five full Grade 7 CMAS math practice tests. Each round is built to help you notice structure, compare quantities, use proportional reasoning, handle rational numbers, and explain your thinking with care.

Your Colorado Practice Promise

I will read every question carefully, choose a strategy that fits, write enough work to prove my answer, and use corrections as training for the next test.

Read

Model

Verify

How to Use This Book

A five-session plan for confident Grade 7 review

1. **Warm up with the review pages.** Notice the big ideas before starting the tests.
2. **Complete one test at a time.** Treat each 40-question round like a real practice session.
3. **Show your reasoning.** Jot a proportion, equation, diagram, number line, or quick estimate when it helps.
4. **Correct actively.** Rework missed items before reading the explanation.
5. **Choose the next target.** After each test, name one skill and one habit to improve.

Colorado review rhythm: Work a test, score it, study your misses, then come back ready for the next round with one clear goal.



What Is Inside?

Five CMAS tests, 200 questions, and a focused review path

Part	What You Will Practice
Tests 1–2	Proportional relationships, unit rates, percents, rational-number operations, and careful reading.
Tests 3–5	Expressions, equations, inequalities, scale drawings, geometry, data, probability, and multi-step problem solving.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Grade 7 success means recognizing which idea is being tested even when the next question changes format.



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& answers

Table of Contents

★ Practice Test 1	_____	13
★ Practice Test 2	_____	28
★ Practice Test 3	_____	41
★ Practice Test 4	_____	58
★ Practice Test 5	_____	73
Practice Test Answer Keys	_____	86
Practice Test Answers and Explanations	_____	90

- 1) To simulate drawing two marbles from a bag with replacement, which approach correctly models the compound event?
- ☐ A. Flip a coin twice
- ☐ B. Roll a die once
- ☐ C. Spin a spinner once and remove a sector for the second spin
- ☐ D. Spin a spinner twice, returning to all sectors both times
- 2) If 45 is 50% of a number, what is the number?
- ☐ A. 80
- ☐ B. 85
- ☐ C. 90
- ☐ D. 95
- 3) A jacket has a sale price of \$45 after a 10% discount. What was the original price?
- ☐ A. \$49.50
- ☐ B. \$54
- ☐ C. \$40.50
- ☐ D. \$50
- 4) Simplify: $-5 - 3$
- ☐ A. -8
- ☐ B. -2
- ☐ C. 2
- ☐ D. 8
- 5) A plane descends 2000 feet from its cruising altitude of 35000 feet. What is its new altitude? (Model as -2000 for descent.)
- ☐ A. 37000 feet
- ☐ B. 70000 feet
- ☐ C. -33000 feet
- ☐ D. 33000 feet



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6) A circle graph shows website traffic sources. Direct traffic is 15%, organic search is 50%, paid ads is 20%, and referrals is 15%. If there are 10,000 monthly visitors, how many come from organic search?

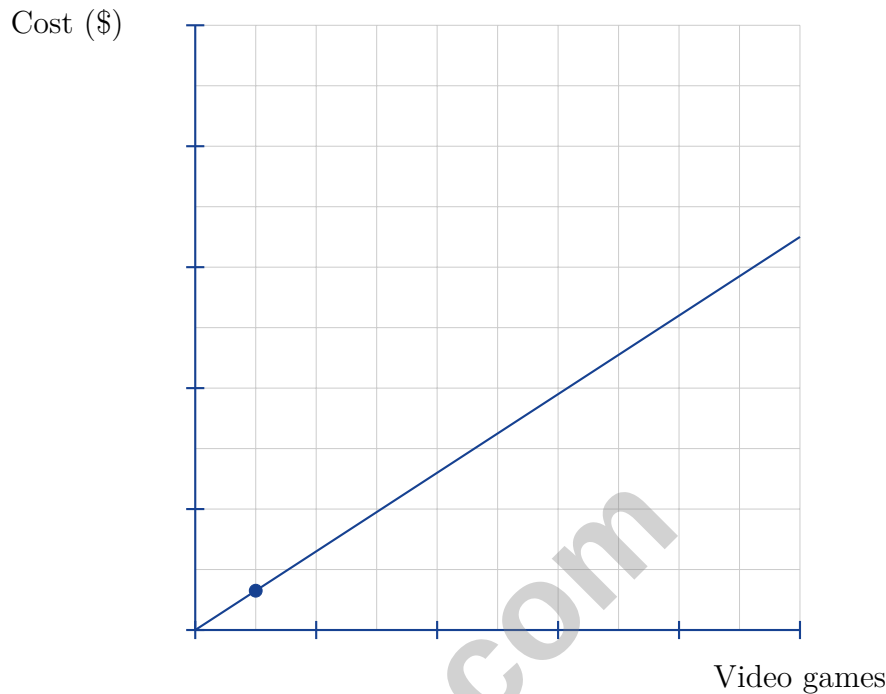
☐ A. 1500☐ C. 5000☐ B. 2000☐ D. 7500

7) A recipe scales proportionally. The base recipe uses $\frac{1}{3}$ cup sugar for every $\frac{2}{3}$ cup flour. What is the constant of proportionality (flour per sugar)?

