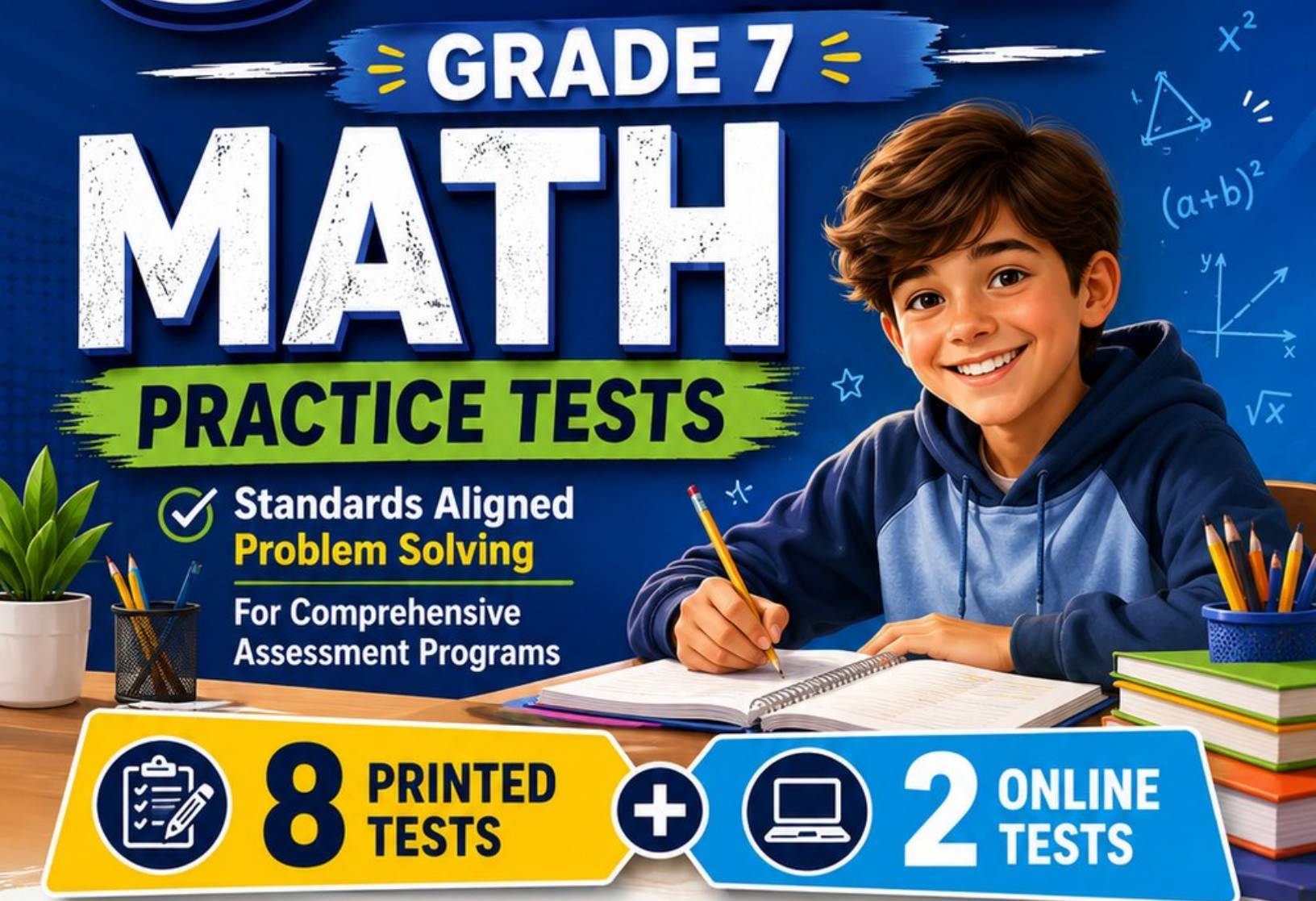
8 Hawaii Smarter Balanced

GRADE 7

MATH

PRACTICE TESTS



Standards Aligned
Problem Solving

For Comprehensive Assessment Programs

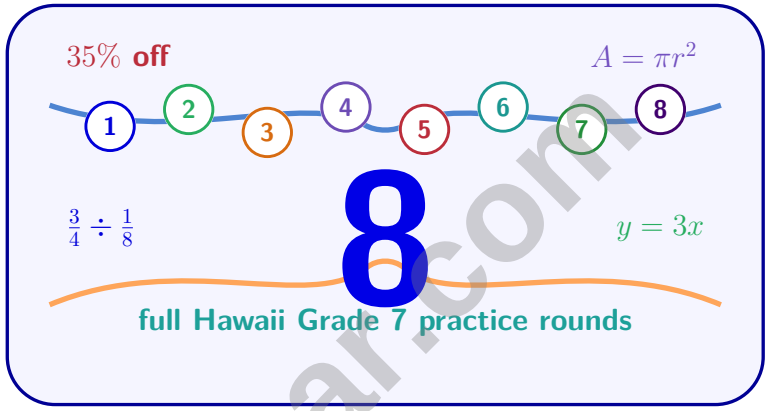
8 PRINTED TESTS + **2 ONLINE TESTS**

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

BUILD CONFIDENCE | STRENGTHEN SKILLS | THINK SMARTER | BE TEST-READY

8 Hawaii Smarter Balanced Grade 7 Math Practice Tests

A practical review of Hawaii Grade 7 unit rates, proportional graphs, expressions, geometry, circle measures, and data



Eight complete 40-question Grade 7 Smarter Balanced 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, Hawaii Grade 7 Problem Solver!

Eight focused rounds for sharper Smarter Balanced math thinking

This book gives you eight full Grade 7 Smarter Balanced 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 Hawaii 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.

How to Use This Book

An eight-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.

Hawaii 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?

Eight Smarter Balanced tests, 320 questions, and a complete review path

Part	What You Will Practice
Tests 1–3	Proportional relationships, unit rates, percents, rational-number operations, and careful reading.
Tests 4–6	Expressions, equations, inequalities, scale drawings, geometry, and multi-step problem solving.
Tests 7–8	Statistics, probability, mixed review, stamina, and choosing efficient strategies.
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.

Table of Contents

1) If pencils cost \$0.75 each with no bulk discount, is cost proportional to quantity?

