

4

Maine

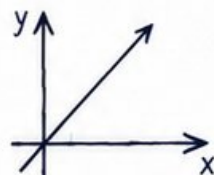
Through Year Assessment

GRADE
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 TESTS



2 ONLINE TESTS



USE THESE TWO
ADDITIONAL ONLINE
PRACTICE TESTS

FOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.



Build
Confidence



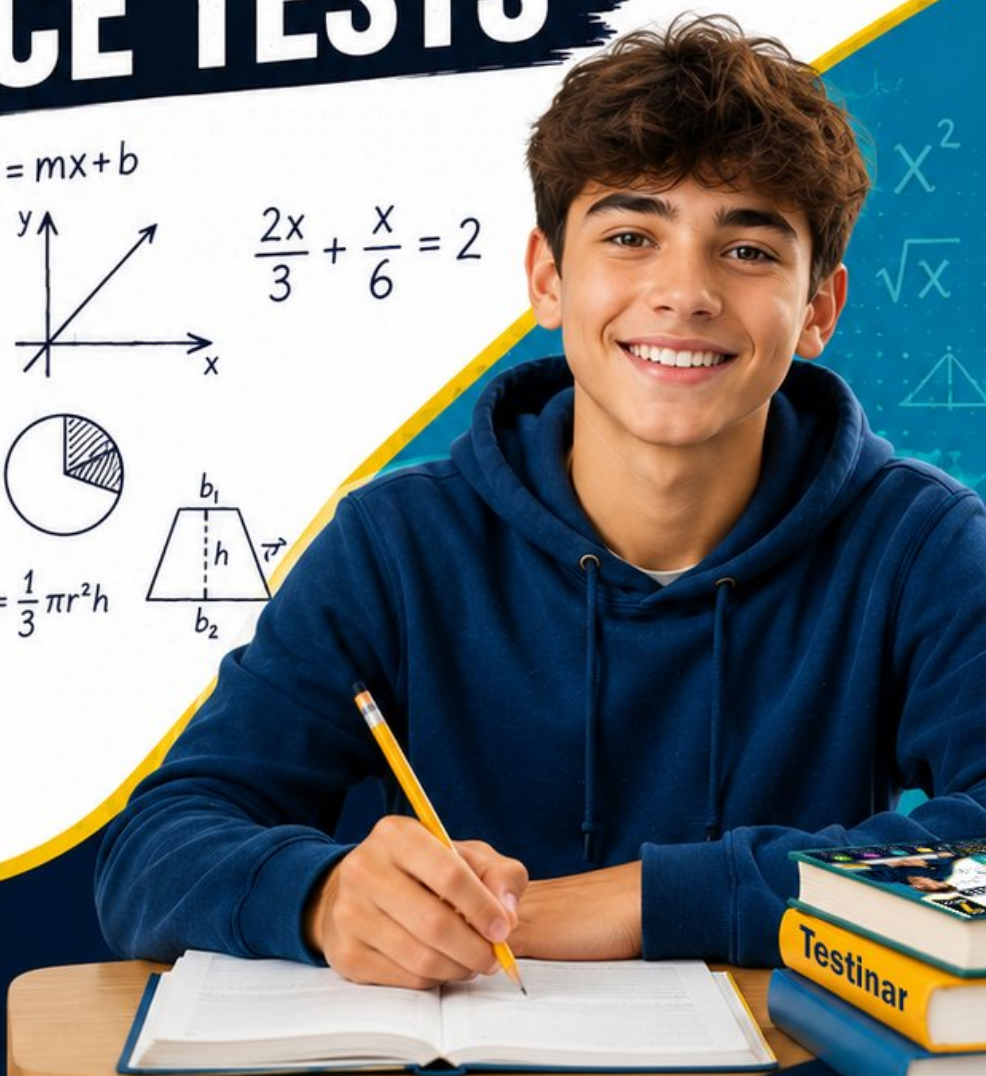
Strengthen
Math Skills



Detailed Answers
& Explanations

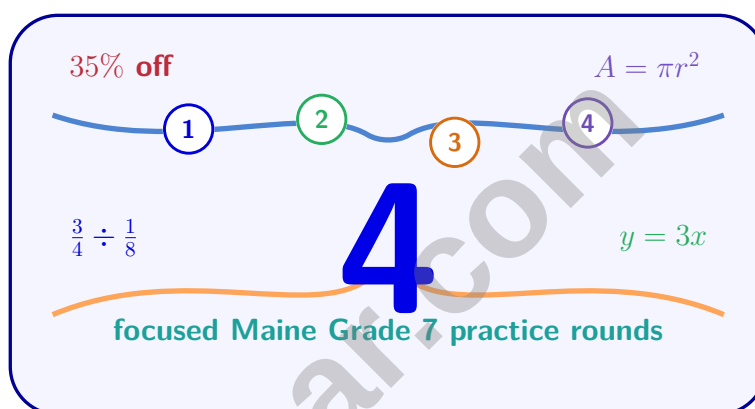


Improve Test
Performance



4 Maine Through Year Assessment Grade 7 Math Practice Tests

Through Year Assessment Prep with Standards Practice and Guided Explanations



Four complete 40-question Grade 7 Through Year Assessment 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, Maine Grade 7 Problem Solver!

Four focused rounds for sharper Through Year Assessment math thinking

This book gives you four full Grade 7 Through Year Assessment 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 Maine 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.

Maine 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 Through Year Assessment 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.



Scan me!
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& answers

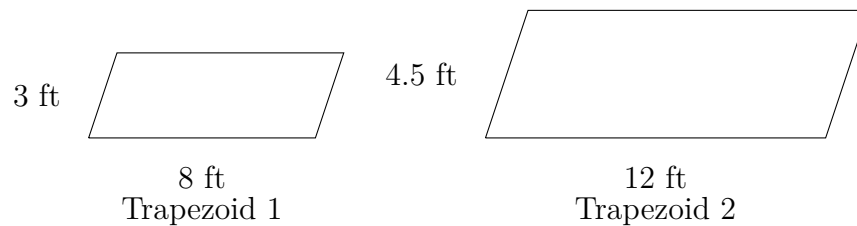
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- 1) A bag contains letters spelling PROBABILITY. If one letter is drawn at random, what is the probability of drawing a B OR a Y?

