

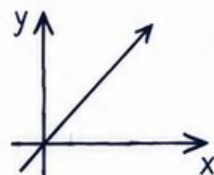
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Oregon
OSASGRADE
7
MATH

PRACTICE TESTS

Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs

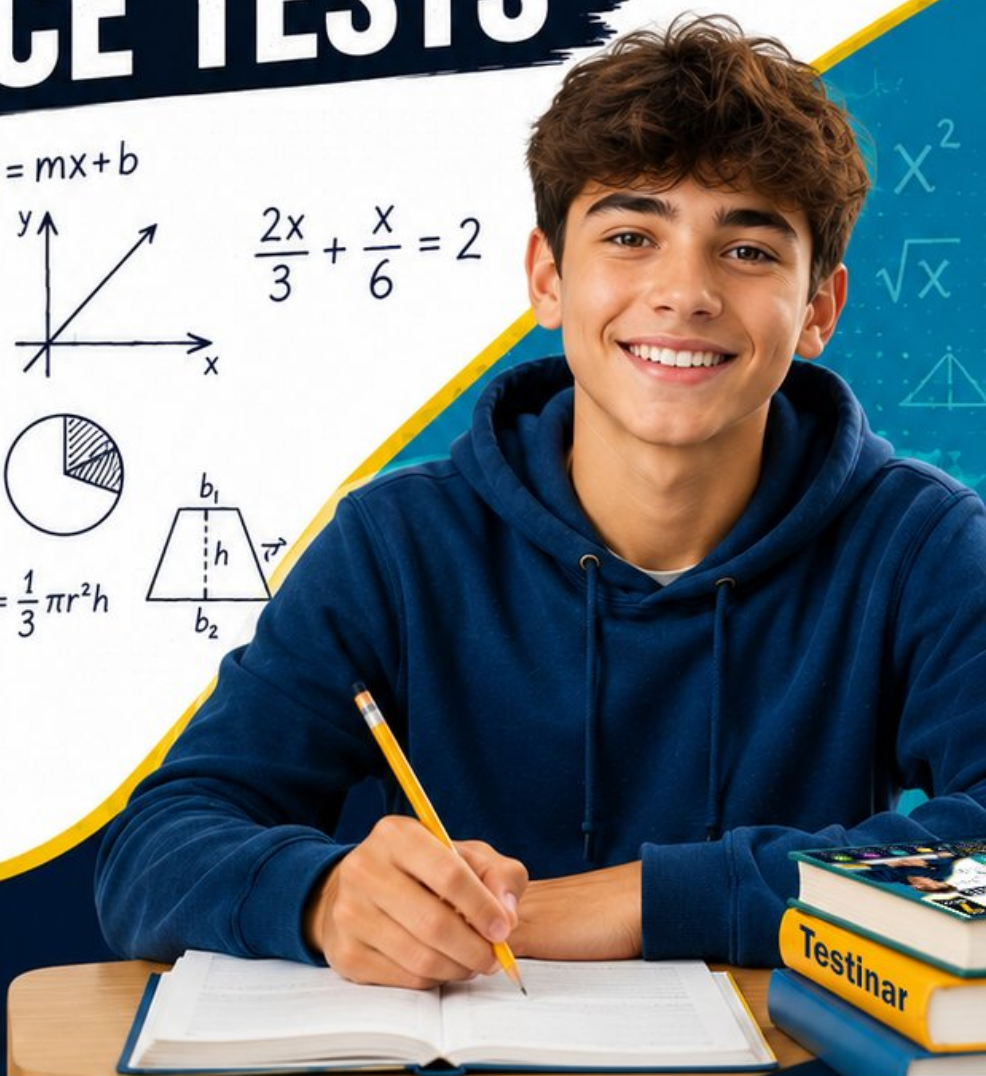
$$y = mx + b$$



$$\frac{2x}{3} + \frac{x}{6} = 2$$



$$V = \frac{1}{3} \pi r^2 h$$

4 PRINTED
TESTS2 ONLINE
TESTSUSE THESE TWO
ADDITIONAL ONLINE
PRACTICE TESTSFOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.Build
ConfidenceStrengthen
Math SkillsDetailed Answers
& ExplanationsImprove Test
Performance

4 Oregon OSAS Grade 7 Math Practice Tests

Focused Practice for OSAS with Standards and Explanations



Four complete 40-question Grade 7 OSAS 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, Oregon Grade 7 Problem Solver!