☐ A. $k = \frac{1}{2}$ ☐ C. $k = \frac{2}{3}$ ☐ B. $k = \frac{3}{2}$ ☐ D. $k = 2$

8) A proportional relationship passes through the points (6, 2) and (0, 0). What is the constant of proportionality?





9)

A store sells used video games at a constant unit price shown in the graph. How much do 4 video games cost?

☐ A. \$0.65☐ C. \$4.00☐ B. \$6.50☐ D. \$2.6010) Convert $\frac{5}{8}$ to a decimal.☐ A. 0.58☐ C. 0.635☐ B. 0.625☐ D. 0.65

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1) Which value is equivalent to 2.5×10^{-3} ?

☐ A. 0.025

☐ C. 2,500

☐ B. 0.0025

☐ D. 25,000

2) A streaming service charges \$12 per month. Which equation represents the total cost C for m months?

☐ A. $C = m + 12$

☐ C. $m = 12C$

☐ B. $C = \frac{12}{m}$

☐ D. $C = 12m$

3) A chef uses flour and sugar in a proportional recipe. The table shows the relationship.

Flour (cups)	Sugar (cups)
3	1
6	2
9	3

What is the constant of proportionality (sugar per flour)?

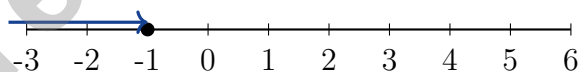
☐ A. 3

☐ C. $\frac{1}{2}$

☐ B. 1

☐ D. $\frac{1}{3}$

4) Which inequality is represented by the number line below?



☐ A. $x \leq -1$

☐ C. $x \geq -1$

☐ B. $x < -1$

☐ D. $x > -1$



5) Solve: $\frac{2x-1}{3} \leq 5$

☐ A. $x \leq 8$

☐ C. $x \leq 7$

☐ B. $x \leq \frac{16}{2}$

☐ D. $x > 8$

6) A rectangular prism has dimensions 6 cm $\times$ 4 cm $\times$ 3 cm. What is its surface area?

☐ A. 72 cm²

☐ C. 144 cm²

☐ B. 108 cm²

☐ D. 216 cm²

7) A teacher wants to estimate the average amount of time students in her class spend on homework. She surveys students who stayed after school for tutoring. Why is this sample biased?

☐ A. Students getting tutoring likely spend more time on homework

☐ C. The question is leading

☐ B. The sample is too small

☐ D. It is a convenience sample only

8) Simplify $-5x + 3x + 2y - y$, then evaluate when $x = 1$ and $y = 1$.

9) A cone with height 20 cm and base radius 5 cm is sliced by a vertical plane passing through the apex at an angle (not through the axis). Which shape is the cross-section?

☐ A. Isosceles triangle

☐ C. Scalene triangle

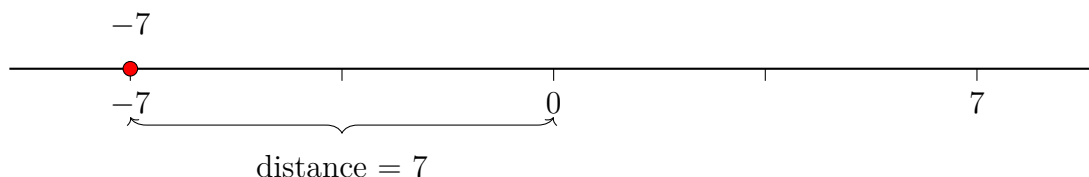
☐ B. Right triangle

☐ D. Trapezoid



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1) What is $|-7|$?