☐ A. Cannot determine without a starting point
☐ B. No, because there is a base cost of one pencil
☐ C. Yes, but only if quantity is even
☐ D. Yes, $k = 0.75$

2) Simplify: $\frac{2}{3}m + \frac{1}{6}m$

☐ A. $\frac{3}{9}m$
☐ B. $\frac{5}{6}m$
☐ C. $\frac{1}{2}m$
☐ D. $\frac{3}{6}m$

3) Add: $1\frac{1}{3} + 2\frac{1}{6}$

☐ A. $4\frac{1}{6}$
☐ B. $3\frac{1}{6}$
☐ C. $2\frac{1}{2}$
☐ D. $3\frac{1}{2}$

4) Compare simple vs. compound: \$1,500 at 7% for 2 years. By how much does compound earn more?

5) Which fraction does **NOT** convert to a terminating decimal?

☐ A. $\frac{4}{10}$
☐ B. $\frac{1}{3}$
☐ C. $\frac{6}{8}$
☐ D. $\frac{9}{25}$

6) A stock loses value at \$2.25 per share each week. After 8 weeks, what is the total loss?

☐ A. −\$18
☐ B. −\$10.25
☐ C. \$10.25
☐ D. \$18

7) When 6.75 is multiplied by a power of 10 to become 0.000675, what is the exponent?

☐ A. 10^{-2}
☐ B. 10^{-3}
☐ C. 10^{-4}
☐ D. 10^{-5}

8) Simplify: $(h^2)^3 \cdot h^4$

☐ A. h^9
☐ B. h^{10}
☐ C. h^{24}
☐ D. h^8

9) Solve for x: $9(x - 1) = 45$

☐ A. $x = 4$
☐ B. $x = 5$
☐ C. $x = 6$
☐ D. $x = 7$

10) Which value of x satisfies $\frac{x}{4} + 2 = 5$? Use mental math to verify.

☐ A. $x = 6$
☐ B. $x = 12$
☐ C. $x = 20$
☐ D. $x = 28$

11) A rope of length $\frac{5}{6}$ meter is cut into pieces, each $\frac{1}{12}$ meter long. How many pieces are there?

☐ A. 5 pieces
☐ B. 10 pieces
☐ C. 15 pieces
☐ D. 20 pieces

12) A rock climber descends 45 meters down a cliff, then climbs up 28 meters. What is her net change in elevation?

☐ A. -17 m
☐ B. 17 m
☐ C. -73 m
☐ D. -28 m

13) Estimate $\sqrt{130}$ to the nearest whole number.

14) Which situation matches the equation $2x + 7 = 21$?

