

6

WYOMING

WY TOPP

GRADE

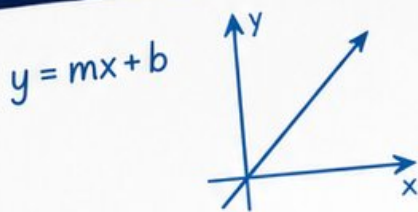
7

MATH

PRACTICE TESTS



Standards Aligned
Problem Solving For
Comprehensive
Assessment Programs



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

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



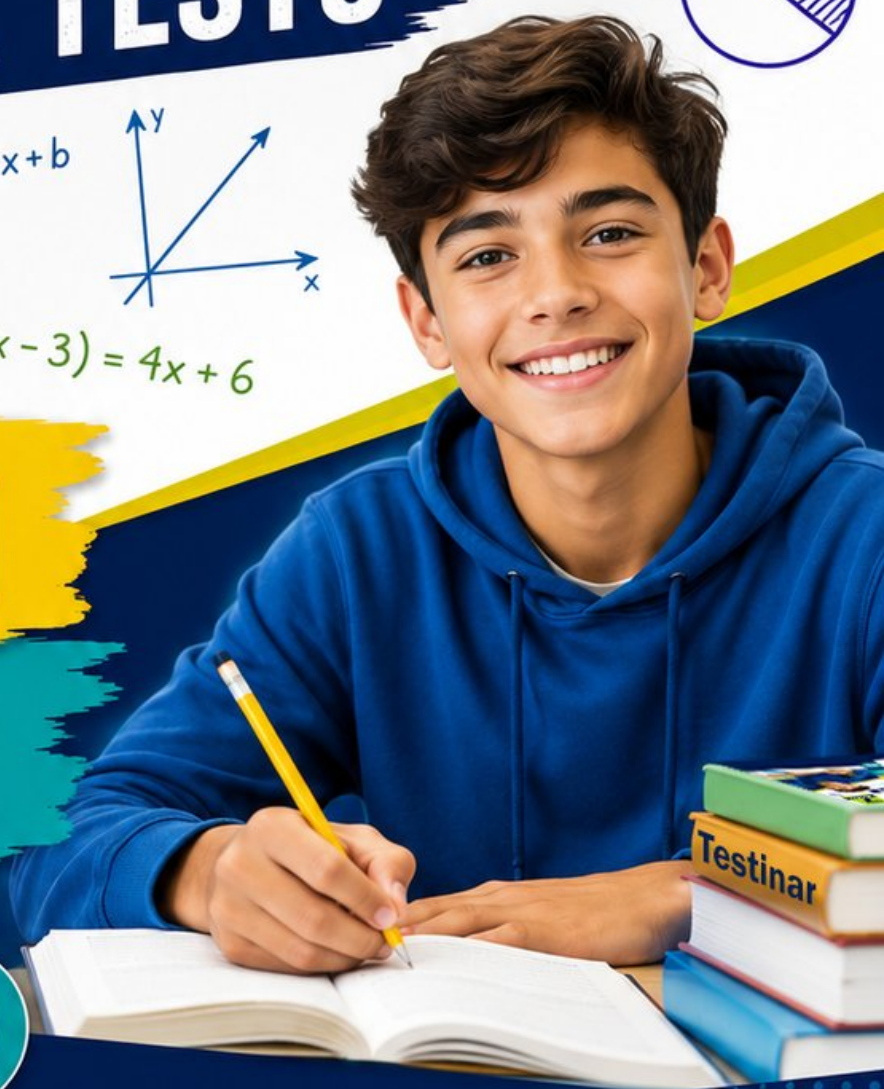
Strengthen
Math Skills



Detailed Answers
& Explanations



Improve Test
Performance



6 Wyoming WY TOPP Grade 7 Math Practice Tests

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



Six complete 40-question Grade 7 WY TOPP 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, Wyoming Grade 7 Problem Solver!

Six focused rounds for sharper WY TOPP math thinking

This book gives you six full Grade 7 WY TOPP 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 Wyoming 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.

