

6 UTAH RISE

GRADE

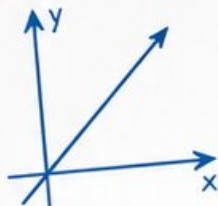
7

MATH

PRACTICE TESTS

Standards Aligned
Problem Solving For
Comprehensive
Assessment Programs

$$y = mx + b$$



$$2(x - 3) = 4x + 6$$



6 PRINTED
TESTS



2 ONLINE
TESTS



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



Build
Confidence



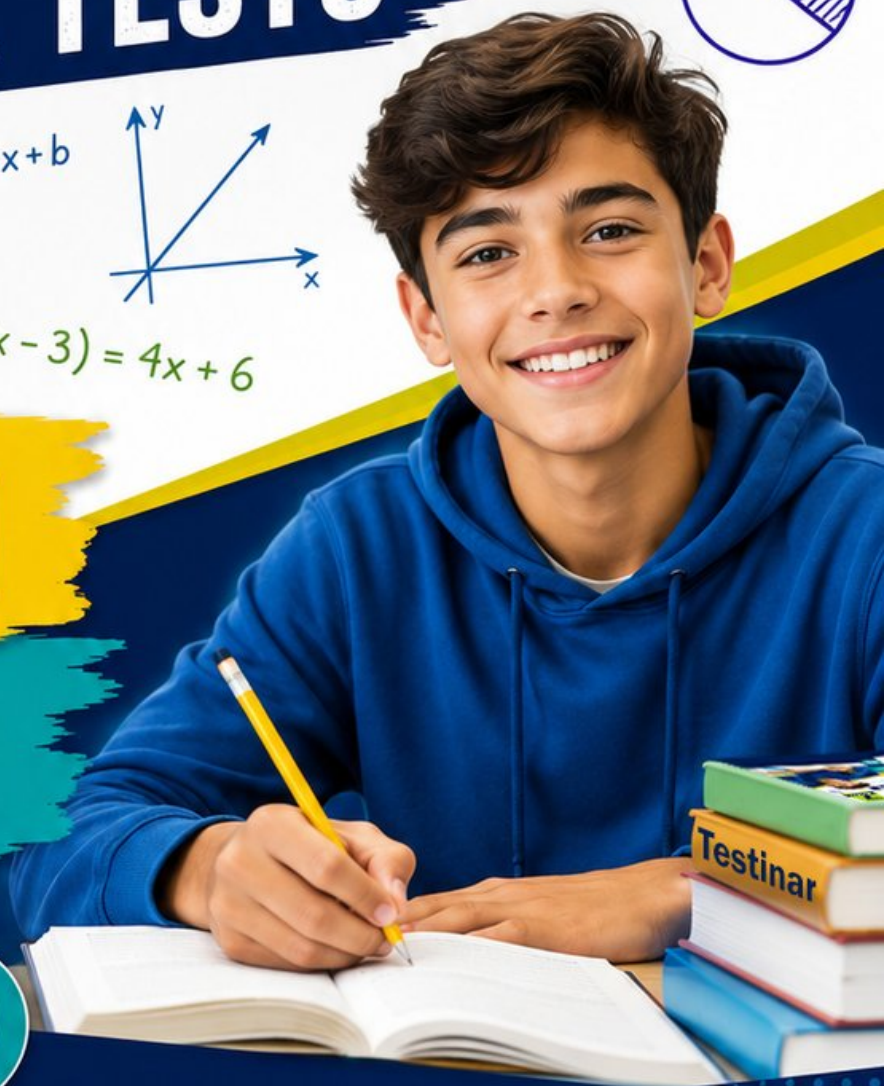
Strengthen
Math Skills



Detailed Answers
& Explanations

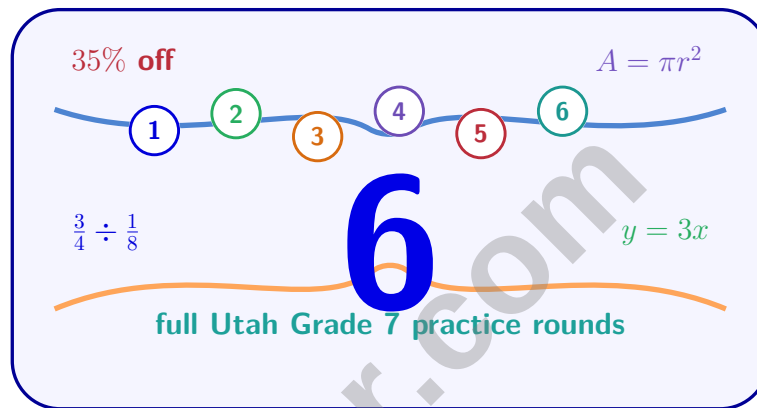


Improve Test
Performance



6 Utah RISE Grade 7 Math Practice Tests

Standards-Aligned Practice with Review, Answer Keys, and Explanations



Six complete 40-question Grade 7 RISE 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, Utah Grade 7 Problem Solver!

Six focused rounds for sharper RISE math thinking

This book gives you six full Grade 7 RISE 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 Utah 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 six-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.

Utah 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?

Six RISE tests, 240 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.
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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For more practice
& answers

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1) Two basketball teams' free-throw percentages over 10 games are shown below.

Team	Mean	MAD
Tigers	75%	8%
Sharks	72%	4%

Based on this data, which statement is most accurate?

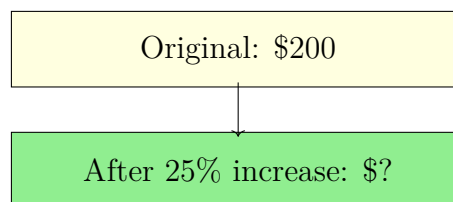
- ☐ A. The Sharks are more reliable free-throw shooters
☐ B. The Tigers never miss a free throw
☐ C. The Sharks score more points overall
☐ D. Both teams have the same consistency

2) Solve: $\frac{x-4}{2} = 5$