☐ A. Two items costing \$2 each and a \$7 item total \$21.
☐ B. Seven items costing \$2 each and a \$7 tax total \$21.
☐ C. x is increased by 2, then by 7, to get 21.
☐ D. A number is doubled, then 7 is added, resulting in 21.

15) Solve: $-3x + 10 = 1$

☐ A. $x = -3$
☐ B. $x = 1$
☐ C. $x = 3$
☐ D. $x = 9$

16) A storage container holds x liters. Three identical containers hold how much total volume?

☐ A. $x + 3$
☐ B. $3x$
☐ C. x^3
☐ D. $x + x + x + 3$

1) A scale model of a car is built with a scale of $1 : 24$. If the model is 20 cm long, how long is the actual car?

☐ A. 2 m
☐ B. 4.8 m
☐ C. 5 m
☐ D. 480 m

2) Which is equivalent to $\frac{a^{15}}{a^{10}}$?

☐ A. a^5
☐ B. a^{25}
☐ C. a^{150}
☐ D. a^{-5}

3) Solve: $9x - 5 = 49$

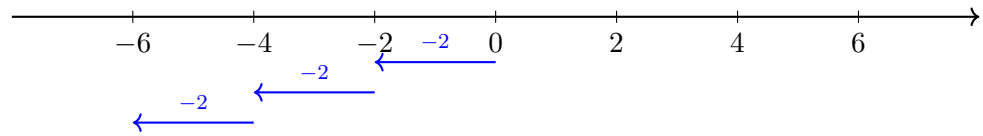
☐ A. $x = 4$
☐ B. $x = 5$
☐ C. $x = 6$
☐ D. $x = 7$

4) A cylindrical can contains 301.44 cubic inches of soup. If the radius is 3 inches, what is the height of the can? Use $\pi \approx 3.14$.

5) A book originally costs \$30. Which form best shows the factored structure of a 10% discount (that you keep 90% of the price)?

☐ A. $30 - 0.1(30)$
☐ B. $30(1 - 0.1)$
☐ C. 0.9×30
☐ D. $30 + 10$

6) The number line shows repeated additions. What does $3 \times (-2)$ equal?



☐ A. -8
☐ B. -6
☐ C. 6
☐ D. 8

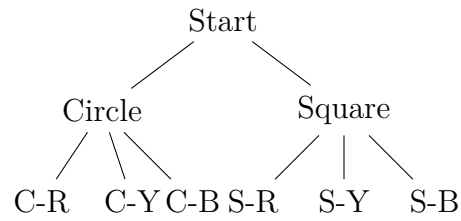
7) A histogram shows the weights (in pounds) of 50 dogs. The intervals are 10–20 lbs, 20–30 lbs, 30–40 lbs, and 40–50 lbs, with frequencies 8, 15, 20, and 7. Which interval contains the mode?

☐ A. 10–20 lbs
☐ B. 20–30 lbs
☐ C. 30–40 lbs
☐ D. 40–50 lbs

8) A spinner labeled 1–8 is spun. A student claims $P(\text{rolling an odd number}) = \frac{4}{8}$, then says this equals $\frac{1}{2}$. Is the second step correct?

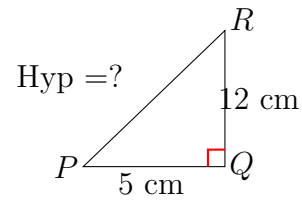
☐ A. No; $\frac{4}{8}$ cannot be simplified.
☐ B. Yes; $\frac{4}{8} = \frac{1}{2}$.
☐ C. No; $\frac{4}{8} = \frac{2}{4}$.
☐ D. No; the count is wrong; it should be $\frac{5}{8}$.

9) A tree diagram shows all outcomes for selecting a shape (Circle or Square) and a color (Red, Yellow, or Blue). How many final branches should the tree have?



☐ A. 2 branches
☐ B. 3 branches
☐ C. 5 branches
☐ D. 6 branches

1)



Which two segments would form the legs of a right triangle with hypotenuse 13 cm?

☐ A. 5 cm and 12 cm
☐ B. 6 cm and 8 cm
☐ C. 7 cm and 10 cm
☐ D. 4 cm and 9 cm

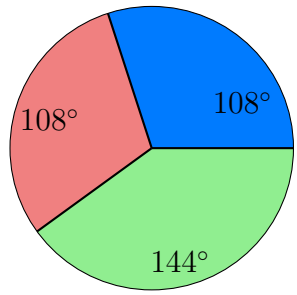
2) A blueprint for a kitchen has dimensions of 3.2 inches by 2.8 inches with a scale of 1 inch = 3 feet. What is the actual area of the kitchen in square feet?

