

10 Louisiana LEAP

GRADE
8
MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

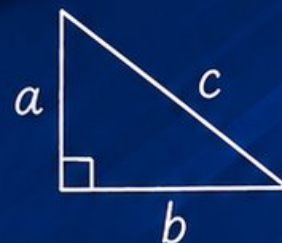
10 PRINTED
TESTS



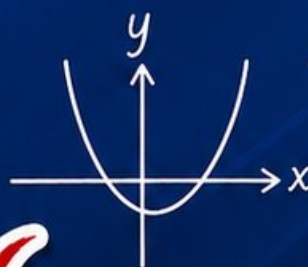
2 ONLINE
TESTS



- ✓ Build Confidence
- ✓ Master Key Math Skills
- ✓ Answer Explanations for Every Question
- ✓ Test-Taking Strategies That Work



$$y = mx + b$$



$$3x - 7 = 2(x + 5)$$
$$x = 17$$

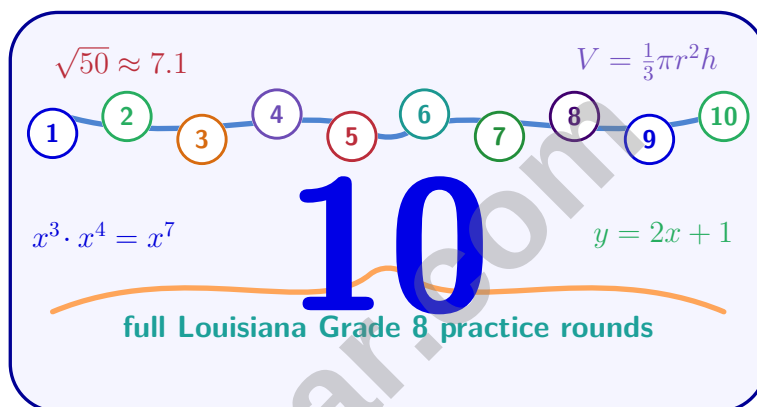


USE THESE TWO
**ADDITIONAL ONLINE
PRACTICE TESTS**

FOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.

10 Louisiana LEAP Grade 8 Math Practice Tests

Louisiana Grade 8 LEAP Practice for clear practice with rates, scientific notation, real numbers, expressions, geometry, data analysis, and probability



Ten complete 40-question Grade 8 LEAP practice rounds with linear relationships, scientific notation, real numbers, equations, functions, geometry, data analysis, probability, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari



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Welcome, Louisiana Grade 8 Problem Solver!

Ten focused rounds for sharper Louisiana LEAP math thinking

This book gives you ten full Grade 8 LEAP math practice tests. Each round is built to help you notice structure, compare quantities, use linear reasoning, handle real numbers, and explain your thinking with care.

Grade 8 standards focus: This page supports **Scatter Plots and Patterns in Data** (8.SP.A.1): Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association. Another recurring target is **Rotations, Reflections, and Translations** (8.G.A.1): Verify experimentally the properties of rotations, reflections, and translations.

Your Louisiana 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 ten-session plan for confident Grade 8 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.

Grade 8 standards focus: Keep the routine connected to **Two-Way Tables for Categorical Data** (8.SP.A.4): Understand that patterns of association can be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. The same routine helps with **The Pythagorean Theorem** (8.G.B.6): Explain a proof of the Pythagorean Theorem and its converse.

Louisiana 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?

Ten Louisiana LEAP tests, 400 questions, and a complete review path

Part	What You Will Practice
Tests 1–3	Linear relationships, integer exponents, scientific notation, real-number reasoning, and careful reading.
Tests 4–6	Expressions, equations, inequalities, transformations, geometry, and multi-step problem solving.
Tests 7–9	Data analysis, probability, mixed review, stamina, and choosing efficient strategies.
Test 10	A final Louisiana round to show growth across the whole book.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Grade 8 success means recognizing which idea is being tested even when the next question changes format.

