

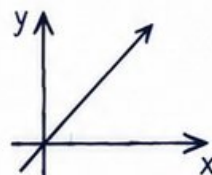
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Texas
STAARGRADE
7
MATH

PRACTICE TESTS

Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs

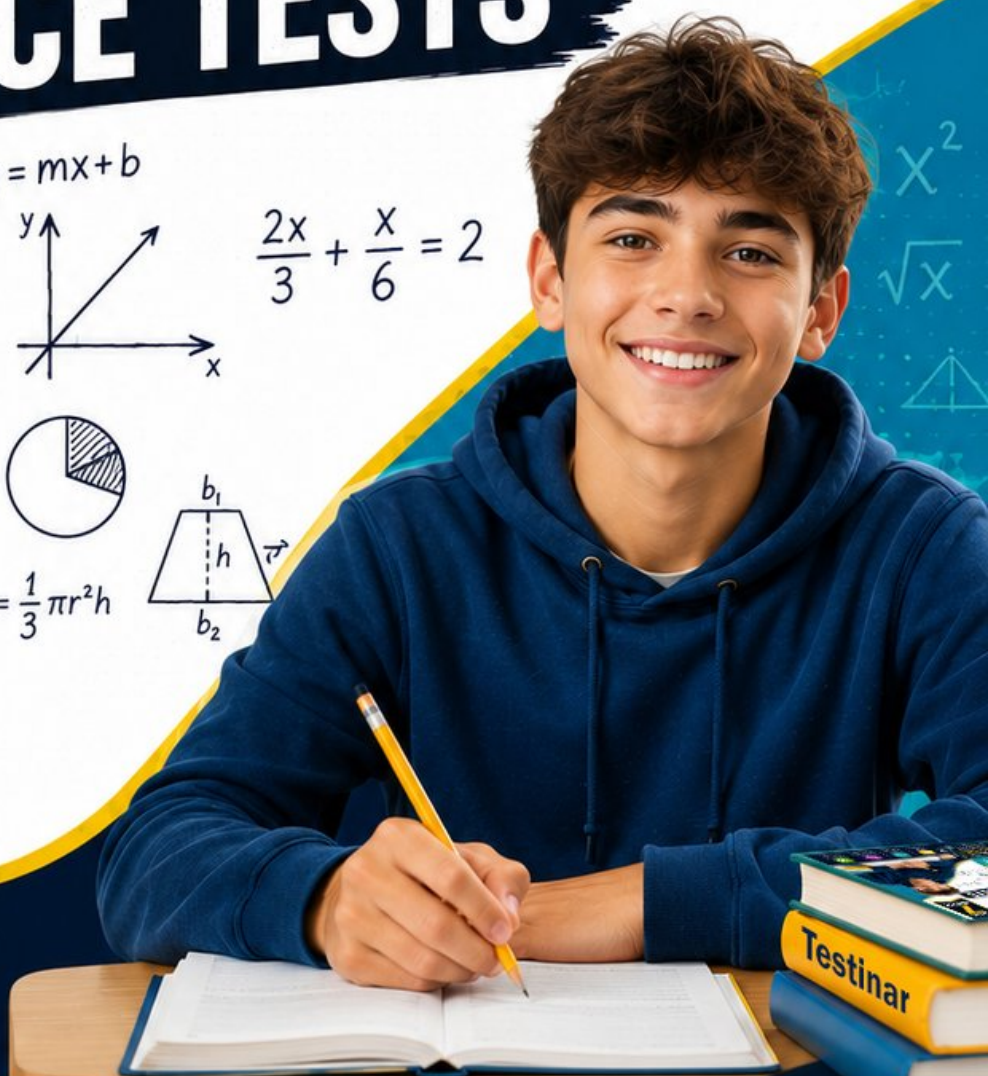
$$y = mx + b$$



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

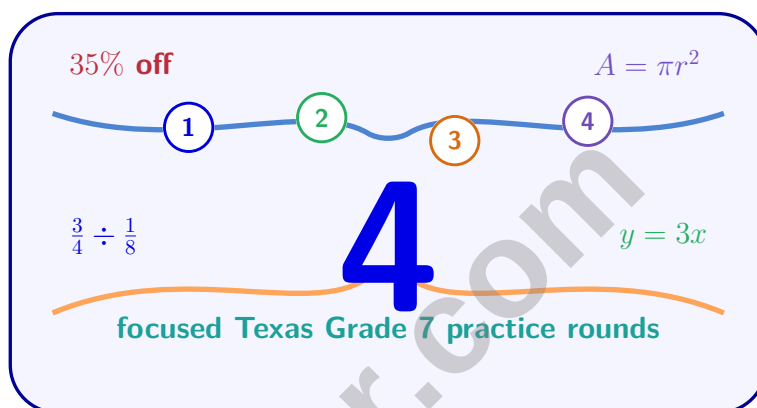


$$V = \frac{1}{3} \pi r^2 h$$

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 Texas STAAR Grade 7 Math Practice Tests

STAAR Skills Practice with Concise Keys and Solution Support



Four 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!