3) A histogram shows the ages of people visiting a museum. The x-axis shows age intervals (10–20, 20–30, 30–40, etc.), and the heights of the bars show the number of people. What does the height of each bar represent?

☐ A. The width of each age interval
☐ B. The frequency (count) in each age interval
☐ C. The average age in each interval
☐ D. The age of the oldest person

4) A concert ticket costs $35 and a service fee is $6.50 per ticket. If someone buys 3 tickets, what is the total cost?

☐ A. $3(35 + 6.50) = \$124.50$
☐ B. $3(35) + 3(6.50) = \$124.50$
☐ C. $35 + 3 + 6.50 = \$44.50$
☐ D. $35(3) + 6.50 = \$111.50$



5)

This spinner has sectors of 108°, 108°, and 144°. Which is the correct probability for the largest sector?

☐ A. $\frac{2}{5}$
☐ B. $\frac{1}{3}$
☐ C. $\frac{3}{5}$
☐ D. $\frac{2}{3}$

6) Consider the problem $6 - (-3)$. Which statement best explains why the answer is positive and larger than 6?

☐ A. Subtracting always makes the number smaller
☐ B. Subtracting a negative is like removing a debt, which increases the value
☐ C. The rule says to add when you see a negative sign
☐ D. Positive numbers are always larger than negative numbers

7) A book is marked down by 30% from its original price of $25. What is the discount amount?

☐ A. $22.50
☐ B. $17.50
☐ C. $15
☐ D. $7.50

Hawaii Smarter Balanced 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 Hawaii Smarter Balanced practice test.

Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

1) **Choice D is correct.** 7.RP.1-7.RP.3 With no bulk discount or fixed fees, cost = 0.75 × quantity, where the cost per pencil is constant. This is proportional with $k = 0.75$.
2) **Choice B is correct.** 7.EE.1 Convert to common denominator: $\frac{2}{3}m = \frac{4}{6}m$. Then $\frac{4}{6}m + \frac{1}{6}m = \frac{5}{6}m$.
3) **Choice D is correct.** 7.NS.1-7.NS.3 Convert to common denominator 6: $1\frac{2}{6} + 2\frac{1}{6} = 3\frac{3}{6} = 3\frac{1}{2}$.
4) **The correct answer is** \$7.35 **.** 7.RP.3 Simple: $1500 \times 0.07 \times 2 = 210$. Compound: $1500(1.07)^2 = 1717.35$; interest = 217.35. Difference: $217.35 - 210 = 7.35$.
5) **Choice B is correct.** 7.NS.2d Fractions with denominators that include prime factors other than 2 or 5 do not terminate. Only $\frac{1}{3}$ has a denominator (3) with such a factor.
6) **Choice A is correct.** 7.NS.1-7.NS.3 Loss: $-2.25 \times 8 = -18$ dollars.
7) **Choice C is correct.** 7.NS.1-7.NS.3 $6.75 \times 10^{-4} = 6.75 \times 0.0001 = 0.000675$. The decimal moves 4 places left.
8) **Choice B is correct.** 7.EE.1-7.EE.2 First apply power rule: $(h^2)^3 = h^{2\times3} = h^6$. Then apply product rule: $h^6 \cdot h^4 = h^{6+4} = h^{10}$.
9) **Choice C is correct.** 7.EE.4a Distribute: $9x - 9 = 45$. Add 9: $9x = 54$. Divide by 9: $x = 6$.
10) **Choice B is correct.** 7.EE.3-7.EE.4 Subtract 2: $\frac{x}{4} = 3$. Multiply by 4: $x = 12$. Mental math check: $\frac{12}{4} + 2 = 3 + 2 = 5$ ✓. Reasonable: one-quarter of 12 is 3; add 2 gives 5.
11) **Choice B is correct.** 7.NS.1-7.NS.3 $\frac{5}{6} \div \frac{1}{12} = \frac{5}{6} \times \frac{12}{1} = 10$.
12) **Choice A is correct.** 7.NS.1-7.NS.3 Net change = $-45 + 28 = -17$ m (17 meters lower than start).
13) **The correct answer is** 11 **.** 7.NS.1-7.NS.3 $11^2 = 121$ and $12^2 = 144$. Since 130 is very close to 121, $\sqrt{130} \approx 11.4$, which rounds to 11.
14) **Choice D is correct.** 7.EE.4a Option D matches $2x + 7 = 21$: multiply x by 2, add 7. Others do not use the form correctly.
15) **Choice C is correct.** 7.EE.3-7.EE.4 Subtract 10: $-3x = -9$. Divide by -3: $x = 3$.
16) **Choice B is correct.** 7.EE.1-7.EE.2 Three containers of x liters each can be written as $x + x + x$ or $3 \times x = 3x$. This multiplication form is the most efficient equivalent expression for repeated addition.
17) **Choice A is correct.** 7.SP.3 The histogram shows where the majority of data concentrates. Museum A's concentration at 20–30 indicates younger adult appeal. Museum B's even distribution shows visitors of all ages.
18) **The correct answer is A,D.** 7.NS.1-7.NS.3 Statement A is true: the opposite of -5 is 5 (positive). Statement D is true: -5 and 5 are each 5 units from zero. Statement B is false because opposites have the same absolute value. Statement C is false: $5 + (-5) = 0$, not 10.
19) **Choice B is correct.** 7.SP.5-7.SP.8 Total beads: $12 + 8 + 5 = 25$. Blue beads: 8. So $P(\text{blue}) = \frac{8}{25} = 0.32$.
20) **Choice C is correct.** 7.RP.3 Tip percentage = $\frac{12}{60} = 0.20 = 20\%$.
21) **Choice A is correct.** 7.NS.2 Negative times positive equals negative. $-8 \times 2 = -16$.
22) **Choice B is correct.** 7.G.4-7.G.6 Square: $8 \times 8 = 64$ m^2. Triangle: $\frac{1}{2} \times 8 \times 3 = 12$ m^2. Total: $64 + 12 = 76$ m^2.
23) **Choice D is correct.** 7.RP.1-7.RP.3 Cost = $\frac{3}{4} \times 4 = 3$ dollars.
24) **Choice A is correct.** 7.G.4-7.G.6 $\frac{5{,}000 \text{ in}^3}{1{,}728 \text{ in}^3/\text{ft}^3} \approx 2.89$ ft^3.
25) **Choice C is correct.** 7.G.1-7.G.5 A quadrilateral's angles sum to 360°. The known angles add to $39° + 141° = 180°$, so the two missing angles must add to 180°.
26) **Choice B is correct.** 7.G.1-7.G.5 Two sides and the included angle uniquely determine a triangle by the SAS (Side–Angle–Side) condition. Exactly one triangle can be constructed.
27) **Choice B is correct.** 7.G.4-7.G.6 Since $d = 2r$, if the radii are equal, the diameters are also equal.
28) **Choice C is correct.** 7.SP.1-7.SP.4 $\frac{84}{200} = \frac{x}{50000}$. Reduce: $\frac{21}{50} = \frac{x}{50000} \Rightarrow x = 21000$.
29) **Choice D is correct.** 7.RP.1-7.RP.3 Unit rate: $\frac{5/8}{1/12} = \frac{5}{8} \times 12 = \frac{60}{8} = \frac{15}{2} = 7.5$ tons/day. In 2 days: $\frac{15}{2} \times 2 = 15$ tons.

Hi, Momentum Builder!

◇ Finishing a Grade 7 practice book is not a small thing. It means you practiced persistence, patience, and flexible problem solving. ◇

⋆ **Remember this:** Some questions were quick. Others probably made you stop and think. Both kinds helped you grow because practice turns effort into confidence. This version gave you 8 opportunities to rehearse test-day habits. ⋆

Momentum Habits

- **Start Clean:** Write down what the problem gives you.
- **Pick a Tool:** Use a table, model, equation, or graph.
- **Keep Moving:** Skip and return when needed.
- **Review Smart:** Study mistakes without judging yourself.

Grade 7 test-day tip: If a problem feels stuck, change tools. A graph, table, or sketch can make the same idea clearer.

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

Jay Daie

Your Math Momentum Partner

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **8** 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:

- **8** Full-Length Printed Tests
- **2** Online Practice Tests
- Detailed Answer 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

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

Better Problem Solving
Develop logical thinking and effective solution strategies.

Deeper Understanding
Reinforce key concepts with clear explanations and meaningful practice.

Test Confidence
Familiarize with test formats and improve accuracy and speed.

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

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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FOR MORE PRACTICE TESTS

PRACTICE REGULARLY | STAY FOCUSED | SOLVE CONFIDENTLY | SUCCEED BRIGHTLY