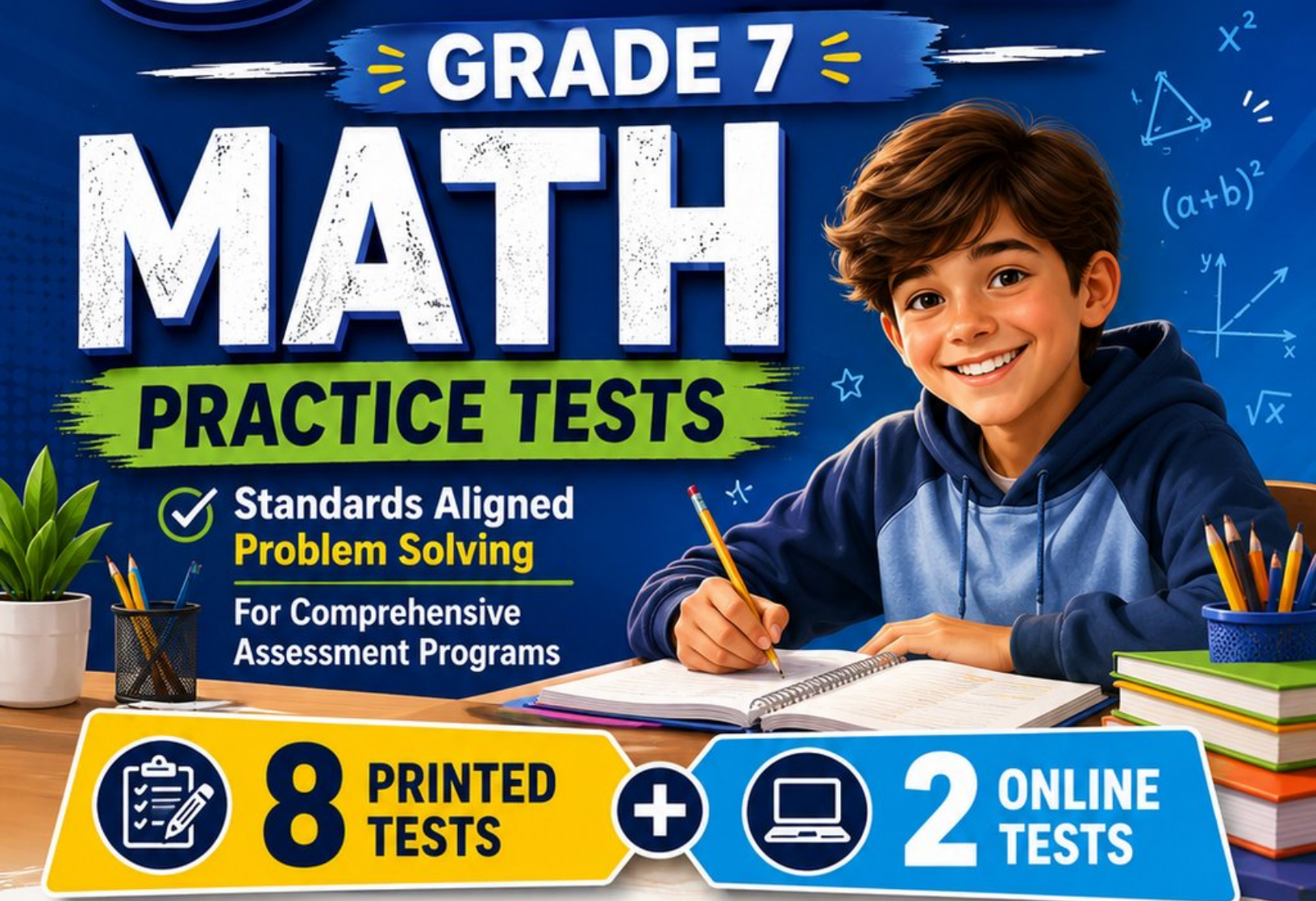
8 Texas STAAR

GRADE 7

MATH

PRACTICE TESTS



Standards Aligned
Problem Solving

For Comprehensive Assessment Programs

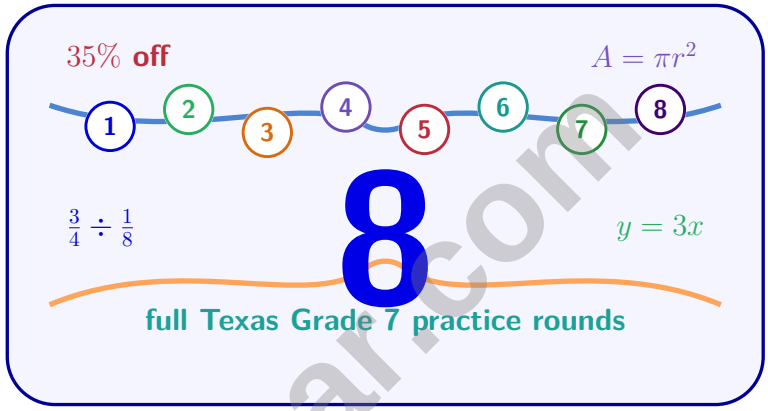
8 PRINTED TESTS + **2 ONLINE TESTS**

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 Texas STAAR Grade 7 Math Practice Tests

A confident review of Texas Grade 7 unit rates, percent reasoning, inequalities, volume, data displays, and probability



Eight complete 40-question Grade 7 STAAR 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, Texas Grade 7 Problem Solver!

Eight focused rounds for sharper STAAR math thinking

This book gives you eight full Grade 7 STAAR 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 Texas 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.

Texas 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?

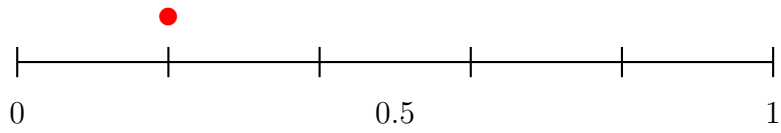
Eight STAAR tests, 320 questions, and a complete review path

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) Which event best represents the probability shown on this scale?



- ☐ A. Flipping heads on a fair coin
- ☐ B. Rolling a 6 on a standard die
- ☐ C. Drawing a spade from a shuffled deck
- ☐ D. Rolling an odd number on a standard die