Four focused rounds for sharper STAAR math thinking

This book gives you four 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.

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.

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?

Four STAAR 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.

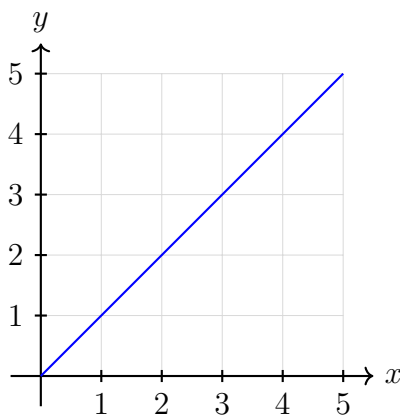


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& answers

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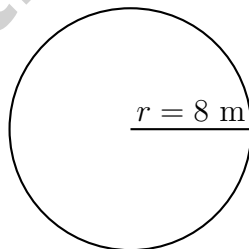
1) Which graph represents a proportional relationship?



- ☐ A. Only if $x > 0$
☐ C. Cannot determine from graph
☐ B. No, line does not go through origin
 ☐ D. Yes, line goes through origin

2) A scale model of a car is built with a scale of 1 : 24. If the model is 20 cm long, how long is the actual car?

- ☐ A. 2 m
 ☐ C. 5 m
☐ B. 4.8 m
 ☐ D. 480 m



3)

Based on the diagram, what is the circumference? Use $\pi \approx \frac{22}{7}$.

- ☐ A. $\frac{176}{7}$ m
 ☐ C. $\frac{88}{7}$ m
☐ B. $\frac{352}{7}$ m
 ☐ D. $\frac{704}{7}$ m



4) Which has the larger area: a semicircle with radius 8 meters, or a sector with radius 8 meters and central angle 200° ? Use $\pi \approx 3.14$.

- ☐ A. Semicircle ☐ C. Cannot be determined
☐ B. They have equal area ☐ D. Sector

5) A pizza place offers 3 types of crust, 6 sauce options, and 8 toppings. How many single-topping pizzas can be made?

- ☐ A. 17 ☐ C. 72
☐ B. 42 ☐ D. 144

6) If $a + (-a) = 0$, and $a = 27$, what is the value of $-a$?

7) Two dot plots display the number of glasses of water consumed per day by two fitness groups. Athletic Group: 6, 7, 7, 8, 8, 8, 8, 9 glasses; Casual Group: 2, 3, 4, 8, 9, 10 glasses. Which group shows more consistent hydration behavior?

- ☐ A. Athletic Group (centered at 8 glasses, range 3) ☐ C. Both groups have identical patterns
☐ B. Casual Group (some very low values up to 10) ☐ D. Casual Group (includes higher values)



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8) A survey of 150 students asked which sport they play. The results:

Sport	Soccer	Basketball	Tennis
Students	48	57	45

Based on this data, what is the experimental probability that a randomly selected student plays basketball?

☐ A. $\frac{57}{105}$

☐ B. $\frac{48}{150}$

☐ C. $\frac{57}{150}$

☐ D. $\frac{45}{150}$

9) A jar contains 6 white and 4 black balls. Two balls are drawn WITH replacement. What is the probability both are white?

