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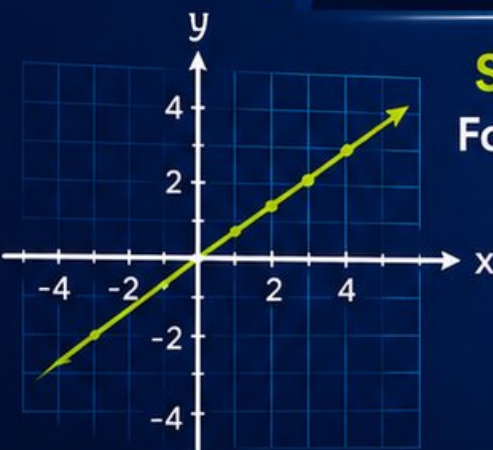
Louisiana LEAP

GRADE 8

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs



$$V = s^3$$



$$y = mx + b$$
$$2x + 5 = 13$$
$$x = 4$$



3

 PRINTED TESTS

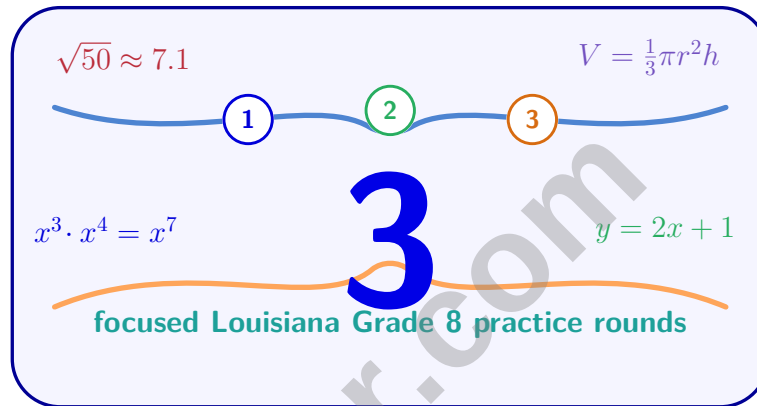
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 ONLINE TESTS

Use these **two additional online practice tests** for extra review after the printed tests in this book.

3 Louisiana LEAP Grade 8 Math Practice Tests

Targeted LEAP Review for Algebra, Geometry, and Data Skills



Three complete 40-question Grade 8 LEAP practice rounds with real numbers, exponents, scientific notation, equations, functions, transformations, 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!

Three focused rounds for sharper LEAP math thinking

This book gives you three full Grade 8 LEAP math practice tests. Each round is built to help you recognize structure, reason with real numbers and exponents, analyze linear relationships, connect equations with graphs, and explain your thinking with care.

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 three-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 an exponent rule, equation, graph, transformation, diagram, 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.

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?

Three LEAP tests, 120 questions, and a focused review path

Part	What You Will Practice
Tests 1–2	Real numbers, exponents, scientific notation, equations, and careful reading.
Test 3	Functions, systems, transformations, geometry, data analysis, and multi-step problem solving.
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.



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& answers

Table of Contents



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1) A loan of \$5,000 at 5% simple interest is repaid in 4 equal annual installments. What is the total amount paid?

☐ A. \$5,000

☐ C. \$6,000

☐ B. \$5,500

☐ D. \$6,250

2) A cylinder has radius 5 cm and height 12 cm. What is the lateral surface area (side only, not including the bases)?