Wyoming 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 WY TOPP 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.



Scan me!
For more practice
& answers

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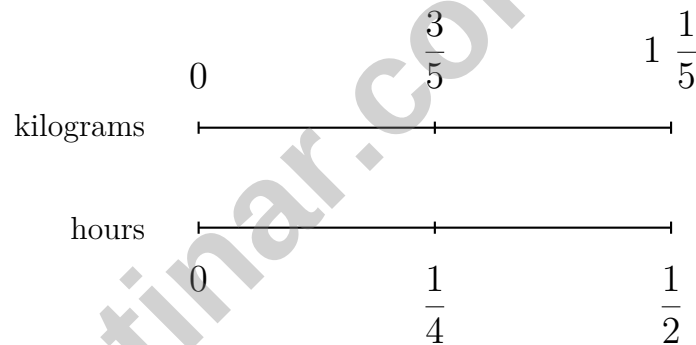
1) A student claims that if a cylinder has twice the radius and half the height of another cylinder, the volumes will be equal. Is this claim true or false? Use $\pi \approx 3.14$.

- ☐ A. True, because $2r$ and $\frac{h}{2}$ cancel out ☐ C. False, the second cylinder has a larger volume
- ☐ B. False, the first cylinder has a larger volume ☐ D. True, only if $r = h$

2) Solve for x : $3(2x - 1) = 15$

- ☐ A. $x = 2$ ☐ C. $x = 4$
- ☐ B. $x = 3$ ☐ D. $x = 5$

3) Use the double number line to find the unit rate in kilograms per hour.

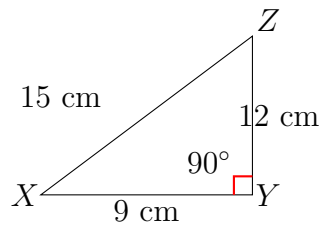


- ☐ A. $\frac{20}{3}$ kg/hr ☐ C. $\frac{3}{20}$ kg/hr
- ☐ B. $\frac{5}{12}$ kg/hr ☐ D. $\frac{12}{5}$ kg/hr



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4)



A triangle has sides 9 cm, 12 cm, and 15 cm. Is this a right triangle?

☐ A. Yes

☐ C. Cannot be determined

☐ B. No

☐ D. Only if one angle is 90°

- 5) A fitness center wants to know about its members' exercise habits. It surveys members only during evening hours when most people are at the gym. What is this sampling bias called?

☐ A. Stratified bias

☐ C. Measurement bias

☐ B. Selection bias

☐ D. Convenience sampling

- 6) A bar graph shows: Salaries \$6M, Programs \$2M, Facilities \$1.5M, Admin \$0.5M. The bars extend to heights 6, 2, 1.5, and 0.5 respectively. However, the y-axis has no label indicating units. What makes this graph misleading?

☐ A. The y-axis label is missing, so readers cannot confirm the unit (millions versus thousands)

☐ B. The bars are not drawn to scale

☐ C. The title is unclear

☐ D. The colors are too similar

- 7) A fair coin is flipped. What is the theoretical probability of getting heads?

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


- 8) A school must choose between two lunch-line systems. System A averages 8 minutes wait with MAD 0.5 minutes. System B averages 8.2 minutes with MAD 1.8 minutes. For student experience, which is better?
- ☐ A. System B (slightly faster average) ☐ C. Both are equally acceptable
- ☐ B. System A (consistent experience, predictable waits) ☐ D. Requires knowing the number of students
- 9) A number from 1 to 4 is selected, and then a letter from A to C is selected. How many favorable outcomes result in an even number and a vowel (A)?
- ☐ A. 1 ☐ C. 3
- ☐ B. 2 ☐ D. 6
- 10) 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. $\frac{7}{12}$
- 11) A toss of two dice together was repeated 360 times. The number of times the sum was 7 was recorded as 58 times. What is the experimental probability of rolling a sum of 7?