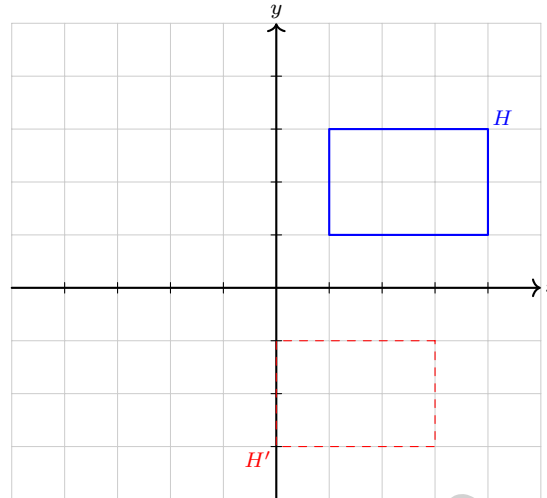
Grade 8 standards focus: Use these habits while practicing **Multiplying Linear Expressions and Factoring** (8.EE.C.7): Solve linear equations in one variable. You will also meet **Fitting a Line to Data** (8.SP.A.2): Know that straight lines are widely used to model relationships between two quantitative variables. Informally fit a straight line for scatter plots that suggest a linear association.



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1)

Rectangle H (blue) is transformed to rectangle H' (red). Which sequence of transformations applies?

- ☐ A. Reflect across y -axis, translate right 3
☐ B. Rotate 180° about the origin, translate right 3
☐ C. Reflect across x -axis, translate left 1
☐ D. Translate down 4, reflect across y -axis

2) A square pyramid-shaped roof covers a building with a square base of side length 10 m. The slant height is 13 m. What is the lateral surface area (the four triangular sides)?

- ☐ A. 130 m^2
☐ B. 260 m^2
☐ C. 360 m^2
☐ D. 520 m^2



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3) Which data scenario would MOST closely match a linear model $y = 0.5x + 15$?

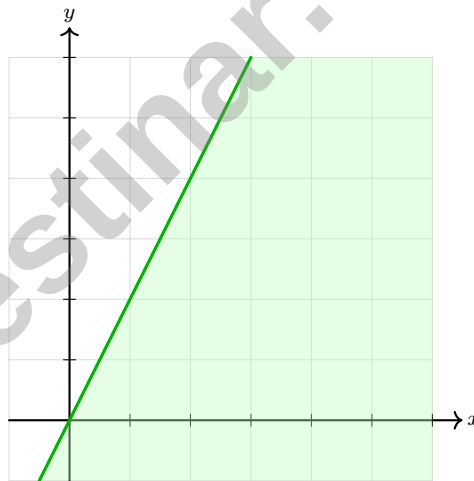
- ☐ A. Bacteria population doubling every hour
☐ B. Water height in a tank filling at a constant rate
☐ C. Height of a ball after it bounces (decreasing bounce heights)
☐ D. Compound interest in a savings account

4) Solve: $3x + 2 \geq -4$

- ☐ A. $x \geq -2$
☐ B. $x \leq -2$
☐ C. $x \geq 2$
☐ D. $x \leq 2$

5) Multiply: $(2x + 5)(3x - 1)$

- ☐ A. $6x^2 + 13x - 5$
☐ B. $5x^2 + 15x - 1$
☐ C. $6x^2 - 2x + 15x - 5$
☐ D. $6x^2 + 10x - 5$



6)

The graph shows which inequality?

- ☐ A. $y > 2x$
☐ B. $y < 2x$
☐ C. $y \geq 2x$
☐ D. $y \leq 2x$



7) Which of the following graphs represents a function?

☐ A. A vertical line.

☐ C. A point.

☐ B. A circle.

☐ D. An ellipse centered at the origin.

8) Table: $(1, 2)$, $(2, 6)$, $(3, 10)$; and $z(x) = 3x + 1$. Which crosses the y -axis higher?

x	1	2	3
y	2	6	10

☐ A. Table function

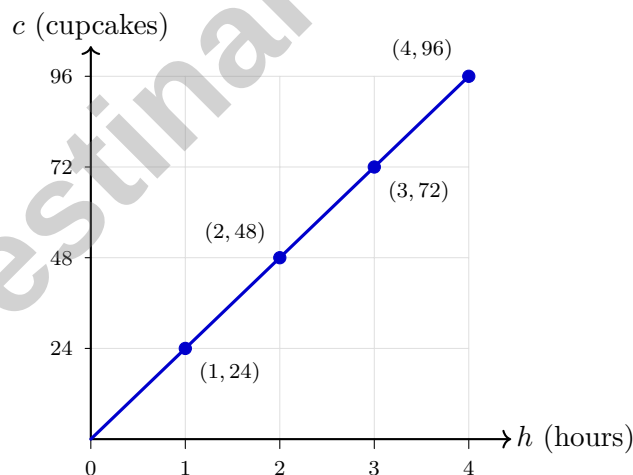
☐ C. Both have same y -intercept.

☐ B. $z(x)$

☐ D. Cannot be determined.