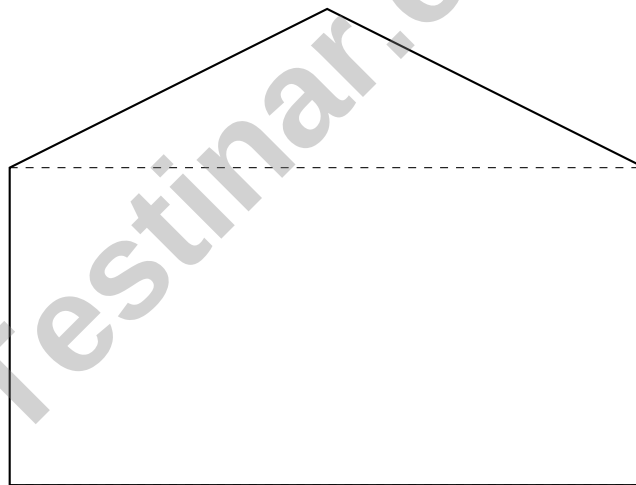
☐ A. $\frac{9}{25}$

☐ B. $\frac{12}{40}$

☐ C. $\frac{8}{25}$

☐ D. $\frac{24}{100}$

10)



A pentagon-shaped region can be decomposed into a trapezoid (parallel sides 12 units and 12 units, height 6 units) and a triangle (base 6 units, height 3 units). What is the total area?

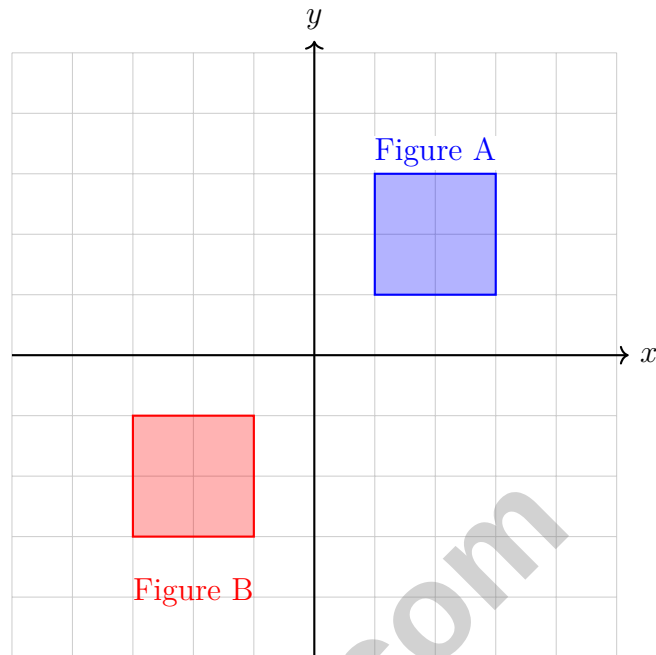
☐ A. 50 sq units

☐ B. 63 sq units

☐ C. 72 sq units

☐ D. 81 sq units





1)

What transformation maps Figure A to Figure B?

- ☐ A. Translation by $(-4, -4)$ ☐ C. Reflection over the line $y = -x$
☐ B. Rotation of 180° about the origin ☐ D. Rotation of 90° counterclockwise

- 2) A savings goal is \$1,200 for a laptop. If someone saves \$40 per month, how many months will it take to reach the goal?



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3) Estimate $\sqrt{75}$ to the nearest whole number.

☐ A. 8

☐ C. 10

☐ B. 9

☐ D. 11

Equivalence Table

Form 1	Form 2	Value
$x - 0.25x$	$0.75x$	\$60

4)

Using the equivalence table, if both forms equal \$60, what is x ?

☐ A. $x = 45$

☐ C. $x = 80$

☐ B. $x = 75$

☐ D. $x = 100$

5) Each burger costs \$4.50. How much will 6 burgers cost?

☐ A. \$24.00

☐ C. \$27.00

☐ B. \$25.50

☐ D. \$30.00

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

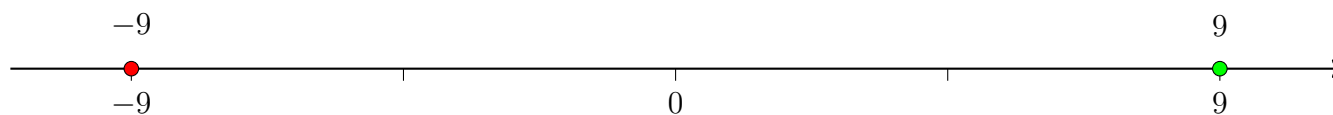
☐ A. $y = 2x + 3$

☐ C. $y = x^2$

☐ B. $y = \frac{1}{x}$

☐ D. $y = 5x$

7) What is $(-9) + 9$?



☐ A. 18 (adds absolute values)

☐ C. 0 (correct; additive inverse property)

☐ B. 9 (ignores the negative sign)

☐ D. -18 (keeps negative and doubles)



1) Simplify: $\frac{(i^6)^2}{i^5}$

☐ A. i^7

☐ B. i^{17}

☐ C. i^{12}

☐ D. i^{60}

2) A composite figure is made of a rectangle (8 ft by 5 ft) with a square (3 ft by 3 ft) attached to one side. What is the total area?