Outcomes that make a sum of 7

$\boxed{16}$ $\boxed{25}$ $\boxed{34}$ $\boxed{43}$ $\boxed{52}$ $\boxed{61}$
 $(1, 6)$ $(2, 5)$ $(3, 4)$ $(4, 3)$ $(5, 2)$ $(6, 1)$

- ☐ A. $\frac{1}{6}$
☐ C. 0.16
☐ B. $\frac{58}{360}$
☐ D. $\frac{7}{360}$



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- 1) A music lesson teacher charges \$35 per half-hour lesson. A student takes 8 lessons and tips the teacher 15% of the total cost. How much does the student pay including the tip?
- ☐ A. \$280 ☐ C. \$336
☐ B. \$380 ☐ D. \$322
- 2) A gardener increased the area of a flowerbed from 40 square feet to 56 square feet. What is the percent increase?
- ☐ A. 16% ☐ C. 40%
☐ B. 28.6% ☐ D. 60%
- 3) A simulation of rolling two dice (using two spinners, each with 6 equal sections) is performed 200 times. The event "getting a sum of at least 10" is tracked. The successful outcomes are (4, 6), (5, 5), (5, 6), (6, 4), (6, 5), (6, 6) — that is, 6 outcomes out of 36. If the simulation results show 35 successes in 200 trials, what is the estimated probability of rolling a sum of at least 10?
- ☐ A. 0.12 ☐ C. 0.31
☐ B. 0.17 ☐ D. 0.35
- 4) Two fair spinners are used. Spinner 1 has 4 equal sections, and Spinner 2 has 3 equal sections. A student incorrectly calculates $4 + 3 = 7$ total outcomes instead of multiplying. Why is addition wrong in this context?
- ☐ A. Addition counts outcomes within one spinner, not combinations across spinners ☐ C. There are only 12 outcomes, not 7
☐ B. The spinners are not fair ☐ D. The total is actually 7, and multiplication is unnecessary



5) A fair die is rolled and a fair coin is flipped. What is the probability of rolling a 5 AND flipping heads?

- ☐ A. $\frac{1}{12}$
☐ B. $\frac{1}{6}$

- ☐ C. $\frac{1}{8}$
☐ D. $\frac{5}{12}$

6) A shopkeeper estimated 240 customers would visit on a day, but only 200 actually came. What is the percent error?

- ☐ A. 40%
☐ B. 83.3%

- ☐ C. 16.7%
☐ D. 20%

7) Expand: $(4a + 6) \cdot \frac{1}{2}$

- ☐ A. $2a + 6$
☐ B. $2a + 3$

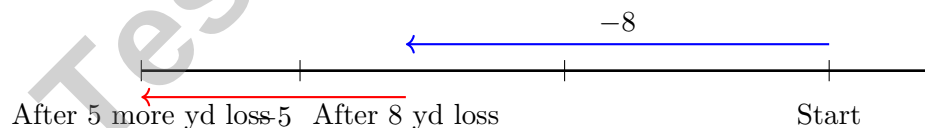
- ☐ C. $4a + 3$
☐ D. $a + 6$

8) Sofia opens a savings account with \$400 at a simple interest rate of 2.5% per year. What will be the total amount in her account after 4 years?

- ☐ A. \$410
☐ B. \$500

- ☐ C. \$430
☐ D. \$440

9)



A football team loses 8 yards on one play and then loses 5 more yards on the next play. Using subtraction with negative numbers, which expression represents the total change in position?

- ☐ A. $0 - 8 - 5$
☐ B. $8 + 5$

- ☐ C. $0 - 8 + 5$
☐ D. $0 + 8 - 5$



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1) Which expression shows $4x + 8y$ factored completely?

☐ A. $4(x + 2y)$

☐ C. $2(2x + 4y)$

☐ B. $4x(1 + 2y)$

☐ D. $x(4 + 8y)$

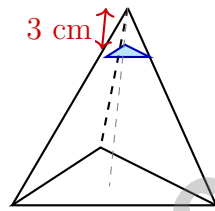
2) A rectangular park boundary on a city map is 11 cm by 13 cm. The scale is 1 cm : 200 m. What is the perimeter of the actual park in meters?