9) A baker prepares cupcakes. The table shows the number of cupcakes c after h hours of baking:

Hours (h)	1	2	3	4
Cupcakes (c)	24	48	72	96



Which equation represents the relationship?

☐ A. $c = 24h$

☐ C. $c = h + 24$

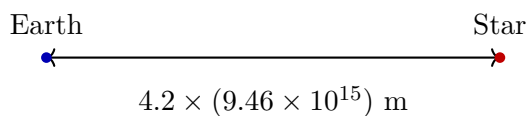
☐ B. $c = 24h + 1$

☐ D. $c = 48h$



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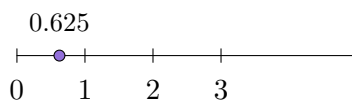
- 1) A light-year is the distance light travels in one year, approximately 9.46×10^{15} meters. If a star is 4.2 light-years away, how many meters is it? (Express in scientific notation.)



- ☐ A. $39.7 \times 10^{14} \text{ m}$
☐ C. $3.97 \times 10^{16} \text{ m}$
- ☐ B. $4.2 \times 10^{15} \text{ m}$
☐ D. $2.25 \times 10^{16} \text{ m}$
- 2) A residual plot shows the residuals for a trend line fit to a data set. What would a residual plot with no clear pattern indicate?
- ☐ A. There are no residuals
 ☐ C. The data is nonlinear
- ☐ B. The trend line is a good fit
 ☐ D. The trend line is a poor fit
- 3) Two similar trapezoids have parallel sides. In trapezoid T_1 , the bases are 10 cm and 6 cm. In trapezoid T_2 , the longer base is 15 cm. What is the length of the shorter base of T_2 ?
- ☐ A. 8 cm
 ☐ C. 10 cm
- ☐ B. 9 cm
 ☐ D. 12 cm
- 4) If $f(x) = \frac{2x+5}{3}$, what is $f(4)$?
- ☐ A. 3
 ☐ C. $\frac{26}{3}$
- ☐ B. 4
 ☐ D. $\frac{13}{3}$



5)



Which number can be written as a terminating decimal?

☐ A. $\sqrt{5}$

☐ C. $\sqrt{e}$ (where $e \approx 2.718$)

☐ B. $1 + \pi$

☐ D. $\frac{5}{8}$

6) Convert $0.\overline{135}$ to a fraction in simplest form.

☐ A. $\frac{1}{135}$

☐ C. $\frac{135}{999}$

☐ B. $\frac{135}{1000}$

☐ D. $\frac{134}{990} = \frac{67}{495}$

7) A square has an area of 75 square units. Between which two integers is the side length?

☐ A. Between 7 and 8

☐ C. Between 6 and 7

☐ B. Between 5 and 6

☐ D. Between 8 and 9

8) Which estimate has the largest error (furthest from the true value)?

Expression	Estimate
$\sqrt{9}$	3
$\sqrt{10}$	3.2
$\sqrt{11}$	3.3
$\sqrt{12}$	3.6

☐ A. $\sqrt{9} = 3$

☐ C. $\sqrt{11} \approx 3.3$

☐ B. $\sqrt{10} \approx 3.2$

☐ D. $\sqrt{12} \approx 3.6$



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1) Which of the following is a perfect square?

☐ A. 48

☐ C. 75

☐ B. 99

☐ D. 64

2) A function displays the pattern: $(1, 2)$, $(2, 4)$, $(3, 8)$, $(4, 16)$. What type of function is this?

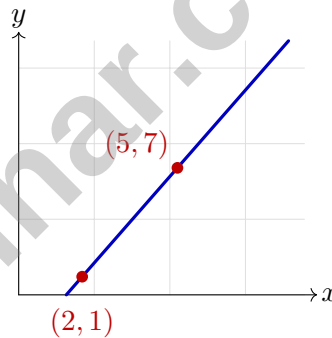
☐ A. Linear, because y increases

☐ D. Nonlinear, but could still be linear with the right data

☐ B. Linear, with slope 2 per x -unit

☐ C. Nonlinear, exponential (doubling pattern)

3) A graph shows a line passing through $(2, 1)$ and $(5, 7)$. If the line continues, which point would it pass through?



☐ A. $(8, 13)$

☐ C. $(8, 11)$

☐ B. $(8, 12)$

☐ D. $(7, 10)$

4) Tickets cost \$4 for children and \$7 for adults. The theater sold 200 tickets for a total of \$1,100. How many children's tickets were sold?