$$\begin{array}{lcl}
 \frac{x-4}{2} = 5 & & \\
 \downarrow & \text{Multiply by 2} & \\
 x - 4 = 10 & & \\
 \downarrow & \text{Add 4} & \\
 x = 14 & &
 \end{array}$$

- ☐ A. $x = 6$
☐ B. $x = 10$
☐ C. $x = 14$
☐ D. $x = 18$

3)



If an item costs \$200 and increases by 25%, what is the new price?

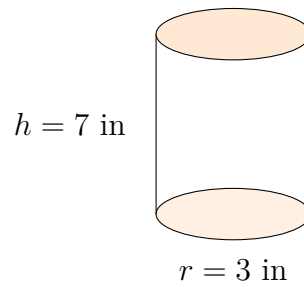
- ☐ A. \$225
☐ B. \$300
☐ C. \$275
☐ D. \$250



- 4) A museum director wants to estimate how many visitors will spend more than one hour at the museum. She collects data by asking every 10th visitor who enters. Is this a good sampling method?
- ☐ A. No; it is a convenience sample ☐ C. Yes; it is a systematic random sample
- ☐ B. No; it uses voluntary response bias ☐ D. Yes; it is a stratified sample
- 5) Which statement best explains why simulation results often differ from theoretical probabilities?
- ☐ A. The simulation tool is always imperfect ☐ C. Theoretical probability is always wrong
- ☐ B. Random variation causes small differences in finite samples ☐ D. More simulations guarantee exact agreement with theory
- 6) 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 ☐ C. 30–40 lbs
- ☐ B. 20–30 lbs ☐ D. 40–50 lbs
- 7) A menu offers 4 drinks, 6 main courses, and 3 desserts. How many complete meals can be ordered if you choose one of each?
- ☐ A. 13 ☐ C. 72
- ☐ B. 24 ☐ D. 84



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8)

Which formula gives the volume of the cylinder shown?

☐ A. $\pi \times 3 \times 7$

☐ C. $2\pi \times 3 \times 7$

☐ B. $\pi \times 3^2 \times 7$

☐ D. $2\pi \times 3^2 \times 7$

- 9) A bag contains 24 stickers: 9 star stickers, 7 heart stickers, and 8 smiley-face stickers. If one sticker is drawn at random, what is the probability it is a star or heart?