☐ A. 4,800 m

☐ C. 2,400 m

☐ B. 9,600 m

☐ D. 4,400 m



3)

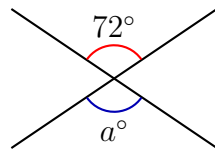
A triangular pyramid has an equilateral triangular base with side 8 cm and height 12 cm. It is sliced 3 cm below the apex by a plane parallel to the base. What is the side length of the equilateral triangular cross-section?

☐ A. 2 cm

☐ C. 3 cm

☐ B. 2.5 cm

☐ D. 4 cm



4)

Two lines intersect forming vertical angles. One angle is 72° . What is the measure of the vertically opposite angle a ?

☐ A. 18°

☐ C. 108°

☐ B. 72°

☐ D. 180°



- 5) Triangle ABC has sides 13 cm, 5 cm, and 12 cm. Compute $13^2 - (5^2 + 12^2)$.

- 6) If $\frac{a}{9} = \frac{8}{12}$, what is the value of a ?

☐ A. 5

☐ C. 7

☐ B. 6

☐ D. 10

- 7) Two gyms track daily member visits. Gym X: visits = 45, 45, 46, 45, 44 (mean 45).
Gym Y: visits = 30, 50, 40, 50, 35 (mean 41). Which gym has a lower MAD?

☐ A. Gym X (more consistent attendance)

☐ C. Both have equal MAD

☐ B. Gym Y (higher peak days)

☐ D. Cannot determine MAD from the means

- 8) 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

- 9) A restaurant bill comes to \$72. The customer leaves a 20% tip. How much is the tip?



