

10 Nevada

Smarter Balanced

GRADE
8
MATH

PRACTICE TESTS

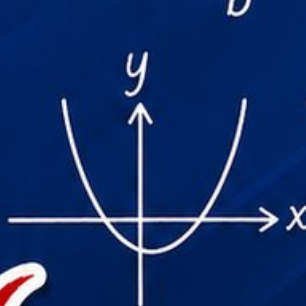
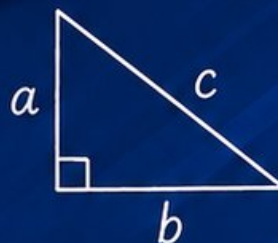
Standards Aligned Problem Solving
For Comprehensive Assessment Programs

10 PRINTED TESTS 

2 ONLINE TESTS 

- ✓ Build Confidence
- ✓ Master Key Math Skills
- ✓ Answer Explanations for Every Question
- ✓ Test-Taking Strategies That Work

$$y = mx + b$$



$$3x - 7 = 2(x + 5)$$
$$x = 17$$

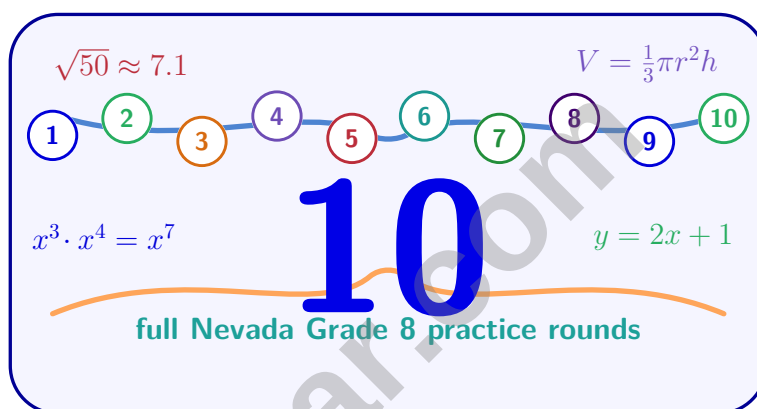


**USE THESE TWO
ADDITIONAL ONLINE
PRACTICE TESTS**

**FOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.**

10 Nevada Smarter Balanced Grade 8 Math Practice Tests

Nevada Grade 8 Smarter Balanced Practice for focused practice in proportional graphs, scientific notation, expressions, inequalities, geometry, and data analysis



Ten complete 40-question Grade 8 Smarter Balanced practice rounds with linear relationships, scientific notation, real numbers, equations, functions, geometry, data analysis, probability, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari



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Welcome, Nevada Grade 8 Problem Solver!

Ten focused rounds for sharper Nevada Smarter Balanced math thinking

This book gives you ten full Grade 8 Smarter Balanced math practice tests. Each round is built to help you notice structure, compare quantities, use linear reasoning, handle real numbers, and explain your thinking with care.

Grade 8 standards focus: This page supports **Slope as Rate of Change** (8.EE.B.5): Understand slope as a constant rate of change between two quantities. Another recurring target is **Composite Figures: Area and Perimeter** (8.G.B.7): Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.

Your Nevada 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 ten-session plan for confident Grade 8 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.

Grade 8 standards focus: Keep the routine connected to **Solving Systems of Two Equations** (8.EE.C.8a): Understand that solutions to a system of two linear equations correspond to points of intersection of their graphs. Solve systems algebraically and by graphing. The same routine helps with **Rational and Irrational Numbers** (8.NS.A.1): Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats....

Nevada 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?

Ten Nevada Smarter Balanced tests, 400 questions, and a complete review path

Part	What You Will Practice
Tests 1–3	Linear relationships, integer exponents, scientific notation, real-number reasoning, and careful reading.
Tests 4–6	Expressions, equations, inequalities, transformations, geometry, and multi-step problem solving.
Tests 7–9	Data analysis, probability, mixed review, stamina, and choosing efficient strategies.
Test 10	A final Nevada round to show growth across the whole book.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Grade 8 success means recognizing which idea is being tested even when the next question changes format.