- ☐ A. -7 (confuses absolute value with the original number)
 ☐ C. 0 (misplaces absolute value at the origin)
- ☐ B. -14 (incorrectly applies a sign reversal)
 ☐ D. 7 (correct; distance is always non-negative)
- 2) Which list correctly orders these decimals from least to greatest?
- ☐ A. $0.5, 0.\bar{5}, 0.55$
☐ C. $0.\bar{5}, 0.5, 0.55$
- ☐ B. $0.5, 0.55, 0.\bar{5}$
☐ D. $0.55, 0.5, 0.\bar{5}$
- 3) Which number is equivalent to 3.2×10^4 ?
- ☐ A. 3,200
 ☐ C. 320,000
- ☐ B. 32,000
 ☐ D. 3,200,000
- 4) A student computed $-8 + 5$ and got -13 . What was the error?
- ☐ A. Subtracted instead of added
 ☐ C. Used the wrong sign for the result
- ☐ B. Added the absolute values without keeping correct sign
 ☐ D. The answer is correct
- 5) Evaluate $-\frac{7}{8} \div (-\frac{3}{4})$.
- ☐ A. $-\frac{7}{6}$
☐ C. $\frac{7}{6}$
- ☐ B. $-\frac{21}{32}$
☐ D. $\frac{21}{32}$



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& answers

6) A bakery divides $\frac{5}{8}$ pound of flour equally among 4 batches. How much flour is in each batch?

☐ A. $\frac{5}{32}$ pound

☐ B. $\frac{5}{12}$ pound

☐ C. $\frac{1}{8}$ pound

☐ D. $\frac{5}{4}$ pounds

7) A temperature reading shows -5°F in the morning. By afternoon, the temperature increases by 18°F . What is the afternoon temperature?

☐ A. -23°F

☐ B. 13°F

☐ C. 23°F

☐ D. -13°F

8) Rewrite $6x + 9y$ in factored form (greatest common factor).

☐ A. $3(2x + 3y)$

☐ B. $6(x + 1.5y)$

☐ C. $3x(2 + 3y)$

☐ D. $(6 + 9)(x + y)$

9) A catering service charges a \$250 setup cost and \$15 per guest. If the event cost \$520, write an equation to represent the number of guests g attending, solve for g , and verify your answer.

10) Simplify: $\frac{(u^4)^2}{u^3}$

☐ A. u^5

☐ B. u^{11}

☐ C. u^8

☐ D. u^{24}



Colorado CMAS Grade 7 Practice Test Answer Keys**How to use this section with a Grade 7 student:**

1. check the answer first and circle any item that needs another look
2. retry the problem with fresh work before reading the explanation
3. write one short lesson learned from each missed or guessed item