☐ A. $\frac{9}{24}$

☐ C. $\frac{16}{24}$

☐ B. $\frac{7}{24}$

☐ D. $\frac{1}{3}$

- 10) A student tossed a coin 100 times. The coin landed tails 58 times and heads 42 times. What is the difference between the experimental and theoretical probabilities of getting heads?

☐ A. 0.42

☐ C. 0.08

☐ B. 0.10

☐ D. 0.16

- 11) Two number cubes are rolled. What is the probability of rolling doubles (both dice show the same number)?

☐ A. $\frac{1}{6}$

☐ C. $\frac{1}{12}$

☐ B. $\frac{7}{36}$

☐ D. $\frac{5}{36}$



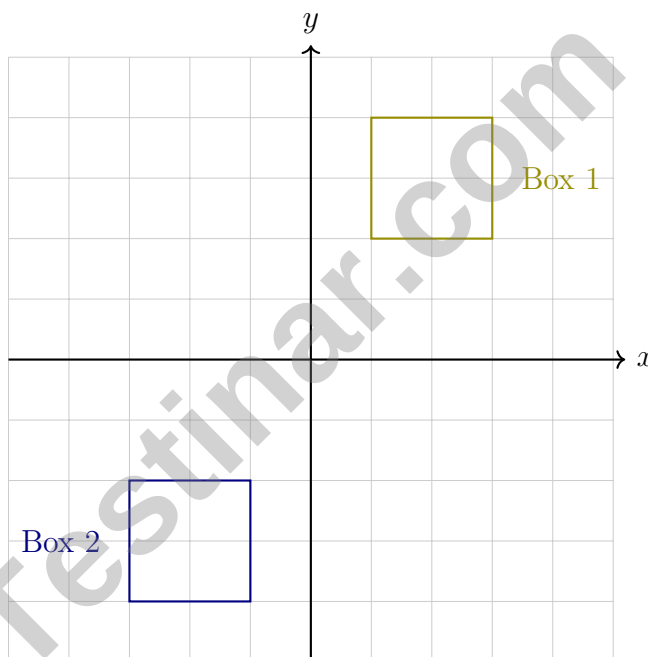
- 1) Two standard dice are rolled. Which probability represents rolling two dice and getting a sum of 7?

Example sum of 7

$$\boxed{\bullet} + \boxed{\begin{matrix} \bullet & \bullet \\ \bullet & \bullet \\ \bullet & \bullet \end{matrix}} = 7$$

- ☐ A. $\frac{6}{36}$
☐ B. $\frac{7}{36}$

- ☐ C. $\frac{6}{12}$
☐ D. $\frac{1}{3}$



2)

Box 1 is transformed to Box 2. Identify the transformation.

- ☐ A. Translation by $(-2, -4)$
☐ B. Rotation of 180° about the origin
☐ C. Reflection over the origin (same as 180° rotation)
☐ D. Reflection over the line $y = -1$



3) The population of a town was 5 000 and increased to 6 500. What is the percent increase?

☐ A. 15%

☐ C. 30%

☐ B. 25%

☐ D. 35%

4) A person selects a main color (Red, Blue) and a secondary color (Yellow, Green, Purple). How many color combinations are possible?

☐ A. 5

☐ C. 7

☐ B. 6

☐ D. 8

5) The stem-and-leaf plot shows test scores:

Stem	Leaves
7	1, 3, 6, 8
8	0, 4, 7, 9
9	2, 5, 8

What is the range of the test scores?

6) A number cube is rolled and a coin is flipped. What is $P(\text{rolling a 4 and flipping tails})$?

☐ A. $\frac{1}{12}$

☐ C. $\frac{1}{6}$

☐ B. $\frac{1}{8}$

☐ D. $\frac{7}{12}$



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1) Simplify: $(-2i + 10) + (6i - 8) - (i + 1)$

☐ A. $3i + 1$

☐ C. $5i - 1$

☐ B. $4i + 2$

☐ D. $3i - 1$

2) When a cube is cut by a plane passing through the midpoints of four edges (forming a square), what is the relationship between this square and the cube's faces?