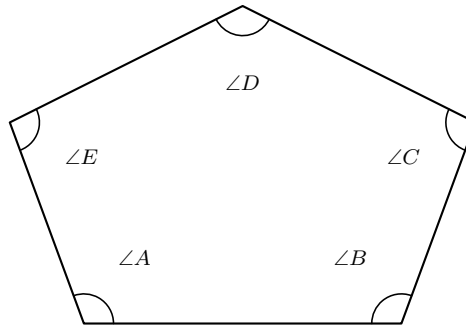
Grade 8 standards focus: Use these habits while practicing **Reading Function Values** (8.F.A.1): Find outputs from a function rule, table, or graph. You will also meet **Square Roots and Cube Roots** (8.EE.A.2): Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational....



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For more practice
& answers

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1)

The figure shows a pentagon with interior angles. If $\angle A = 100^\circ$, $\angle B = 120^\circ$, $\angle C = 110^\circ$, and $\angle D = 130^\circ$, what is $\angle E$?

☐ A. 80°
☐ C. 120°
☐ B. 100°
☐ D. 140°

2) A square pyramid has a base with side length 8 cm and height 3 cm. Approximate the slant height and then calculate the surface area. (Use $\sqrt{25} = 5$.)

☐ A. Slant height ≈ 5 cm, SA ≈ 129 cm²
☐ C. Slant height ≈ 4 cm, SA ≈ 113 cm²
☐ B. Slant height ≈ 5 cm, SA ≈ 144 cm²
☐ D. Slant height ≈ 6 cm, SA ≈ 161 cm²

3) A rental agency charges $C = 0.35m + 50$, where C is cost in dollars and m is miles. Which statement BEST explains the practical meaning of 0.35?

☐ A. The company charges \$0.35 per mile driven

☐ C. For every 0.35 miles, the cost increases by \$1

☐ B. The company charges a \$50 deposit that covers 0.35 miles

☐ D. The daily rental rate is \$0.35


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4) Multiply: $(3x + 4)(2x - 1)$

☐ A. $5x^2 + 5x - 4$

☐ C. $6x^2 + 5x - 4$

☐ B. $6x^2 + 11x - 4$

☐ D. $6x^2 - 3x - 4$

5) A student graphs $y \geq x$ and mistakenly shades BELOW the line. What is the error?

☐ A. Should have used a dashed line

☐ C. Should have shaded BELOW the line

☐ B. Should have shaded ABOVE the line

☐ D. Should have used the inequality $y < x$

6) Function $p(x) = \frac{3}{2}x - 4$ and the table for function q : $(0, 2)$, $(2, 5)$, $(4, 8)$. Which has a steeper slope?

x	0	2	4
$q(x)$	2	5	8

☐ A. $p(x)$

☐ C. Both have equal slopes.

☐ B. $q(x)$

☐ D. Cannot be determined.

7) A spring stretches when weights are attached. The table shows the length L (in cm) for a spring with w weights attached.

Number of Weights (w)	0	2	4	6
Length (L, cm)	10	14	18	22

Which equation describes the relationship?

☐ A. $L = 2w + 10$

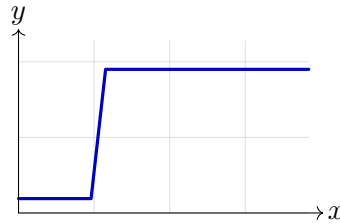
☐ C. $L = 4w + 10$

☐ B. $L = 10w + 2$

☐ D. $L = w + 10$



- 8) A graph displays cumulative rainfall over a month. Which scenario matches a graph with a steep jump, then a flat section?