A strong review routine turns every correction into a sharper plan for the next Colorado CMAS practice test.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice D is correct.** (7.SP.5-7.SP.8) With replacement means the second selection has the same probability distribution as the first. Spinning twice (not removing) models this.
- 2) **Choice C is correct.** (7.RP.3) If $45 = 0.50 \times n$, then $n = \frac{45}{0.50} = 90$.
- 3) **Choice D is correct.** (7.RP.3) Sale price = original price $\times (1 - 0.10)$. So $45 = \text{original} \times 0.90$, giving original = $45 \div 0.90 = \$50$.
- 4) **Choice A is correct.** (7.NS.1-7.NS.3) When subtracting from a negative number, move further left on the number line: $-5 - 3 = -8$.
- 5) **Choice D is correct.** (7.NS.1b) New altitude = $35000 + (-2000) = 33000$ feet. The plane's altitude decreased by 2000 feet.
- 6) **Choice C is correct.** (7.SP.1-7.SP.4) 50% of $10,000 = 0.50 \times 10,000 = 5000$ visitors.
- 7) **Choice D is correct.** (7.RP.1-7.RP.3) Ratio: $\frac{\text{flour}}{\text{sugar}} = \frac{2/3}{1/3} = \frac{2}{3} \times \frac{3}{1} = 2$.
- 8) **The correct answer is $\frac{1}{3}$.** (7.RP.1-7.RP.3) The constant is $k = \frac{y}{x} = \frac{2}{6} = \frac{1}{3}$.
- 9) **Choice D is correct.** (7.RP.1-7.RP.3) From unit rate $(1, 0.65)$, at $x = 4$, $y = 4 \times 0.65 = \$2.60$.
- 10) **Choice B is correct.** (7.NS.2d) Divide $5 \div 8 = 0.625$. It is a terminating decimal.
- 11) **Choice A is correct.** (7.EE.1-7.EE.2) Twice a number t is $2t$. Sum of 6 and $2t$ is $6 + 2t$.
- 12) **Choice D is correct.** (7.RP.1-7.RP.3) Unit rate = $\frac{3/8}{1/4} = \frac{3}{8} \times 4 = \frac{12}{8} = \frac{3}{2}$ streams per day.
- 13) **Choice D is correct.** (7.RP.3) To find 38% of 210, set percent over 100 equal to part over whole: $\frac{38}{100} = \frac{x}{210}$. Cross-multiply: $x \approx 80$.
- 14) **Choice C is correct.** (7.RP.3) Simple interest over 10 years: Interest = $\$100 \times 0.03 \times 10 = \30 . Total = $\$100 + \$30 = \$130$. This illustrates the trade-off between immediate wants (enjoying the game now) and long-term savings (compounding money for college)—a Grade-7 investing concept.
- 15) **Choice B is correct.** (7.NS.1-7.NS.3) Start at 0. Descend (go down) 3.5 m: $0 - 3.5 = -3.5$ m. Ascend (go up) 1.2 m: $-3.5 + 1.2 = -2.3$ m.
- 16) **Choice B is correct.** (7.NS.1-7.NS.3) A descent of 240 m is -240 . Rate: $(-240) \div 8 = -30$ m/hr. The negative sign indicates downward motion.
- 17) **Choice A is correct.** (7.NS.1-7.NS.3) Amount needed: $\frac{5}{6} - \frac{2}{3} = \frac{5}{6} - \frac{4}{6} = \frac{1}{6}$ cup.
- 18) **Choice B is correct.** (7.NS.1-7.NS.3) $7 \times 7 = 49$, so $\sqrt{49} = 7$.
- 19) **The correct answer is A,B.** (7.RP.1-7.RP.3) $k = 5/20 = 0.25$ miles per minute, so A is correct. When $t = 40$: $d = 0.25 \times 40 = 10$ miles, so B is correct. C is incorrect: $d = 0.25t$, not $4t$. D is incorrect: $d = 0.25 \times 60 = 15$ miles, not 12.
- 20) **Choice A is correct.** (7.NS.1-7.NS.3) Total change = $\$125 - \$75 + \$200 = \250 .
- 21) **Choice B is correct.** (7.NS.1-7.NS.3) $0.0089 = 8.9 \times 10^{-3}$. The coefficient must satisfy $1 \leq a < 10$.
- 22) **Choice A is correct.** (7.G.1-7.G.5) Reflection over the x -axis preserves distances (it is a rigid transformation). The original segment from $(1, 2)$ to $(4, 2)$ has length $|4 - 1| = 3$. After reflection to $(1, -2)$ and $(4, -2)$, the length remains 3.
- 23) **Choice A is correct.** (7.SP.3) Group 1 clusters at 165–175 mg/dL (range 20). Group 2 spans 140–240 mg/dL (range 100), showing much greater spread and variability.
- 24) **Choice D is correct.** (7.SP.5-7.SP.8) Rainy has probability $0.15 \neq 0$. It is the least likely, but not impossible. The others are correct.
- 25) **Choice D is correct.** (7.RP.3) Usage fee = $0.10 \times 1500 = \$150$. Total = $200 + 150 = \$350$.
- 26) **Choice C is correct.** (7.NS.2) A: $0.5 \times 10 = 5$. B: $0.25 \times 20 = 5$. C: $(-2) \times (-3.5) = 7$. D: $(-1) \times 5 = -5$. The largest is 7 (only C).
- 27) **Choice A is correct.** (7.G.4-7.G.6) Rectangle: $30 \times 20 = 600 \text{ m}^2$. Triangle: $\frac{1}{2} \times 20 \times 5 = 50 \text{ m}^2$. Pond: $3.14 \times 9 = 28.26 \text{ m}^2$. Grass: $600 - 50 - 28.26 = 521.74 \text{ m}^2$.
- 28) **Choice D is correct.** (7.RP.3) Interest: $0.0125 \times 800 = \$10$ per year.



Hi, Persistent Problem Solver!

◇ Some Grade 7 questions ask you to hold several ideas in your mind at once. That can feel hard, and that is exactly why practice matters. ◇

★ **Remember this:** You showed persistence by continuing through the set. That habit is powerful because difficult problems often open after one more good attempt. You practiced across 5 full Grade 7 practice tests, and that repeated effort matters. ★

Persistence Tools

- **Try a Smaller Case:** Use an easier number to see the pattern.
- **Draw It:** Make the situation visible.
- **Restate It:** Say the question in your own words.
- **Check One Step:** Fix the first unclear place.

Grade 7 test-day tip: When stuck, do not restart everything. Find the first step you trust, then rebuild from there.

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

Jay Daie

Your Persistence Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **5** full-length Math practice tests and **2** online tests to help Grade 7 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:

5 Full-Length Printed Tests

2 Online Practice Tests

 Detailed Answers & 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



Build Confidence

Practice regularly to feel prepared and test-ready.



Strengthen Math Skills

Develop key math concepts and problem solving abilities.



Improve Understanding

Learn with clear explanations and step-by-step solutions.



Test Confidence

Familiarize with test formats and improve accuracy and speed.



Boost Performance

Apply your knowledge and achieve your best score!

TOPICS COVERED

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



2 ONLINE TESTS

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



2 EXTRA ONLINE TEST ACCESS CODE IS INSIDE THE BOOK!

Don't lose it—your extra practice and success start here!



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