☐ A. $\frac{2}{11}$
☐ B. $\frac{3}{11}$

☐ C. $\frac{4}{11}$
☐ D. $\frac{1}{11}$



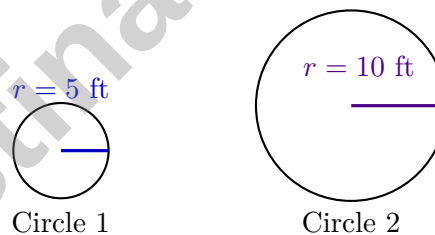
2)

These similar trapezoids have heights of 3 ft and 4.5 ft. If Trapezoid 1 has a base of 8 ft, what is the base of Trapezoid 2?

☐ A. 10 ft
☐ B. 11 ft

☐ C. 12 ft
☐ D. 14 ft

3)



Comparing these two circles, the area of Circle 2 is how many times the area of Circle 1? (Use $\pi \approx 3.14$.)

☐ A. 2 times
☐ B. 3 times

☐ C. 4 times
☐ D. 5 times

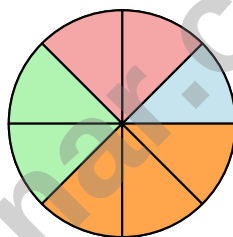


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4) Store A has a mean daily sales of \$450 with a MAD of \$30. Store B has a mean of \$480 with a MAD of \$90. Which conclusion is best supported?

- ☐ A. Store A typically sells more than Store B
- ☐ B. Both stores are equally consistent
- ☐ C. Store B typically sells more, but with less consistency
- ☐ D. Store B's sales are more predictable due to lower MAD

5) What is the opposite of the opposite of -3 ?



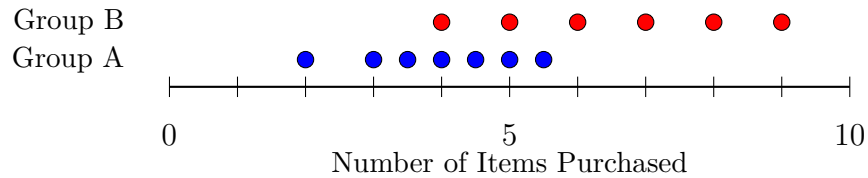
6)

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. $\frac{1}{2}$

7) A diver descends 7.5 meters per minute. What is the total change in depth after 4 minutes?





8)

Looking at the dot plots of items purchased, which statement best describes the overlap?