Four focused rounds for sharper OSAS math thinking

This book gives you four full Grade 7 OSAS 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 Oregon 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 four-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.

Oregon 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?

Four OSAS tests, 160 questions, and a focused review path

Part	What You Will Practice
Tests 1–2	Proportional relationships, unit rates, percents, rational-number operations, and careful reading.
Tests 3–4	Expressions, equations, inequalities, scale drawings, geometry, data, probability, 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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& answers

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- 1) Two friends compare investments: — Friend A: invests \$400 at 10% compound interest for 2 years. — Friend B: invests \$400 at 10% simple interest for 2 years. How much more does Friend A earn?

☐ A. \$0 (equal) ☐ C. \$20
☐ B. \$80 ☐ D. \$4

- 2) A teacher wants to know if two classes have similar skill levels in writing. Which pair of statistics should she compare?

☐ A. Only the ranges ☐ C. Only mode
☐ B. Medians and IQRs (center and spread) ☐ D. Only the maximum scores

- 3) 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

- 4) 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. ☐ D. No; the count is wrong; it should be $\frac{5}{8}$.
☐ B. Yes; $\frac{4}{8} = \frac{1}{2}$.
☐ C. No; $\frac{4}{8} = \frac{2}{4}$.



- 5) In a compound experiment, you draw a letter from {A, E, I} and select a number from 1 to 4. How many outcomes are in the sample space?
- ☐ A. 7 ☐ C. 12
☐ B. 9 ☐ D. 16
- 6) A histogram displays the age distribution of members at two gyms. Gym Alpha: ages 20–35 have the most members. Gym Beta: ages evenly distributed across 18–65. Which gym best serves a targeted demographic?
- ☐ A. Gym Alpha (serves a specific younger demographic) ☐ C. Both gyms serve identical demographics
☐ B. Gym Beta (more diverse membership) ☐ D. Gym Beta (younger members on average)
- 7) A bag of 20 tokens contains 8 red, 7 blue, and 5 green. Two tokens are drawn WITH replacement. Which statement correctly describes this scenario?
- ☐ A. The events are dependent because we remove tokens ☐ C. The probability of each draw remains the same because of replacement
☐ B. The second draw has probabilities different from the first ☐ D. Red is impossible on the second draw if red appeared first
- 8) A coin is flipped and a die is rolled together in a compound experiment. Out of 240 trials, heads AND rolling a 5 occurred 18 times. What is the experimental probability of both events?
- ☐ A. $\frac{1}{12}$ ☐ C. 0.10
☐ B. $\frac{18}{240}$ ☐ D. $\frac{1}{8}$



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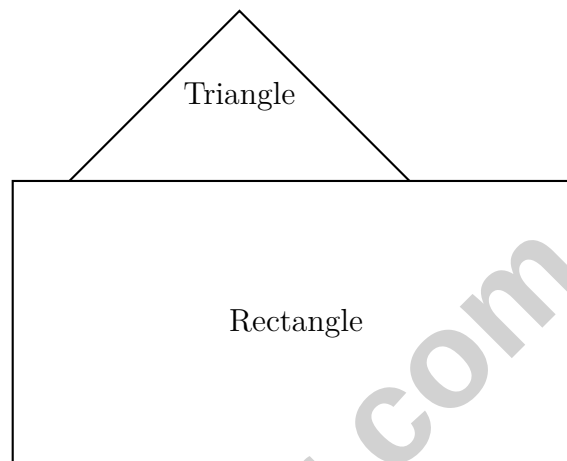
9) In a stem-and-leaf plot, the stem represents the tens digit and leaves represent the ones digit. If a value is 67, what stem and leaf should be written?

☐ A. Stem 6, Leaf 7

☐ C. Stem 60, Leaf 7

☐ B. Stem 7, Leaf 6

☐ D. Stem 67, Leaf 1



10)

A composite figure shows a house shape: a rectangle (10 units $\times$ 5 units) with a triangular roof (base 6 units, height 3 units). What is the total area?