- ☐ A. Heavy rain one day, then no rain for several days
 ☐ C. No rain for a week, then a single light drizzle
- ☐ B. Light rain every day for a month at a constant rate
 ☐ D. Rain that decreases over time
- 9) Two segments are congruent. Segment AB has length 8 cm. After both segments are rotated 45 degrees about the same point, which statement is true?
- ☐ A. The rotated AB has length $8\sqrt{2}$ cm
 ☐ D. The rotated segments are still congruent
- ☐ B. Only one segment can be rotated
 ☐ C. The rotated segments have different lengths
- 10) Triangle ABC is dilated by a scale factor of 3 centered at the origin. If the area of the original triangle is 10 square units, what is the area of the dilated triangle?
- ☐ A. 30 square units
 ☐ C. 100 square units
- ☐ B. 90 square units
 ☐ D. 10 square units



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1) $(6.5 \times 10^5) - (3.2 \times 10^5) = ?$

☐ A. 3.3×10^0

☐ C. 3.3×10^5

☐ B. 9.7×10^5

☐ D. 0.33×10^5

2) A teacher plots the relationship between attendance and test scores. The trend line shows a positive slope. What does this tell you?

☐ A. Attendance directly causes higher test scores

☐ C. Test scores determine how often students attend

☐ B. All students with perfect attendance pass the test

☐ D. As attendance increases, test scores tend to increase on average

3) Three similar figures X , Y , and Z have corresponding sides in the ratios $X : Y = 3 : 4$ and $Y : Z = 4 : 7$. If X has a side of 6 cm, what is the length of the corresponding side in Z ?

☐ A. 14 cm

☐ C. 8 cm

☐ B. 10.5 cm

☐ D. 18 cm

4) Which number lies between 3 and 4?

☐ A. $\sqrt{8}$

☐ C. $\sqrt{20}$

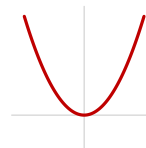
☐ B. $\sqrt{25}$

☐ D. $\sqrt{13}$

5) Comparing graphs: Graph A is a straight line; Graph B is a parabola. Which is linear?



Graph A



Graph B

☐ A. Graph A

☐ C. Both are linear

☐ B. Graph B

☐ D. Neither is linear

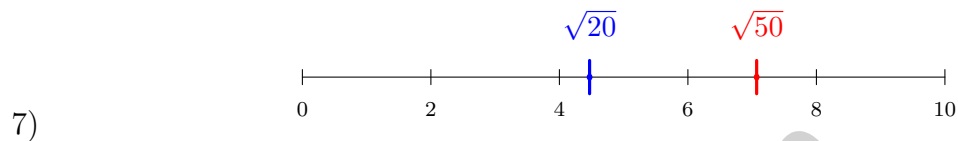


6)

$x = 0.\overline{37}$	
$10x = ?$	$3.\overline{7}$
$100x = ?$	$37.\overline{7}$

Using the diagram, what is $100x - 10x$?

- | | |
|---|--------------------------------|
| ☐ A. $34.\overline{0}$ | ☐ C. 33 |
| ☐ B. 37 | ☐ D. 34 |



Based on the number line, which statement is true?

- | | |
|---|---|
| ☐ A. Cannot determine | ☐ C. They are equal |
| ☐ B. $\sqrt{50} < \sqrt{20}$ | ☐ D. $\sqrt{20} < \sqrt{50}$ |

8) Which is the best estimate of $\sqrt{99}$?

- | | |
|----------------------------------|----------------------------------|
| ☐ A. 9.0 | ☐ C. 10.0 |
| ☐ B. 49.5 | ☐ D. 9.5 |

9) Which expression equals 4.25×10^{-1} ?