2) A farmer has a field with area $24ab+36b$ square meters. Which factorization represents the dimensions?

- ☐ A. $12b(2a+3)$
- ☐ B. $6b(4a+6)$
- ☐ C. $24(ab+1.5b)$
- ☐ D. $4(6ab+9b)$

3) Simplify: $\frac{b^8}{b^3}$

- ☐ A. b^5
- ☐ B. b^{11}
- ☐ C. b^{24}
- ☐ D. b^{-5}

4) Solve for x: $-2(x+3)=10$

- ☐ A. $x=-8$
- ☐ B. $x=-5$
- ☐ C. $x=2$
- ☐ D. $x=5$

5)

n	$n-2$	$3(n-2)$
3	1	3
4	2	6
5	3	9

If $3(n-2)=15$, what is n?

☐ A. $n=5$
☐ B. $n=7$
☐ C. $n=9$
☐ D. $n=10$

6) Marcus's score was -15 points. He earned 8 points for a correct answer, then lost 3 points. What is his new score?

☐ A. -26 points
☐ B. 10 points
☐ C. -10 points
☐ D. -20 points

7) A bank account earns 3% annual interest on a balance of \$1 000. How much interest will the account earn in one year?

8) At a bakery, 8 cups of flour are divided equally into $\frac{1}{4}$-cup portions. How many portions are there?

☐ A. 2 portions
☐ B. 8 portions
☐ C. 16 portions
☐ D. 32 portions

9) What is $\frac{17}{50}$ as a decimal?

☐ A. 0.17
☐ B. 0.34
☐ C. 0.51
☐ D. 0.74

10) A submarine is at -245 meters. It rises 35 meters. What is its new depth?

☐ A. -280 m
☐ B. -210 m
☐ C. 210 m
☐ D. 280 m

11) What is $\sqrt{25} + \sqrt{36}$?

12) A music lesson instructor charges a \$30 booking fee and \$35 per hour. If the total is \$135, which equation finds h, the number of hours?