☐ A. 50 sq units

☐ C. 68 sq units

☐ B. 59 sq units

☐ D. 80 sq units

11) A triangular prism has a triangular base with area 42 mm^2 and volume 252 mm^3 . What is the height of the prism?

☐ A. 12 mm

☐ C. 6 mm

☐ B. 8 mm

☐ D. 3 mm

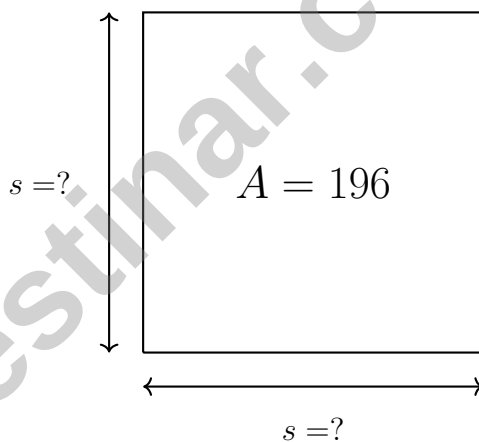


- 1) Students sold raffle tickets. The table shows tickets sold and money earned. Which quantity is proportional to the other?

Tickets	10	20	30
Money (\$)	25	50	75

- ☐ A. Only if they sell more than 40 tickets
☐ B. No; the amounts are too large
☐ C. Yes; $k = 10$
☐ D. Yes; $k = 2.5$
- 2) What is $-2 \times 3 \times (-4)$?

- ☐ A. -24
☐ B. -9
☐ C. 9
☐ D. 24



3)

What is the side length s of this square with area 196?

- ☐ A. 12
☐ B. 13
☐ C. 14
☐ D. 15



4) Which expression is equivalent to $2a + 2b + 2c$?

☐ A. $2(a + b + c)$

☐ C. $2abc$

☐ B. $2(a + b) + c$

☐ D. $(2 + a)(2 + b)(2 + c)$

5) Which of the following represents a proportional relationship between x and y ?

☐ A. $y = 2x + 3$

☐ C. $y = x^2$

☐ B. $y = \frac{1}{x}$

☐ D. $y = 5x$

6) If the opposite of a number equals the number itself, what is that number?

☐ A. Any positive number

☐ C. Zero only

☐ B. Any negative number

☐ D. All integers work

7) A student simplifies $6x + 2x - 4x$ and gets $4x$. Is this correct?

☐ A. Yes, all terms were combined correctly.

☐ C. No, the correct answer is $3x$.

☐ B. No, the correct answer is $12x$.

☐ D. No, the answer cannot be simplified.

8) The temperature was -3°C at dawn. By noon, it had risen 18°C . What was the noon temperature?



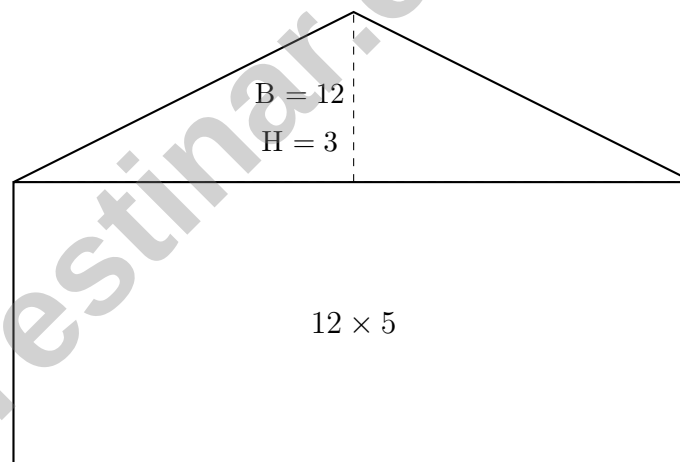
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1) Which situation best describes a *random sample*?

- ☐ A. Surveying the first 30 people at a public event
 ☐ C. Asking volunteers to participate in a study
☐ B. Drawing names from a hat containing all members' names
 ☐ D. Interviewing people at a shopping mall on a Saturday

2) Two histograms show daily step counts for sedentary workers vs. active workers. Sedentary: concentrated at 3000–5000 steps. Active: concentrated at 10000–12000 steps. What is the most valid conclusion?