- | | |
|----------------------------------|-----------------------------------|
| ☐ A. 425 | ☐ C. 42.5 |
| ☐ B. 4.25 | ☐ D. 0.425 |

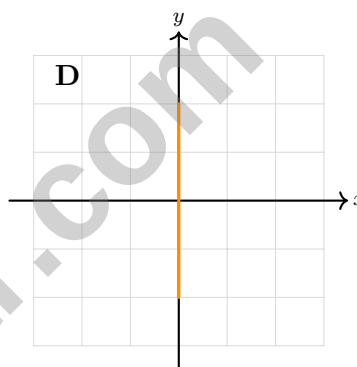
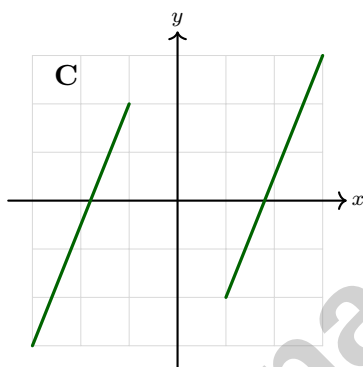
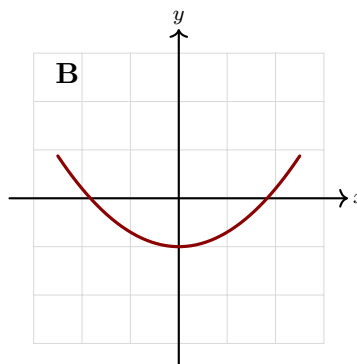
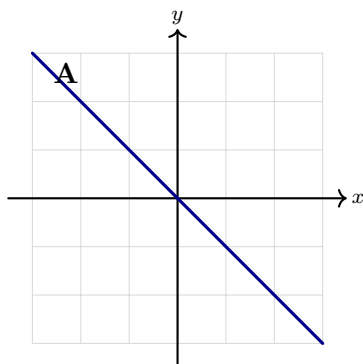
10) A store advertises: “Pay \$250 down and \$150/month for 12 months.” If the item costs \$1,500 cash, what is the finance charge?

- | | |
|----------------------------------|-----------------------------------|
| ☐ A. \$0 | ☐ C. \$100 |
| ☐ B. \$50 | ☐ D. \$550 |



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1) Which graph shows a single linear function?



☐ A. Graph A (diagonal line).

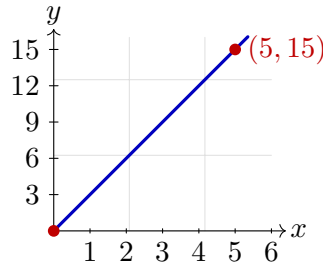
☐ B. Graph B (parabola).

☐ C. Graph C (two disconnected segments).

☐ D. Graph D (vertical line segment).



- 2) A graph of a proportional relationship passes through the origin and (5, 15). What is the slope (unit rate)?



- ☐ A. 2
- ☐ B. 15
- ☐ C. 5
- ☐ D. 3
- 3) Which statement about $y = \frac{3}{4}x + 2$ is TRUE?
- ☐ A. It is nonlinear because the slope is a fraction
- ☐ B. It is linear and can be written in the form $y = mx + b$
- ☐ C. It is nonlinear because the y -intercept is positive
- ☐ D. It is linear only if m is a whole number
- 4) A plane is descending. Its altitude decreases 2000 feet for every 5 minutes. What is the slope of altitude versus time?
- ☐ A. 400 feet per minute
- ☐ B. 2000 feet per minute
- ☐ C. $\frac{5}{2000}$ feet per minute
- ☐ D. -400 feet per minute
- 5) A student uses elimination to solve: $3x + 2y = 16$ and $5x - 2y = 24$. They add the equations to get $8x = 40$, so $x = 5$. Then they substitute to find $y = 0.5$. Is this correct?
- ☐ A. No, adding eliminates x , not y .
- ☐ B. No, the substitution is wrong.
- ☐ C. No, the system has no solution.
- ☐ D. Yes, the solution is correct.