- ☐ A. Group A typically buys fewer items; ☐ C. No overlap exists between the Groups overlap at 4–5 groups
- ☐ B. Group B always buys more items than Group A ☐ D. Both groups buy identical amounts
- 9) A spinner with 4 equal sections was spun 360 times. The results are displayed in a frequency table:

Section	Red	Blue	Green	Yellow
Frequency	95	88	92	85

How does the experimental probability of landing on red compare to the theoretical probability of $\frac{1}{4}$?

- ☐ A. Experimental is higher ☐ C. Both are exactly equal
- ☐ B. Experimental is lower ☐ D. Cannot compare without more data
- 10) What is $\sqrt{25} + \sqrt{36}$?



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& answers

1) A video game costs \$50. With a 12% sales tax, the total cost is 50×1.12 . What does 1.12 represent?

- ☐ A. The percent of tax
☐ B. The percent of the original price paid (including tax)
☐ C. The discount
☐ D. The final price

2) What is $-2(3 + 5)$?

- ☐ A. -16
☐ B. -6
☐ C. 1
☐ D. 16

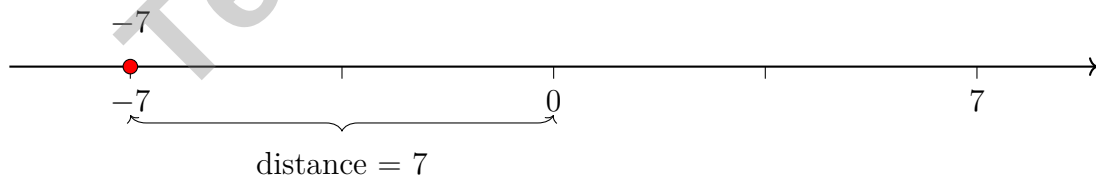
3) A square tile has an area of 169 square inches. What is the side length of the tile?

- ☐ A. 11 inches
☐ B. 12 inches
☐ C. 13 inches
☐ D. 14 inches

4) The cost C (in dollars) of buying n pounds of apples is given by $C = 0.75n$. What does 0.75 represent?

- ☐ A. The number of apples
☐ B. The weight of apples
☐ C. The total cost
☐ D. The cost per pound of apples

5) What is $|-7|$?



- ☐ A. -7 (confuses absolute value with the original number)
☐ B. -14 (incorrectly applies a sign reversal)
☐ C. 0 (misplaces absolute value at the origin)
☐ D. 7 (correct; distance is always non-negative)



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6) Simplify: $6x^2y + 3x^2y - 2x^2y$

☐ A. $7x^2y$

☐ C. $7x^4y$

☐ B. $11x^2y$

☐ D. $4x^2y$

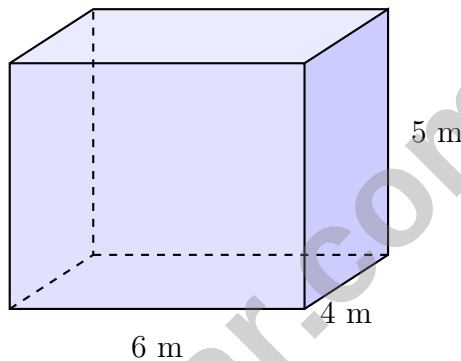
7) Which pair of expressions are equivalent?

☐ A. $2(x + 7)$ and $2x + 7$

☐ C. $5(a + 2)$ and $5a + 2$

☐ B. $3(2y - 4)$ and $6y - 12$

☐ D. $4(3m - 1)$ and $12m - 1$



8)

An isometric rectangular prism with dimensions $6\text{ m} \times 5\text{ m} \times 4\text{ m}$ is shown. Determine the surface area.

☐ A. 120 m^2

☐ C. 166 m^2

☐ B. 148 m^2

☐ D. 240 m^2

9) A simulated compound event is created by spinning a spinner twice. The spinner has 3 equal sections (Red, Blue, Green). How many different outcomes are in the sample space?

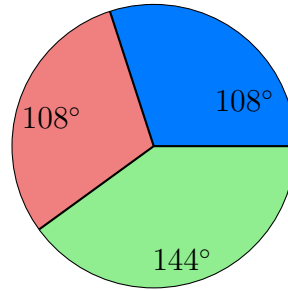
☐ A. 3

☐ C. 9

☐ B. 6

☐ D. 12





1)

This spinner has sectors of 108° , 108° , and 144° . Which is the correct probability for the largest sector?