- ☐ A. Active workers get significantly more steps
 ☐ C. Sedentary workers should not be hired
☐ B. Both groups have identical activity levels
 ☐ D. Job type does not affect step count levels



3)

A trapezoid-shaped roof can be split into a rectangle (12 m base, 5 m height) and a triangle (12 m base, 3 m height). What is the total roof area?

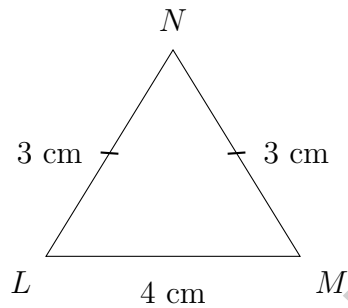
- ☐ A. 36 m^2
☐ C. 78 m^2
☐ B. 60 m^2
☐ D. 96 m^2



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- 4) A rectangular prism has a length of 20 cm. The width is half the length. The height is 10 cm. What is the volume?

- ☐ A. 1,200 cm^3
☐ C. 4,000 cm^3
☐ B. 2,000 cm^3
☐ D. 2,400 cm^3

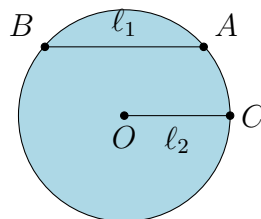


5)

A triangle has a base of 4 cm and the two other sides are each 3 cm, with tick marks indicating equal lengths. Which error did a student make if they claimed this triangle is NOT isosceles?

- ☐ A. Confused base with the longest side
☐ B. Miscounted the equal sides
☐ C. Used the wrong definition of isosceles
☐ D. The student is correct; this is scalene

- 6) In the circle below, which line segment is a chord?



- ☐ A. ℓ_1 (segment AB)
☐ B. ℓ_2 (segment OC)
☐ C. Segment OA
☐ D. None of the above