☐ A. 40 ft²

☐ B. 45 ft²

☐ C. 49 ft²

☐ D. 56 ft²

3) In a back-to-back stem-and-leaf plot, Class A (left) shows leaves 6, 3, 1 for stem 8, and Class B (right) shows leaves 2, 5, 7. Reading from the plot, which value belongs to Class A with stem 8?

☐ A. 82

☐ B. 83

☐ C. 85

☐ D. 87

4) Convert 0.625 to a fraction in simplest form.

5) A refrigerator is set to maintain a temperature of -2°C . It drops $\frac{1}{4}^{\circ}\text{C}$ per hour. What will the temperature be after 8 hours?



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6) A cube has side length 9 meters. What is its volume?

☐ A. 27 m^3

☐ C. 243 m^3

☐ B. 81 m^3

☐ D. 729 m^3

7) Convert 3,400,000,000 to scientific notation.

8) An obtuse isosceles triangle has a base angle of 20° . What is the measure of the vertex angle (the angle between the two equal sides)?

☐ A. 20°

☐ C. 140°

☐ B. 40°

☐ D. 160°

9) If the radius of a circle is 12 units, how many times larger is the diameter than the radius?

☐ A. 1 time

☐ C. 3 times

☐ B. 2 times

☐ D. 4 times

10) A student factors $-8m - 12$ and gets $-4(2m + 3)$. Is this correct?