- ☐ A. $\frac{2}{5}$
☐ B. $\frac{1}{3}$

- ☐ C. $\frac{3}{5}$
☐ D. $\frac{2}{3}$

2) Two box plots compare the price (in dollars) of gasoline over a year at two locations. Location 1: Min = \$2.10, Median = \$2.50, Max = \$2.90. Location 2: Min = \$2.00, Median = \$2.50, Max = \$3.20. A traveler wants stable prices. Which location has more volatile prices?

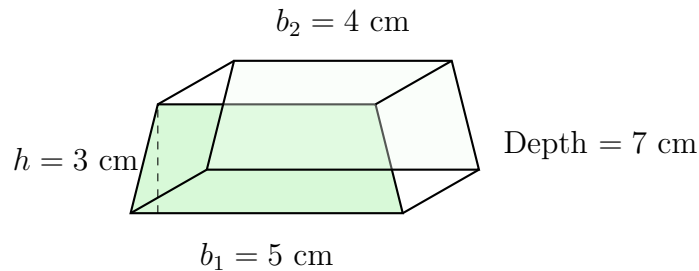
- ☐ A. Location 1 (smaller range: \$0.80) ☐ D. Location 1 (higher median means stability)
☐ B. Location 2 (larger range: \$1.20)
☐ C. Both have identical volatility

3) A park is shaped like a large rectangle ($30 \text{ m} \times 20 \text{ m}$) with a triangular picnic area (20 m base, 5 m height) and a circular pond (radius 3 m) inside. What is the open grassy area? (Use $\pi \approx 3.14$.)

- ☐ A. 521.74 m^2 ☐ C. 571.74 m^2
☐ B. 550 m^2 ☐ D. 600 m^2



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& answers



4)

A trapezoidal prism has a trapezoidal base with parallel sides 5 cm and 4 cm, height 3 cm, and prism depth 7 cm. What is the volume?

☐ A. 94.5 cm^3

☐ C. 126 cm^3

☐ B. 115.5 cm^3

☐ D. 189 cm^3

5) Two sides of a triangle are 6 cm and 14 cm. If the third side is a whole number, how many possible triangles can be drawn?

☐ A. 9

☐ C. 13

☐ B. 11

☐ D. Infinitely many

6) Every diameter of a circle is also a:

☐ A. Radius

☐ C. Chord

☐ B. Sector

☐ D. Arc

7) Factor: $5x + 25$

☐ A. $5(x + 5)$

☐ C. $5(x + 25)$

☐ B. $5x(1 + 5)$

☐ D. $25(x + 1)$



Maine Through Year Assessment 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 Maine Through Year Assessment practice test.



Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** (7.SP.5-7.SP.8) PROBABILITY has 11 letters. B appears once and Y appears once. $P(B \text{ or } Y) = \frac{1}{11} + \frac{1}{11} = \frac{2}{11}$.
- 2) **Choice C is correct.** (7.G.1-7.G.5) Scale factor = $\frac{4.5}{3} = 1.5$. Base of Trapezoid 2 = $8 \times 1.5 = 12$ ft.
- 3) **Choice C is correct.** (7.G.4-7.G.6) Circle 1: $A = 3.14 \times 25 = 78.5$ ft². Circle 2: $A = 3.14 \times 100 = 314$ ft². Ratio: $\frac{314}{78.5} = 4$.
- 4) **Choice C is correct.** (7.SP.1-7.SP.4) Store B has a higher mean (\$480 vs. \$450), indicating higher center. Its larger MAD (\$90 vs. \$30) shows greater variability, meaning less consistency. A is false (Store A's mean is lower). B is false (MADs differ). D is false (lower MAD = more predictable, but Store B has higher MAD).
- 5) **The correct answer is -3.** (7.NS.1-7.NS.3) The opposite of -3 is 3, and the opposite of 3 is -3.
- 6) **Choice C is correct.** (7.SP.5-7.SP.8) Yellow sections: 3 out of 8. $P(\text{yellow}) = \frac{3}{8}$.
- 7) **The correct answer is -30.** (7.NS.2) Change per minute is -7.5 meters. After 4 minutes: $(-7.5) \times 4 = -30$ meters.
- 8) **Choice A is correct.** (7.SP.3) Group A centers at 3-5 (peak at 4). Group B centers at 5-9 (peak at 7). Overlap occurs at 4-5. Group A's lower center is clear despite overlap.
- 9) **Choice A is correct.** (7.SP.6) Experimental probability of red (relative frequency): $\frac{95}{360} \approx 0.264$. Theoretical (equal sections): $\frac{1}{4} = 0.25$. Random variation caused experimental to exceed theoretical.
- 10) **The correct answer is 11.** (7.NS.1-7.NS.3) $\sqrt{25} = 5$ and $\sqrt{36} = 6$, so $5 + 6 = 11$.
- 11) **Choice B is correct.** (7.G.4-7.G.6) Rectangle: $4 \times 6 = 24$ ft². Semicircle (radius 2): $\frac{1}{2} \times 3.14 \times 4 = 6.28$ ft². Total: $24 + 6.28 = 30.28$ ft².
- 12) **Choice C is correct.** (7.SP.1-7.SP.4) Total frequency = $5 + 8 + 3 = 16$ data points.
- 13) **Choice C is correct.** (7.G.4-7.G.6) $V = 6 \times 4 \times 5 = 120$ cubic units.
- 14) **Choice A is correct.** (7.G.1-7.G.5) A right isosceles triangle has a 90° angle and two equal legs. The two acute angles are each $(180 - 90) / 2 = 45^\circ$.
- 15) **Choice B is correct.** (7.G.4-7.G.6) Since $d = 2r$, if the radii are equal, the diameters are also equal.
- 16) **Choice C is correct.** (7.G.1-7.G.5) With one side and one angle, we have insufficient information. Adding a second side gives SAS; adding a second angle gives ASA. Either approach uniquely determines the triangle.
- 17) **Choice A is correct.** (7.SP.5-7.SP.8) A standard die only has faces 1-6, so rolling a 7 is impossible (probability = 0).
- 18) **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.
- 19) **Choice C is correct.** (7.SP.1-7.SP.4) Researcher 1: $\frac{8}{32} = 0.25$ or 25%. Researcher 2: $\frac{12}{48} = 0.25$ or 25%. Same proportion, though Researcher 2's larger sample is more reliable.
- 20) **Choice C is correct.** (7.RP.3) $180 = 5000 \times 0.036 \times t \Rightarrow 180 = 180t \Rightarrow t = 1$ year. Convert to months: $1 \times 12 = 12$ months.
- 21) **Choice D is correct.** (7.NS.1-7.NS.3) Moving right from -3 by 8 units represents the opposite operation. This is $-3 - (-8) = -3 + 8 = 5$, which is equivalent to moving right.
- 22) **Choice C is correct.** (7.SP.1-7.SP.4) 22% of 240 = $0.22 \times 240 = 52.8$ people.
- 23) **Choice D is correct.** (7.RP.1-7.RP.3) 150 m = 15000 cm. Divide by scale: $15000 \div 500 = 30$ cm.
- 24) **Choice D is correct.** (7.RP.1-7.RP.3) The unit-rate point (1, 0.4) indicates \$0.40 per pound.
- 25) **Choice D is correct.** (7.RP.1-7.RP.3) Unit rate: $\frac{2\frac{1}{2}}{2/5} = \frac{5/2}{2/5} = \frac{5}{2} \times \frac{5}{2} = \frac{25}{4} = 6.25$ mph.
- 26) **Choice D is correct.** (7.RP.1-7.RP.3) Proportion: $\frac{2 \text{ gal}}{1 \text{ sq ft}} = \frac{y}{12 \text{ sq ft}}$. Cross multiply: $y = 24$ gallons.
- 27) **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 $\frac{7}{3} \neq 3$).



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Hi, Smart Reviewer!

◇ The best learning often happens after the test, when you look back and notice what worked and what needs attention. This carefully paced book gave you four steady Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. ◇

★ **Remember this:** You can use these practice tests as a map. The questions you solved quickly show strengths; the questions you missed show where to train next. ★

Review Routine

- **Sort:** Group mistakes by skill.
- **Reread:** Check whether the question was misunderstood.
- **Resolve:** Do the problem again without looking.
- **Record:** Write the lesson in one sentence.

Grade 7 test-day tip: Review in short focused sessions. Ten careful minutes can be more useful than an hour of rushing.

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

Jay Daie

Your Review 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.



THIS BOOK INCLUDES:

4 Full-Length Printed Tests

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.

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.



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