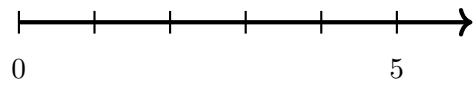
☐ A. $30h + 35 = 135$
☐ B. $35h + 30 = 135$
☐ C. $35 + 30h = 135$
☐ D. $30(h + 35) = 135$

13) Solve: $6x - \frac{1}{2} = \frac{11}{2}$

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

1) Number-line model: Where does $\frac{5}{6} \div \frac{1}{6}$ map on the number line?

Answer



☐ A. 0
☐ B. Between 0 and 1
☐ C. At 5
☐ D. Beyond 5

2) Solve: $\frac{x}{-4} > 3$

☐ A. $x < -12$
☐ B. $x > -12$
☐ C. $x > -\frac{3}{4}$
☐ D. $x > 12$

3) A skateboard costs c dollars. After a 25% discount, the price is $0.75c$. Use distribution to write this as $(1-?)c$.

☐ A. $(1 - 0.25)c$
☐ B. $(1 - 0.75)c$
☐ C. $(0.25 - 1)c$
☐ D. $(1 + 0.25)c$

4) Which set of conditions does NOT uniquely determine a triangle?

☐ A. Three side lengths given
☐ B. Two side lengths and the angle between them given
☐ C. Two side lengths and an angle NOT between them
☐ D. Two angles and any side length given

5) An error analysis: A student wrote $|-9| = -9$. What is the correct value, and why is the student wrong?

☐ A. Correct: $|-9| = -9$; student is right
☐ B. Correct: $|-9| = 18$; doubling the number
☐ C. Correct: $|-9| = 0$; distance from zero is zero
☐ D. Correct: $|-9| = 9$; absolute value is always non-negative

6) A histogram shows customer wait times (in minutes) at a restaurant: 0–5 min (8 customers), 5–10 min (12 customers), 10–15 min (6 customers), 15–20 min (4 customers). What can you conclude about typical wait time?

☐ A. Most customers wait 0–5 minutes
☐ B. Most customers wait 5–10 minutes
☐ C. Most customers wait 15–20 minutes
☐ D. Wait times are evenly distributed

7) A jar contains colored beads. If $P(\text{purple}) = \frac{6}{25}$ and there are 25 beads total, how many purple beads are there?

☐ A. 6
☐ B. 19
☐ C. 25
☐ D. 5

8) Two coins are flipped. What is the probability that both coins show the same result (either both Heads or both Tails)?

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

9) A merry-go-round has radius 5 meters. A child rides on it and goes around 4 complete times. How far does the child travel? Use $\pi \approx 3.14$. Round to the nearest tenth.

10) A deck contains 20 cards: 8 red and 12 black. A card is drawn, NOT replaced, and then another is drawn. What is the probability the first is red and the second is black?

☐ A. $\frac{96}{380}$
☐ B. $\frac{8}{20} \cdot \frac{12}{20}$
☐ C. $\frac{24}{95}$
☐ D. $\frac{96}{400}$

1) A scale drawing uses $\frac{1}{8}$ inch to represent 1 foot. What is the actual length if the drawing shows 3.5 inches?

☐ A. 8 feet
☐ B. 32 feet
☐ C. 4.375 feet
☐ D. 28 feet

2) A researcher collects data on the relationship between hours of sleep and performance on a math test for 20 students. Some data points show students who slept 7 hours and scored 60, while others slept 7 hours and scored 95. What does this variation BEST indicate?

☐ A. Sleep has no effect on test performance
☐ B. Sleep alone does not determine test scores; other factors matter
☐ C. The data is incorrect because the same sleep results in different scores
☐ D. Students who sleep 7 hours have inconsistent abilities

3) Which equation matches the description: "A number is multiplied by 5, then 12 is subtracted, and the result is 28"?