☐ A. 100

☐ C. 50

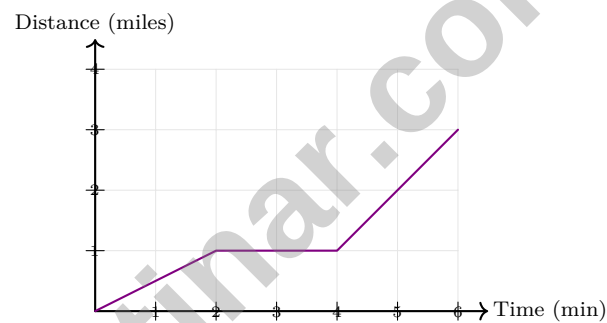
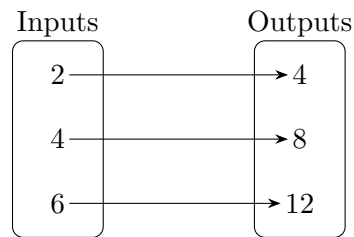
☐ B. 150

☐ D. 120



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5) In the mapping diagram with inputs 2, 4, and 6, how many inputs are in the domain?



6)

A runner travels 1 mile in 2 minutes, stops for 2 minutes, then runs 2 more miles in 2 minutes. What is the average speed over the whole journey?

☐ A. 0.75 miles/min

☐ C. 1 mile/min

☐ B. 0.5 miles/min

☐ D. 1.5 miles/min



Louisiana LEAP Grade 8 Practice Test Answer Keys**How to use this section with a Grade 8 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 Louisiana LEAP practice test.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** **(8.G.A.3)** Reflecting $(1, 1) \rightarrow (1, -1)$, then translating left 1 gives $(0, -1)$. This matches a vertex of H' , and the same rule maps the whole rectangle correctly.
- 2) **Choice B is correct.** **(8.G.C.9)** Lateral area $= 4 \times \frac{1}{2}(10)(13) = 4 \times 65 = 260 \text{ m}^2$.
- 3) **Choice B is correct.** **(8.SP.A.3)** Only (B) changes at a constant positive rate, matching a line with positive slope. (A) and (D) are exponential, and (C) is not a steady linear pattern.
- 4) **Choice A is correct.** **(8.EE.C.8b)** Subtract 2: $3x \geq -6$. Divide by 3: $x \geq -2$.
- 5) **Choice A is correct.** **(8.EE.C.7)** FOIL: $(2x + 5)(3x - 1) = 6x^2 - 2x + 15x - 5 = 6x^2 + 13x - 5$.
- 6) **Choice D is correct.** **(8.EE.C.8b)** SOLID line (includes boundary) and shading BELOW the line indicates $y \leq 2x$.
- 7) **Choice C is correct.** **(8.F.A.1)** A point has one x -value with one y -value, so it passes the vertical line test. A vertical line is not a function (fails VLT). Circles and ellipses fail the VLT.
- 8) **Choice B is correct.** **(8.F.A.2)** Table slope: $(6 - 2)/(2 - 1) = 4$. From $(1, 2)$: $2 = 4(1) + b \Rightarrow b = -2$. So y -intercept is -2 . For z : y -intercept is 1. Since $1 > -2$, z is higher.
- 9) **Choice A is correct.** **(8.F.B.4)** Slope: $\frac{48-24}{2-1} = 24$ cupcakes per hour. The line passes through the origin (when $h = 0$, $c = 0$). Equation: $c = 24h$.
- 10) **Choice B is correct.** **(8.F.B.5)** From $x = 2$ to $x = 4$: change is from 3 to 1, a drop of 2 over 2 units (slope $= -1$). From 0 to 2: rise of 3. From 4 to 6: rise of 3. The only decreasing segment is 2 to 4.
- 11) **Choice D is correct.** **(8.G.A.5)** Use the triangle angle sum: $50 + 30 + \angle ACB = 180$. So $\angle ACB = 180 - 50 - 30 = 100^\circ$.
- 12) **Choice A is correct.** **(8.G.B.6, 8.G.B.7)** From $10^2 + b^2 = 26^2$, we get $100 + b^2 = 676$, so $b^2 = 576$ and $b = 24$ (scaled 5-12-13 triple).
- 13) **Choice B is correct.** **(8.G.C.9)** $B = x \times 3x = 3x^2$. $500 = \frac{1}{3} \times 3x^2 \times 5 \Rightarrow 500 = 5x^2 \Rightarrow x^2 = 100 \Rightarrow x = 10 \text{ m}$.
- 14) **The correct answer is 10.** **(8.EE.A.1)** Using the quotient rule, $n - 4 = 6$, so $n = 10$. Verification: $\frac{b^{10}}{b^4} = b^6$.
- 15) **Choice A is correct.** **(8.G.B.7)** Circle area $= \pi r^2 = 3.14 \times 7^2 = 153.86 \text{ m}^2$. Square area $= 4 \times 4 = 16 \text{ m}^2$. Remaining $= 153.86 - 16 = 137.86 \text{ m}^2$.
- 16) **Choice A is correct.** **(8.G.A.5)** For a nonagon ($n = 9$): $(9 - 2) \times 180 = 7 \times 180 = 1260^\circ$. The student is correct.
- 17) **Choice C is correct.** **(8.SP.A.1)** The scatter plot shows two distinct regions: early years display a clear upward trend (positive correlation), while later years show salaries staying flat (no change). This means a single straight line cannot describe the entire relationship accurately.
- 18) **Choice D is correct.** **(8.SP.A.4)** Relative frequency among dine-in orders: $\frac{108}{180} = 0.60$. This is a row-conditional frequency.
- 19) **Choice A is correct.** **(8.G.B.7)** $P(\text{black first}) = \frac{6}{10}$; $P(\text{black second} \mid \text{black first}) = \frac{5}{9}$. Product: $\frac{6}{10} \times \frac{5}{9} = \frac{30}{90} = \frac{1}{3}$.
- 20) **Choice C is correct.** **(8.G.B.7)** $A = 1000(1.08)^2 = 1000 \times 1.1664 = \$1,166.40 \approx \$1,166$.
- 21) **The correct answer is A,D.** **(8.G.B.8)** A is correct: P's smaller MAD (3 vs 7) means values cluster more tightly around the mean. D is correct: we are told both have 10 values. B is incorrect: P has less variability. C is not guaranteed by MAD alone, and E is incorrect because both means are equal at 50.
- 22) **Choice D is correct.** **(8.EE.A.2)** If the volume is 343 cubic units, then $e^3 = 343$, so $e = \sqrt[3]{343} = 7$ units.
- 23) **Choice D is correct.** **(8.EE.A.4)** Divide coefficients: $3.6 \div 1.2 = 3$. Subtract exponents: $10^{6-2} = 10^4$. Result: 3×10^4 .
- 24) **Choice C is correct.** **(8.F.A.3)** $y = x^2 + 7$ has x squared, making it nonlinear (quadratic). The other three are linear functions in the form $y = mx + b$.
- 25) **Choice B is correct.** **(8.G.A.2)** Both reflection and translation are rigid motions that preserve area. The final shape is congruent to the original, so it has the same area: 24 square units.
- 26) **Choice A is correct.** **(8.G.B.8)** Distance $= \sqrt{6^2 + 8^2} = \sqrt{36 + 64} = \sqrt{100} = 10$ units.
- 27) **Choice B is correct.** **(8.G.B.7)** Alternate interior angles are congruent when a transversal cuts parallel lines. So $m = 55^\circ$.