☐ A. The square is congruent to the cube's faces

☐ C. The square has a side length $\frac{1}{\sqrt{2}}$ times the cube's edge

☐ B. The square has the same perimeter as the cube's faces

☐ D. The square has area $\frac{1}{2}$ the area of a face

3) A bicycle tire has radius 35 cm. If the bicycle travels 440 cm, how many complete rotations did the wheel make? Use $\pi \approx \frac{22}{7}$.

☐ A. 1 rotation

☐ C. 3 rotations

☐ B. 2 rotations

☐ D. 4 rotations

4) A cylindrical pasta jar has a radius of 5 cm and a height of 15 cm. What is the surface area of the jar (including both circular ends)? Use $\pi \approx 3.14$.

☐ A. 471 cm^2

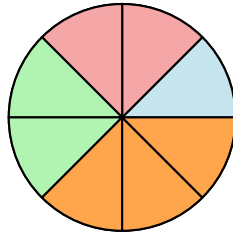
☐ C. 785 cm^2

☐ B. 628 cm^2

☐ D. 1256 cm^2



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5)

A spinner has 8 equal sections: 1 blue, 2 red, 2 green, and 3 yellow. What is the probability of landing on yellow?

- ☐ A. $\frac{1}{8}$
☐ B. $\frac{2}{8}$

- ☐ C. $\frac{3}{8}$
☐ D. $\frac{1}{2}$

6) A square tile has an area of 169 square inches. What is the side length of the tile?

- ☐ A. 11 inches
☐ B. 12 inches

- ☐ C. 13 inches
☐ D. 14 inches

7) Two histograms show the battery life (in hours) of two phone models. Model X: life concentrated at 18–20 hours. Model Y: life spread across 12–24 hours with peak at 16 hours. Which model would you recommend based on predictability?

- ☐ A. Model X (you can predict it will last about 19 hours)
☐ B. Model Y (it can last up to 24 hours)
☐ C. Both models are equally predictable
☐ D. Model Y (wider range means more flexibility)

8) A bag contains marbles. In an experiment with replacement, a red marble was drawn 45 times out of 300 draws. If the experiment is repeated with 600 draws, approximately how many red marbles would be expected?

Draws	300	$\xrightarrow{\times 2}$	600
Red draws	45	$\xrightarrow{\times 2}$	?