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& answers

Wyoming WY TOPP 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 Wyoming WY TOPP practice test.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** (7.G.4-7.G.6) Original: $V_1 = \pi r^2 h$. Modified: $V_2 = \pi(2r)^2(\frac{h}{2}) = \pi \times 4r^2 \times \frac{h}{2} = 2\pi r^2 h = 2V_1$. The first cylinder has twice the volume.
- 2) **Choice B is correct.** (7.EE.4a) Distribute: $6x - 3 = 15$. Add 3: $6x = 18$. Divide by 6: $x = 3$.
- 3) **Choice D is correct.** (7.RP.1-7.RP.3) From the line, $\frac{3}{5}$ kg in $\frac{1}{4}$ hr gives $\frac{3/5}{1/4} = \frac{3}{5} \times 4 = \frac{12}{5} = 2.4$ kg/hr.
- 4) **Choice A is correct.** (7.G.1-7.G.5) Check: $9^2 + 12^2 = 81 + 144 = 225 = 15^2$ ✓. This is the 9-12-15 triple (a multiple of 3-4-5), so it is a right triangle.
- 5) **Choice D is correct.** (7.SP.1-7.SP.4) Sampling only during evening hours is convenient for the surveyor but misses members who visit at other times, introducing convenience bias.
- 6) **Choice A is correct.** (7.SP.1-7.SP.4) Without explicit axis labels and units, readers cannot accurately interpret the data. This is a critical labeling error that prevents correct interpretation of the scale.
- 7) **Choice C is correct.** (7.SP.5-7.SP.8) A fair coin has two equally likely outcomes: heads and tails. $P(\text{heads}) = \frac{1}{2}$.
- 8) **Choice B is correct.** (7.SP.1-7.SP.4) System A's small MAD (0.5 min) means students wait reliably 8 minutes. System B's large MAD (1.8 min) means unpredictable waits: some 6 min, some 10+ min. Consistency matters for user experience.
- 9) **Choice B is correct.** (7.SP.5-7.SP.8) Even numbers: 2, 4. Vowel: A. Favorable outcomes: 2A, 4A. That is 2 favorable outcomes.
- 10) **Choice A is correct.** (7.SP.5-7.SP.8) $P(4 \text{ and tails}) = \frac{1}{6} \cdot \frac{1}{2} = \frac{1}{12}$.
- 11) **Choice B is correct.** (7.SP.6) Experimental probability = $\frac{58}{360} \approx 0.161$. Note that the theoretical probability of rolling a sum of 7 is $\frac{6}{36} = \frac{1}{6} \approx 0.167$, which is very close to the experimental result.
- 12) **Choice B is correct.** (7.SP.1-7.SP.4) With 7 values, the median is at position $\frac{7+1}{2} = 4$. The 4th value is 24.
- 13) **Choice B is correct.** (7.SP.5-7.SP.8) A = 0.5, B = 0.6, C = 0.55. Event B has the highest probability ($0.6 > 0.55 > 0.5$).
- 14) **Choice D is correct.** (7.RP.3) Percent error = $\frac{|45-50|}{50} \times 100\% = \frac{5}{50} \times 100\% = 10\%$.
- 15) **Choice A is correct.** (7.EE.1-7.EE.2) Expand: $-1(x) - 1(5) + 2x = -x - 5 + 2x = x - 5$. Combine like terms.
- 16) **Choice D is correct.** (7.RP.3) At 5 years: $I = 4500(0.055)(5) = \$1237.50$, so $A = \$5737.50$. At 3 years: $I = 4500(0.055)(3) = \$742.50$, so $A = \$5242.50$. Difference: $5737.50 - 5242.50 = \$495$.
- 17) **The correct answer is $(-6, 3)$.** (7.G.1-7.G.5) A 180° rotation about the origin uses the rule $(a, b) \rightarrow (-a, -b)$. If the image is $(6, -3)$, then $(-a, -b) = (6, -3)$, so $a = -6$ and $b = 3$. Thus the original point is $(a, b) = (-6, 3)$.
- 18) **Choice A is correct.** (7.NS.1-7.NS.3) $5 - 9 = 5 + (-9) = -4$.
- 19) **The correct answer is B, C.** (7.G.1-7.G.5) B and C are equivalent and correct: two angles are equal (50° each), so by the Isosceles Triangle Theorem, the sides opposite those angles must be equal. A is wrong (equilateral requires all angles 60°). D is wrong (two angles are the same).
- 20) **Choice B is correct.** (7.SP.1-7.SP.4) 12.5% of $360^\circ = 0.125 \times 360^\circ = 45^\circ$.
- 21) **Choice C is correct.** (7.RP.1-7.RP.3) If $\frac{1}{4}$ inch = 1 meter, then 1 inch = 4 meters. So $3 \times 4 = 12$ meters.
- 22) **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.
- 23) **Choice D is correct.** (7.RP.3) 70% of 80 is $0.70 \times 80 = 56$ students.
- 24) **Choice C is correct.** (7.NS.1b) Net change = gain + loss = $25 + (-17) = 8$. A net gain of 8 points.
- 25) **Choice A is correct.** (7.EE.1) All terms are like terms with variable xy . Combine: $(3 + 5 - 2)xy = 6xy$.
- 26) **Choice A is correct.** (7.EE.1-7.EE.2) Factor: $36m + 54 = 18(2m + 3)$. Length = $\frac{18(2m+3)}{18} = 2m + 3$.
- 27) **Choice A is correct.** (7.EE.4b) "A number" is n ; "is more than" is $>$; "twice itself minus 5" is $2n - 5$. Direct translation: $n > 2n - 5$.
- 28) **Choice D is correct.** (7.RP.1-7.RP.3) The line does not pass through the origin; it starts at $(0, 1)$. This makes it non-proportional.
- 29) **Choice C is correct.** (7.RP.3) Increase: $\frac{15}{100} \times 5000 = 750$. New revenue: $5000 + 750 = \$5750$.



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

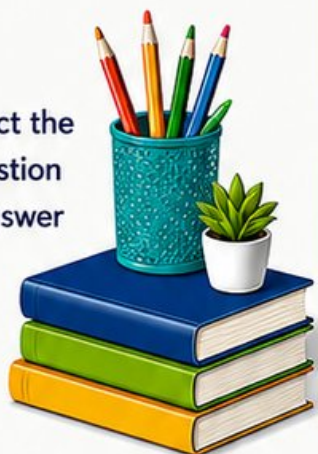
Your Persistence Coach

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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