Oregon OSAS 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 Oregon OSAS practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice D is correct.** (7.RP.3) Friend A: $400(1.10)^2 = 484$; interest = 84. Friend B: $400 + 400(0.10)(2) = 480$; interest = 80. Difference: $84 - 80 = 4$.
- 2) **Choice B is correct.** (7.SP.1-7.SP.4) Comparing skill levels requires both center (where students typically score, via median) and spread (consistency, via IQR). Range alone is too simple; mode and max are insufficient.
- 3) **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.
- 4) **Choice B is correct.** (7.SP.5-7.SP.8) Odd numbers: 1, 3, 5, 7 (4 out of 8). $\frac{4}{8} = \frac{1}{2}$ is correct.
- 5) **Choice C is correct.** (7.SP.5-7.SP.8) Letters: 3; numbers: 4. Total: $3 \times 4 = 12$ outcomes.
- 6) **Choice A is correct.** (7.SP.3) Gym Alpha's concentration at 20–35 shows it serves a targeted young adult demographic well. Gym Beta's even distribution shows it serves all age groups without targeting a specific age.
- 7) **Choice C is correct.** (7.SP.5-7.SP.8) With replacement, the bag is restored to its original state. Each draw has identical probabilities: $P(\text{red}) = \frac{8}{20}$, $P(\text{blue}) = \frac{7}{20}$, $P(\text{green}) = \frac{5}{20}$.
- 8) **Choice B is correct.** (7.SP.6) Experimental probability of both heads and rolling a 5: $\frac{18}{240} = \frac{3}{40} = 0.075$. The theoretical probability would be $\frac{1}{2} \times \frac{1}{6} = \frac{1}{12} \approx 0.083$, close to but not exactly the experimental result.
- 9) **Choice A is correct.** (7.SP.1-7.SP.4) The tens digit (6) is the stem; the ones digit (7) is the leaf.
- 10) **Choice B is correct.** (7.G.4-7.G.6) Decompose the house shape into a rectangle and a triangular roof. Rectangle: $10 \times 5 = 50$ sq units. Triangle: $\frac{1}{2} \times 6 \times 3 = 9$ sq units. Add: $50 + 9 = 59$ sq units.
- 11) **Choice C is correct.** (7.G.4-7.G.6) $h = \frac{V}{B} = \frac{252}{42} = 6$ mm.
- 12) **The correct answer is 16.** (7.NS.1-7.NS.3) The change is final minus initial: $8 - (-8) = 8 + 8 = 16$ degrees.
- 13) **Choice A is correct.** (7.G.1-7.G.5) Triangle Inequality requires strict inequalities: $|5.1 - 3.2| < c < 5.1 + 3.2$, so $1.9 < c < 8.3$.
- 14) **Choice A is correct.** (7.G.4-7.G.6) Circle X has radius 6 cm. Circle Y has diameter 6 cm, so its radius is 3 cm. Circle X has the larger radius.
- 15) **Choice B is correct.** (7.G.1-7.G.5) The Triangle Inequality states the sum of any two sides must exceed the third. Check: $4 + 6 = 10$ is not greater than 9, so this fails.
- 16) **Choice A is correct.** (7.SP.5-7.SP.8) A very small probability (close to 0) means the event is unlikely. 0.05 is the smallest value.
- 17) **Choice D is correct.** (7.SP.1-7.SP.4) Larger random samples provide more reliable estimates of population proportions because they reduce sampling variability and represent the population more completely.
- 18) **Choice D is correct.** (7.NS.1-7.NS.3) $-6 - (-4) = -6 + 4 = -2$.
- 19) **Choice C is correct.** (7.RP.3) $\frac{78}{120} = \frac{13}{20} = 0.65 = 65\%$.
- 20) **The correct answer is A,D.** (7.RP.1-7.RP.3) A and D are unit rates because each gives a price per single unit of weight. Option B is a distance, and option C is a total count.
- 21) **Choice D is correct.** (7.RP.3) Discount amount = $16 - 12 = \$4$. Percent = $\frac{4}{16} \times 100 = 25\%$.
- 22) **Choice B is correct.** (7.SP.1-7.SP.4) 12.5% of $360^\circ = 0.125 \times 360^\circ = 45^\circ$.
- 23) **Choice D is correct.** (7.RP.1-7.RP.3) Unit price = $\$4.50 \div 6 = \0.75 per apple.
- 24) **Choice D is correct.** (7.RP.1-7.RP.3) Unit rate = $\frac{5/6}{1/3} = \frac{5}{6} \times 3 = \frac{15}{6} = \frac{5}{2} = 2.5$ gal/min.
- 25) **Choice D is correct.** (7.RP.1-7.RP.3) Expected ratio: $3/1 = 3$. For sugar 4: flour should be $3 \times 4 = 12$, not 13.
- 26) **The correct answer is $\frac{2}{3}$.** (7.NS.2) $-\frac{3}{4} \times (-\frac{8}{9}) = \frac{3 \times 8}{4 \times 9} = \frac{24}{36} = \frac{2}{3}$. Negative times negative is positive.
- 27) **Choice D is correct.** (7.RP.1-7.RP.3) In Table A: $\frac{12}{4} = 3$, $\frac{24}{8} = 3$, $\frac{30}{10} = 3$, so $k = 3$. In Table B: $\frac{5}{2} = 2.5$, $\frac{10}{4} = 2.5$, $\frac{15}{6} = 2.5$, so $k = 2.5$. Table B matches the claim.
- 28) **The correct answer is 11.** (7.NS.1-7.NS.3) $\sqrt{25} = 5$ and $\sqrt{36} = 6$, so $5 + 6 = 11$.



Hi, Grade 7 Math Star!

◇ You finished this practice set with real effort. Grade 7 math asks you to connect ideas, explain your thinking, and stay steady through multi-step problems. ◇

★ **Remember this:** Every page you completed helped build stronger habits: reading carefully, choosing a method, showing work, and checking whether the answer makes sense. You practiced across 4 full Grade 7 practice tests, and that repeated effort matters. ★

What You Built

- **Focus:** You stayed with challenging questions.
- **Accuracy:** You learned to slow down when details matter.
- **Reasoning:** You practiced explaining why a method works.
- **Readiness:** You are more prepared than when you started.

Grade 7 test-day tip: Before test day, review the questions that made you pause. Those are the best teachers.

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

Jay Daie

Your Grade 7 Math Friend

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **4** 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.



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2 Online Practice Tests

 Detailed Answers & Explanations



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Give your child the tools to build strong math skills, confidence, and a positive attitude toward learning.

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Develop key math concepts and problem solving abilities.



Improve Understanding

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



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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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