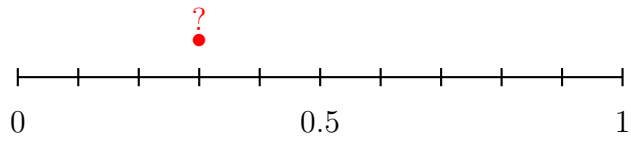
☐ A. $5x - 12 = 28$
☐ B. $5x + 12 = 28$
☐ C. $12 - 5x = 28$
☐ D. $\frac{x}{5} - 12 = 28$

4) A bicycle costs \$140 before tax. If the sales tax is 9%, and then a 15% discount coupon is applied to the pre-tax price, what is the final cost?

5) A bag contains 3 red marbles, 5 blue marbles, and 2 green marbles. Which probability is correct?

☐ A. $P(\text{blue}) = \frac{2}{10}$
☐ B. $P(\text{red}) = \frac{3}{10}$
☐ C. $P(\text{green}) = \frac{1}{2}$
☐ D. $P(\text{not red}) = \frac{6}{10}$

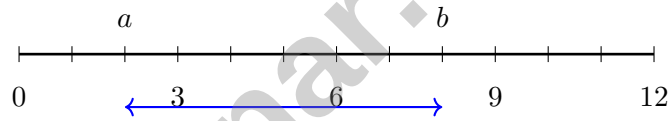
6) A probability number line is shown below.



Which probability is marked on the number line?

☐ A. 0.1
☐ B. 0.2
☐ C. 0.3
☐ D. 0.4

7)



Distance = 6 units

If $a = 2$ and $b = 8$, the distance formula $|a - b|$ gives $|2 - 8| = 6$. What would the distance be if $a = -4$ and $b = 5$?

☐ A. -9
☐ B. 1
☐ C. 9
☐ D. -1

8) Simplify: $-3p - 4p + 2p$

☐ A. $-5p$
☐ B. $-9p$
☐ C. $9p$
☐ D. 0

Texas STAAR 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 Texas STAAR practice test.

Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

1) **Choice B is correct.** 7.SP.5-7.SP.8 The marked position is at 0.2. Rolling a 6 on a standard die has probability $\frac{1}{6} \approx 0.167 \approx 0.2$.
2) **Choice A is correct.** 7.EE.1-7.EE.2 GCF of $24ab$ and $36b$ is $12b$. Factor: $24ab + 36b = 12b(2a + 3)$.
3) **Choice A is correct.** 7.EE.1-7.EE.2 Quotient rule: $\frac{b^8}{b^3} = b^{8-3} = b^5$.
4) **Choice A is correct.** 7.EE.4a Distribute: $-2x - 6 = 10$. Add 6: $-2x = 16$. Divide by -2: $x = -8$.
5) **Choice B is correct.** 7.EE.3-7.EE.4 Divide by 3: $n - 2 = 5$. Add 2: $n = 7$.
6) **Choice C is correct.** 7.NS.1-7.NS.3 $-15 + 8 - 3 = -7 - 3 = -10$ points.
7) **The correct answer is** \$30 **.** 7.RP.3 Interest earned: $0.03 \times 1000 = \$30$.
8) **Choice D is correct.** 7.NS.1-7.NS.3 $8 \div \frac{1}{4} = 8 \times \frac{4}{1} = 32$.
9) **Choice B is correct.** 7.NS.2d Divide $17 \div 50 = 0.34$. Since $50 = 2 \times 5^2$, this is a terminating decimal.
10) **Choice B is correct.** 7.NS.1-7.NS.3 $-245 + 35 = -210$ meters.
11) **The correct answer is** 11 **.** 7.NS.1-7.NS.3 $\sqrt{25} = 5$ and $\sqrt{36} = 6$, so $5 + 6 = 11$.
12) **Choice B is correct.** 7.EE.4a Booking fee is \$30 plus \$35 per hour. Equation: $35h + 30 = 135$.
13) **Choice A is correct.** 7.EE.3-7.EE.4 Add $\frac{1}{2}$ to both sides: $6x = \frac{11}{2} + \frac{1}{2} = \frac{12}{2} = 6$. Divide by 6: $x = 1$.
14) **Choice B is correct.** 7.EE.1-7.EE.2 Factoring uses the distributive property: $5(x - 2) = 5 \cdot x - 5 \cdot 2 = 5x - 10$. The property works both ways (distribute or factor).
15) **Choice A is correct.** 7.SP.5-7.SP.8 Red sector is 180° out of 360°: $P(\text{red}) = \frac{180}{360} = \frac{1}{2}$.
16) **Choice A is correct.** 7.NS.2 $0.4 \times 0.5 = 0.2$. Count total decimal places: $4 \times 5 = 20$, then place decimal to get $0.20 = 0.2$.
17) **Choice A is correct.** 7.SP.3 Grade 7 peaks at 63–65 (higher typical height) vs. Grade 6 at 60–62. The ranges (Grade 6: 55–68, Grade 7: 58–70) overlap significantly from 58–68 inches, so some Grade 6 students are taller than some Grade 7 students.
18) **Choice D is correct.** 7.RP.3 Daily cost $= 40 \times 5 = \$200$. Insurance premium $= 0.15 \times 200 = \$30$. Total $= 200 + 30 = \$230$.
19) **Choice B is correct.** 7.G.4-7.G.6 Rectangle: $4 \times 6 = 24$ ft^2. Semicircle (radius 2): $\frac{1}{2} \times 3.14 \times 4 = 6.28$ ft^2. Total: $24 + 6.28 = 30.28$ ft^2.
20) **Choice D is correct.** 7.RP.1-7.RP.3 Original recipe: 2 cups pineapple juice. Scaling by 4: $2 \times 4 = 8$ cups.
21) **The correct answer is A,C.** 7.RP.3 A balanced budget must include money for necessities (A) and reserves for savings and emergencies (C). Options B, D, and E represent poor financial habits that lead to deficit budgets or lack of financial security.
22) **Choice B is correct.** 7.G.4-7.G.6 $V = 2.5 \times 4 \times 8 = 80$ m^3.
23) **Choice A is correct.** 7.G.1-7.G.5 $5^2 + 12^2 = 25 + 144 = 169 = 13^2$ ✓. This is the 5-12-13 Pythagorean triple.
24) **Choice B is correct.** 7.G.4-7.G.6 A radius has one endpoint at the center and one on the circle, not both on the circle, so it is not a chord.
25) **Choice A is correct.** 7.G.1-7.G.5 By the Pythagorean theorem, $c^2 = 6^2 + 8^2 = 36 + 64 = 100$, so $c = 10$ cm.
26) **Choice B is correct.** 7.SP.1-7.SP.4 Sample proportion: 60% or 0.60. Apply to population: $0.60 \times 10000 = 6000$ customers.
27) **Choice A is correct.** 7.NS.1-7.NS.3 The correct answer is $-14 + 14 = 0$ because -14 and 14 are opposites. The student incorrectly added the absolute values.
28) **The correct answer is** 25 **.** 7.EE.1-7.EE.2 Area is $5(x + 3)$. With $x = 2$, $5(2 + 3) = 25$.
29) **Choice D is correct.** 7.RP.1-7.RP.3 Table P: $4/1 = 4, 8/2 = 4, 12/3 = 4$ (constant ratio $k = 4$, proportional). Table Q: $5/1 = 5, 9/2 = 4.5, 13/3 \approx 4.33$ (not constant).
30) **The correct answer is** 8 **.** 7.EE.1-7.EE.2 The expression simplifies to $9s - 1$. With $s = 1$, the value is 8.

Author's Note

Your Future Math Self

Hi, Future Algebra Thinker!

◇ Grade 7 practice prepares you for the next math steps. Expressions, equations, proportional relationships, and graphs are all part of that bridge. This wide-ranging book gave you eight serious Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. ◇

⋆ **Remember this:** Every time you solved for an unknown or explained a relationship, you were building skills that future math will use again. ⋆

Bridge Skills

- **Use Variables:** Let letters stand for unknown values.
- **Balance Equations:** Keep both sides fair.
- **Read Graphs:** Connect points to meaning.
- **Compare Rates:** Look for constant relationships.

Grade 7 test-day tip: When you see a variable, say what it represents. That keeps algebra connected to the problem.

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

Jay Daie

Your Algebra Bridge Coach

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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PRACTICE REGULARLY | STAY FOCUSED | SOLVE CONFIDENTLY | SUCCEED BRIGHTLY