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& answers

Nevada Smarter Balanced Grade 8 Practice Test Answer Keys

How to use this section with a Grade 8 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 Nevada Smarter Balanced practice test.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** (8.G.A.5) The sum of angles in a pentagon is 540° . So $\angle E = 540 - 100 - 120 - 110 - 130 = 80^\circ$.
- 2) **Choice B is correct.** (8.G.C.9) The distance from the center to the midpoint of a base edge is 4 cm. Slant height $\ell = \sqrt{3^2 + 4^2} = \sqrt{25} = 5$ cm. Base area = 64 cm^2 and lateral area = $4 \times \frac{1}{2}(8)(5) = 80 \text{ cm}^2$, so total surface area is 144 cm^2 .
- 3) **Choice A is correct.** (8.SP.A.3) The slope 0.35 is the rate of change. Each additional mile increases cost by \$0.35.
- 4) **Choice C is correct.** (8.EE.C.7) FOIL: $(3x + 4)(2x - 1) = 6x^2 - 3x + 8x - 4 = 6x^2 + 5x - 4$.
- 5) **Choice B is correct.** (8.EE.C.8b) For $y \geq x$, the solution region is above the line. The boundary is solid because the inequality includes equality.
- 6) **Choice C is correct.** (8.F.A.2) Slope of p : $\frac{3}{2} = 1.5$. From table q : $(5 - 2)/(2 - 0) = 3/2 = 1.5$. Both have slope 1.5.
- 7) **Choice A is correct.** (8.F.B.4) Initial length is 10 cm (when $w = 0$). Change from 2 to 4 weights: length goes from 14 to 18 cm, a change of 4 cm for 2 weights, so slope is 2. Equation: $L = 2w + 10$.
- 8) **Choice A is correct.** (8.F.B.5) Cumulative rainfall never decreases. A steep jump indicates heavy rainfall over a short time; a flat section means zero rainfall. B would show a gradual, constant increase (not steep). C would be a small jump then flat. D is impossible for cumulative data.
- 9) **Choice D is correct.** (8.G.A.2) Rotation is a rigid motion that preserves lengths. If two segments are congruent before rotation, they remain congruent after rotation. Both still have their original lengths.
- 10) **Choice B is correct.** (8.G.A.3) When dilated by scale factor k , area is multiplied by k^2 . Here: $10 \times 3^2 = 10 \times 9 = 90$.
- 11) **Choice A is correct.** (8.G.A.5) Exterior angle = sum of remote interior angles: $117 = 68 + x$, so $x = 49^\circ$.
- 12) **Choice C is correct.** (8.G.B.6, 8.G.B.7) From $(\sqrt{15})^2 + b^2 = (\sqrt{31})^2$, we get $15 + b^2 = 31$, so $b^2 = 16$ and $b = 4$.
- 13) **The correct answer is 0.125.** (8.EE.A.1) $2^{-3} = \frac{1}{2^3} = \frac{1}{8} = 0.125$.
- 14) **Choice B is correct.** (8.G.B.8) The distance formula comes from the Pythagorean Theorem applied to the horizontal and vertical legs of a right triangle.
- 15) **Choice D is correct.** (8.G.C.9) Cylinder: $V = 3.14 \times 64 \times 6 = 1205.76 \text{ m}^3$. Cone: $V = \frac{1}{3} \times 3.14 \times 64 \times 6 = 401.92 \text{ m}^3$. Difference: $1205.76 - 401.92 = 803.84 \text{ m}^3$.
- 16) **Choice B is correct.** (8.G.B.7) Let one angle be x . Its supplement is $180 - x$. Their difference is $(180 - x) - x = 28$, so $180 - 2x = 28$, giving $x = 76^\circ$. The larger is $180 - 76 = 104^\circ$.
- 17) **The correct answer is 7.** (8.EE.A.2) $\sqrt[3]{343} = 7$ because $7 \times 7 \times 7 = 343$.
- 18) **Choice C is correct.** (8.G.C.9) Prism: $V_p = B \times h = 25 \times 15 = 375 \text{ cm}^3$. Pyramid: $V_{py} = \frac{1}{3} \times 25 \times 15 = 125 \text{ cm}^3$. Ratio: $\frac{375}{125} = 3$.
- 19) **The correct answer is B, E.** (8.G.B.7) There are 10 marbles total. B is true because $P(\text{blue}) = \frac{3}{10}$. E is true because $P(\text{red or blue}) = \frac{5+3}{10} = \frac{8}{10} = \frac{4}{5}$. A is false because $P(\text{red}) = \frac{1}{2}$. C is false because $P(\text{green}) = \frac{1}{5}$. D is false because $P(\text{yellow}) = 0$.
- 20) **Choice B is correct.** (8.G.B.7) Decompose: square plus triangles. Square area = $9 \times 9 = 81 \text{ cm}^2$. Each right triangle area = $\frac{1}{2} \times 3 \times 4 = 6 \text{ cm}^2$. Three triangles total = 18 cm^2 . Total area = $81 + 18 = 99 \text{ cm}^2$.
- 21) **Choice B is correct.** (8.SP.A.1) As speed increases, time to reach a destination decreases—a clear negative correlation. The other choices show positive or no clear correlation.
- 22) **Choice B is correct.** (8.SP.A.4) Relative frequency of improvement among medicated patients: $\frac{160}{200} = 0.80$.
- 23) **Choice D is correct.** (8.G.B.7) Option 1: $I = 800 \times 0.10 \times 1 = \80 . Option 2: \$0 interest. Difference: $\$80 - \$0 = \$80$.
- 24) **Choice C is correct.** (8.EE.A.4) Divide: $\frac{5 \times 10^6}{2.5 \times 10^3} = \frac{5}{2.5} \times 10^{6-3} = 2 \times 10^3$.
- 25) **Choice C is correct.** (8.EE.B.5) Substitute $t = 3.5$: $d = 12(3.5) = 42$ miles. The proportional relationship scales with time.
- 26) **The correct answer is $m = 25$.** (8.EE.C.7) Add 2 to both sides: $\frac{m}{5} = 5$. Multiply both sides by 5: $m = 25$. Verify: $\frac{25}{5} - 2 = 5 - 2 = 3 \checkmark$.