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Hi, Calm Solver!

◇ This full-length book gave you ten complete Grade 8 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. A calm mind can see choices more clearly. That matters in Grade 8, where one problem may have several possible entry points. ◇

★ **Remember this:** You practiced building calm by doing full tests. Each completed page is rehearsal for staying steady when the real test feels serious. ★

Calm-Test Moves

- **Pause:** Give your brain one quiet second.
- **Choose:** Pick the first useful step.
- **Continue:** Do not demand perfection immediately.
- **Check:** Use review time wisely.

Grade 8 test-day tip: If you feel rushed, slow your reading for one sentence. Clear reading saves time.

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

Jay Daie

Your Calm-Test Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **10** full-length Math practice tests and **2** online tests to help Grade 8 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:

10

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.



Master Key Skills

Develop strong math skills and problem solving abilities.



Improve Understanding

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



Test Strategies

Learn proven strategies to approach every question with confidence.



Boost Performance

Apply your knowledge and achieve your best score!

TOPICS COVERED

- | | |
|---------------------------|----------------------------|
| ✓ The Number System | ✓ Statistics & Probability |
| ✓ Expressions & Equations | ✓ Data Analysis |
| ✓ Inequalities | ✓ Measurement |
| ✓ Functions | ✓ Pythagorean Theorem |
| ✓ Geometry | ✓ Surface Area & Volume |
| ✓ Ratios & Proportions | ✓ 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!



PRACTICE
REGULARLY



STAY
FOCUSED



SOLVE
CONFIDENTLY



SUCCEED
BRIGHTLY