☐ A. Yes; $-4(2m + 3) = -8m - 12$

☐ D. No; the correct factorization is $-4(2m - 3)$

☐ B. No; the GCF should be -2

☐ C. No; the correct factorization is $4(2m + 3)$



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.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice D is correct.** (7.RP.1-7.RP.3) The line passes through (0,0) and (5,5), making it proportional with $k = 1$ or $y = x$.
- 2) **Choice B is correct.** (7.G.1-7.G.5) Actual length = $20 \text{ cm} \times 24 = 480 \text{ cm} = 4.8 \text{ m}$.
- 3) **Choice B is correct.** (7.G.4-7.G.6) $C = 2\pi r = 2 \times \frac{22}{7} \times 8 = \frac{352}{7} \text{ m}$.
- 4) **Choice D is correct.** (7.G.4-7.G.6) Semicircle: $\frac{1}{2} \times 3.14 \times 64 = 100.48 \text{ m}^2$. Sector: $\frac{200^\circ}{360^\circ} \times 3.14 \times 64 = 111.73 \text{ m}^2$. Sector is larger.
- 5) **Choice D is correct.** (7.SP.5-7.SP.8) By the counting principle: $3 \times 6 \times 8 = 144$ single-topping pizzas.
- 6) **The correct answer is -27.** (7.NS.1-7.NS.3) Since $a = 27$, the opposite (additive inverse) is $-a = -27$. We can verify: $27 + (-27) = 0$.
- 7) **Choice A is correct.** (7.SP.3) Athletic Group clusters tightly around 8 glasses with range 3 (6–9). Casual Group ranges from 2–10 (range 8) with uneven distribution, indicating less consistent hydration habits.
- 8) **Choice C is correct.** (7.SP.6) Basketball was chosen by 57 out of 150 students. Experimental probability = $\frac{57}{150}$.
- 9) **Choice A is correct.** (7.SP.5-7.SP.8) With replacement: $P(\text{both white}) = \frac{6}{10} \cdot \frac{6}{10} = \frac{36}{100} = \frac{9}{25}$.
- 10) **Choice D is correct.** (7.G.4-7.G.6) The pentagon is already decomposed. Trapezoid: $\frac{1}{2}(12 + 12) \times 6 = 72 \text{ sq units}$. Triangle (top): $\frac{1}{2} \times 6 \times 3 = 9 \text{ sq units}$. Add them: $72 + 9 = 81 \text{ sq units}$.
- 11) **Choice C is correct.** (7.SP.1-7.SP.4) Total data points = $3 + 3 + 3 = 9$.
- 12) **Choice C is correct.** (7.G.4-7.G.6) Side of square = $20/4 = 5 \text{ cm}$. Base area = $5^2 = 25 \text{ cm}^2$. Volume = $25 \times 8 = 200 \text{ cm}^3$.
- 13) **Choice B is correct.** (7.G.1-7.G.5) Diagonal of a square with side s is $s\sqrt{2} = 6\sqrt{2} \text{ cm}$.
- 14) **Choice B is correct.** (7.G.4-7.G.6) A sector is a pie-shaped region formed by two radii and the arc between them.
- 15) **Choice B is correct.** (7.G.1-7.G.5) For (3, 4, 5): $3^2 + 4^2 = 9 + 16 = 25 = 5^2$ ✓. For (5, 12, 13): $5^2 + 12^2 = 25 + 144 = 169 = 13^2$ ✓. Both are right triangles. Since they have different side lengths, they are not congruent.
- 16) **Choice D is correct.** (7.SP.5-7.SP.8) Probability must be between 0 and 1 (inclusive). $1.01 > 1$, so it is invalid.
- 17) **Choice A is correct.** (7.SP.1-7.SP.4) $\frac{50}{125} = \frac{x}{5000}$. Reduce: $\frac{2}{5} = \frac{x}{5000} \Rightarrow x = 2000$.
- 18) **Choice D is correct.** (7.NS.1-7.NS.3) Subtracting a negative is the same as adding its opposite: $4 - (-7) = 4 + 7 = 11$.
- 19) **The correct answer is -12.** (7.NS.2) $-9 \times \frac{4}{3} = \frac{-36}{3} = -12$.
- 20) **Choice B is correct.** (7.SP.1-7.SP.4) 20% of 180 = $0.20 \times 180 = 36$ students.
- 21) **Choice C is correct.** (7.RP.1-7.RP.3) Multiply model height by scale factor: $3 \times 50 = 150$ feet.
- 22) **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.
- 23) **The correct answer is 13.** (7.NS.1-7.NS.3) Since the area is 169, the side length is $\sqrt{169} = 13$ units.
- 24) **Choice C is correct.** (7.RP.3) 50% of 160 is $0.50 \times 160 = 80$ items.
- 25) **Choice D is correct.** (7.RP.1-7.RP.3) Unit rate = $\frac{3/4}{5} = \frac{3}{4} \times \frac{1}{5} = \frac{3}{20} = 0.15$ dollars per eraser.
- 26) **Choice B is correct.** (7.RP.1-7.RP.3) Table B has constant ratio: $\frac{6}{2} = 3$, $\frac{12}{4} = 3$, $\frac{18}{6} = 3$. Table A is not proportional ($\frac{3}{1} = 3$ but $\frac{7}{3} \neq 3$).
- 27) **The correct answer is \$54.50.** (7.EE.1-7.EE.2) Compute $1.09(50) = 54.50$.
- 28) **Choice D is correct.** (7.RP.1-7.RP.3) The unit-rate marker at (1, 0.25) shows the rate is 0.25.
- 29) **Choice C is correct.** (7.RP.3) Find 55% of 200 using the proportion $\frac{55}{100} = \frac{x}{200}$. Cross-multiply: $x = 110$.
- 30) **Choice D is correct.** (7.SP.5-7.SP.8) Option D: $0.4 + 0.4 + 0.3 = 1.1 \neq 1$, so it is not valid. All other options sum to 1.
- 31) **Choice C is correct.** (7.RP.3) Total fee = $35 + (0.50 \times 80) = 35 + 40 = \75 .
- 32) **Choice D is correct.** (7.RP.3) Simple interest: $I = Prt = 500 \times 0.06 \times 3 = 90$.



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Hi, Math Communicator!

◇ Grade 7 math is not only about getting a number. It is about explaining relationships and making your reasoning visible. ◇

★ **Remember this:** When you show steps, label diagrams, and write clear answers, you are joining the conversation that math is trying to have. You practiced across 4 full Grade 7 practice tests, and that repeated effort matters. ★

Communication Skills

- **Use Words:** Explain what the answer means.
- **Use Symbols:** Keep equations accurate.
- **Use Diagrams:** Show relationships visually.
- **Use Units:** Connect math to context.

Grade 7 test-day tip: For open-ended questions, answer in a complete thought: value, unit, and reason.

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

Jay Daie

Your Math Communication Coach

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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Practice regularly to feel prepared and test-ready.



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



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Apply your knowledge and achieve your best score!

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- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Geometry
- ✓ Percents & Decimals
- ✓ Statistics & Probability
- ✓ Data Analysis
- ✓ Measurement & Conversions
- ✓ Algebraic Thinking
- ✓ And More!



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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!

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