- ☐ A. 45
☐ B. 90

- ☐ C. 135
☐ D. 180



Utah RISE 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 Utah RISE practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** (7.SP.1-7.SP.4) Although Tigers have a higher mean (75% vs. 72%), the Sharks have much lower MAD (4% vs. 8%), indicating more consistent free-throw shooting.
- 2) **Choice C is correct.** (7.EE.3-7.EE.4) Multiply by 2: $x - 4 = 10$. Add 4: $x = 14$.
- 3) **Choice D is correct.** (7.RP.3) Using the proportion $\frac{25}{100} = \frac{x}{200}$: increase is $x = 50$. New price: $200 + 50 = \$250$.
- 4) **Choice C is correct.** (7.SP.1-7.SP.4) Asking every 10th visitor is systematic random sampling. Since the pattern (every 10th) doesn't depend on characteristics of individual visitors, it provides a representative, unbiased sample of all museum visitors.
- 5) **Choice B is correct.** (7.SP.5-7.SP.8) Finite samples exhibit natural variation. As the number of trials increases, simulation results converge toward theoretical probability (Law of Large Numbers).
- 6) **Choice C is correct.** (7.SP.1-7.SP.4) The mode is in the interval with the highest frequency. The 30–40 lbs interval has a frequency of 20, which is the highest among all intervals.
- 7) **Choice C is correct.** (7.SP.5-7.SP.8) By the counting principle: $4 \times 6 \times 3 = 72$ complete meal combinations.
- 8) **Choice B is correct.** (7.G.4-7.G.6) The volume formula is $V = \pi r^2 h$. With $r = 3$ and $h = 7$, this is $\pi \times 3^2 \times 7$.
- 9) **Choice C is correct.** (7.SP.5-7.SP.8) Star or heart = $9 + 7 = 16$. $P(\text{star or heart}) = \frac{16}{24} = \frac{2}{3}$.
- 10) **Choice C is correct.** (7.SP.6) Experimental probability of heads: $\frac{42}{100} = 0.42$. Theoretical: 0.5. Difference: $|0.42 - 0.5| = 0.08$.
- 11) **Choice A is correct.** (7.SP.5-7.SP.8) Doubles: (1,1), (2,2), (3,3), (4,4), (5,5), (6,6) = 6 outcomes out of 36. Probability = $\frac{6}{36} = \frac{1}{6}$.
- 12) **Choice A is correct.** (7.SP.1-7.SP.4) Data 51, 54, 58, 61, 64, 68, 71, 75 maps: Stem 5: 1, 4, 8; Stem 6: 1, 4, 8; Stem 7: 1, 5. Answer A is correct.
- 13) **Choice C is correct.** (7.SP.5-7.SP.8) $0.75 = \frac{3}{4}$, so it is located $\frac{3}{4}$ of the way along the number line.
- 14) **Choice C is correct.** (7.SP.1-7.SP.4) $\frac{84}{200} = \frac{x}{50000}$. Reduce: $\frac{21}{50} = \frac{x}{50000} \Rightarrow x = 21000$.
- 15) **Choice D is correct.** (7.RP.3) Percent error = $\frac{|28-32|}{32} \times 100\% = \frac{4}{32} \times 100\% = 12.5\%$.
- 16) **The correct answer is 7.** (7.G.1-7.G.5) Scale factor = $\frac{14}{10} = 1.4$. Height = $5 \times 1.4 = 7$ ft.
- 17) **Choice D is correct.** (7.RP.3) First find the whole: $56 = 0.70 \times n$, so $n = 80$. Then 30% of 80 is $0.30 \times 80 = 24$.
- 18) **Choice A is correct.** (7.NS.1-7.NS.3) $-8 - 3 = -8 + (-3) = -11$. Both values are negative, so the sum is more negative.
- 19) **Choice A is correct.** (7.EE.1) Combine: $(9 + 3)x + (-2 + 5)y = 12x + 3y$.
- 20) **The correct answer is A,B.** (7.G.1-7.G.5) Correct answers: (A) $(1, 0) \rightarrow (1 + 2, 0 + 3) = (3, 3) \rightarrow (-3, 3)$. (B) $(0, 0) \rightarrow (2, 3) \rightarrow (-2, 3)$. Both steps verified. Distractors: (C) True but not a unique property of this transformation (all rigid transformations preserve congruence). (D) False—rigid transformations do not change size.
- 21) **The correct answer is 125.6.** (7.G.4-7.G.6) Circumference = $2\pi r = 2 \times 3.14 \times 5 = 31.4$ m. Distance = $4 \times 31.4 = 125.6$ m.
- 22) **Choice D is correct.** (7.RP.1-7.RP.3) Divide: $1.5 : 18 = 1 : 12$. The model is $\frac{1}{12}$ the actual size.
- 23) **Choice D is correct.** (7.RP.3) Markup = $0.45 \times 60 = \$27$. Selling price = $60 + 27 = \$87$.
- 24) **Choice A is correct.** (7.NS.1b) Both numbers are negative. Add absolute values: $|-47| + |-26| = 47 + 26 = 73$. Keep the negative sign: $-47 + (-26) = -73$.
- 25) **Choice A is correct.** (7.EE.1-7.EE.2) Substitute: $2(1) + 4(2) - 3(-1) = 2 + 8 + 3 = 13$.
- 26) **Choice A is correct.** (7.EE.1-7.EE.2) Factor out -10 : $-10x - 20 = -10(x + 2)$. Check: $-10(x + 2) = -10x - 20$.
- 27) **Choice C is correct.** (7.EE.4b) Check $x = 6$: $6 - 4 = 2 \geq 3$. The other values give 3, 6, and 96, all ≥ 3 .
- 28) **Choice C is correct.** (7.SP.1-7.SP.4) 20% of \$3000 = $0.20 \times 3000 = \$600$.
- 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).



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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 6 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 **6** 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:

6 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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