Hi, Brave Learner!

◇ No one gets stronger by only doing easy problems. The questions that slowed you down were part of the training. This full-length book gave you ten complete Grade 8 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. ◇

★ **Remember this:** Mistakes are not proof that you cannot do math. They are directions. They show what to review, what to ask about, and what to practice next. ★

How to Use Mistakes

- **Name It:** Was it reading, setup, arithmetic, or checking?
- **Fix It:** Correct the work while the question is fresh.
- **Repeat It:** Try one similar problem soon.
- **Remember It:** Write the lesson in your own words.

Grade 8 test-day tip: Treat every corrected error as a point you are preparing to earn next time.

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

Jay Daie

Your Brave-Learning Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **10** full-length Math practice tests and **2** online tests to help Grade 8 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:

10

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.



Master Key Skills

Develop strong math skills and problem solving abilities.



Improve Understanding

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



Test Strategies

Learn proven strategies to approach every question with confidence.



Boost Performance

Apply your knowledge and achieve your best score!

TOPICS COVERED

- | | |
|---------------------------|----------------------------|
| ✓ The Number System | ✓ Statistics & Probability |
| ✓ Expressions & Equations | ✓ Data Analysis |
| ✓ Inequalities | ✓ Measurement |
| ✓ Functions | ✓ Pythagorean Theorem |
| ✓ Geometry | ✓ Surface Area & Volume |
| ✓ Ratios & Proportions | ✓ 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!



PRACTICE
REGULARLY



STAY
FOCUSED



SOLVE
CONFIDENTLY



SUCCEED
BRIGHTLY