☐ A. $60\pi \text{ cm}^2$

☐ C. $150\pi \text{ cm}^2$

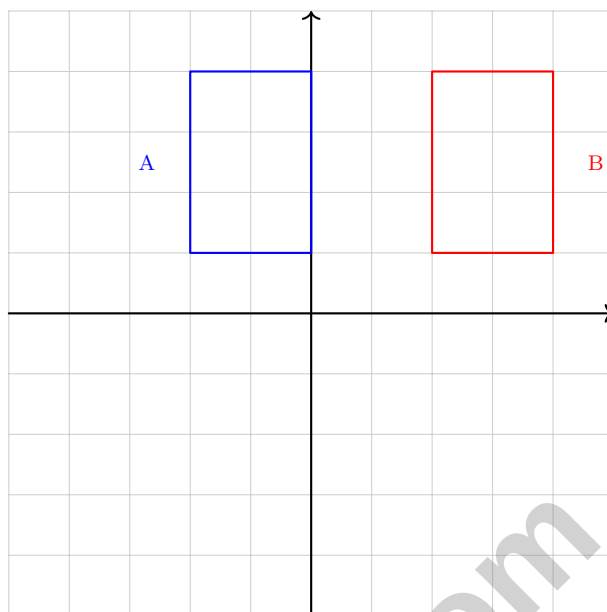
☐ B. $120\pi \text{ cm}^2$

☐ D. $300\pi \text{ cm}^2$

3) The mass of the Sun is approximately 2×10^{30} kg. How many times more massive is the Sun than Earth, which has mass 6×10^{24} kg?



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4)

The figure shows shape A and shape B. Which single transformation maps A to B?

- ☐ A. Reflection across the y -axis ☐ C. Rotation 90° counterclockwise
☐ B. Translation 4 units right ☐ D. Dilation with scale factor 2

5) What is the slope of a line passing through $(-1, 4)$ and $(2, -2)$?

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

6) What is the solution to $9 - x = 4$?

- ☐ A. $x = 5$ ☐ C. $x = 13$
☐ B. $x = -5$ ☐ D. $x = 36$

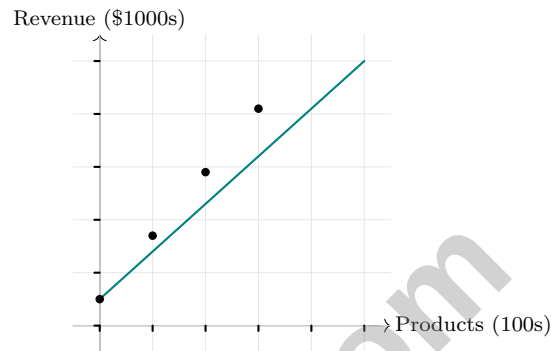


- 7) A cone has a volume of 314 cm^3 and height of 12 cm. What is its radius? (Use $\pi \approx 3.14$.)

☐ A. 3 cm

☐ C. 5 cm

☐ B. 4 cm

☐ D. 6 cm


8)

A company's revenue model is $R = 12x + 500$, where R is revenue and x is the number of products sold. If revenue is \$8,900, how many products were sold?

☐ A. 525

☐ C. 675

☐ B. 700

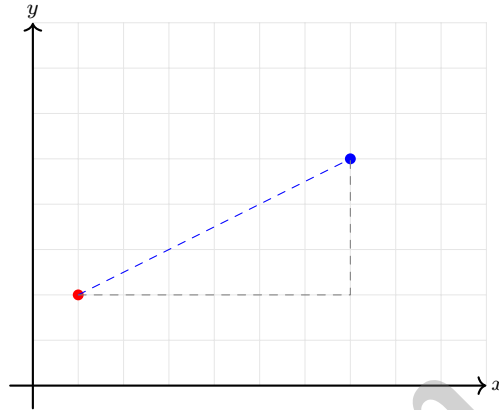
☐ D. 725

- 9) Convert the mixed decimal $0.5\overline{8}$ to a fraction in simplest form.



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- 1) Two vertices of a rectangle are at $(1, 2)$ and $(7, 5)$. What is the length of the diagonal connecting these two vertices?



- ☐ A. $\sqrt{45}$ ☐ C. 10
☐ B. 9 ☐ D. 13
- 2) Write $0.\overline{8}$ as a fraction in simplest form.
- ☐ A. $\frac{1}{8}$ ☐ C. $\frac{8}{99}$
☐ B. $\frac{8}{10} = \frac{4}{5}$ ☐ D. $\frac{8}{9}$
- 3) $\sqrt{89}$ is between 9 and 10. Which decimal is the better approximation?
- ☐ A. 9.7 ☐ C. 9.6
☐ B. 9.5 ☐ D. 9.4
- 4) Is $\sqrt{7} + 2$ greater than, less than, or equal to 4.6?
- ☐ A. Cannot be determined ☐ C. Exactly 4.6
☐ B. Less than 4.6 ☐ D. Greater than 4.6



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5) Multiply $(2 \times 10^3) \times (3 \times 10^2)$. Express in scientific notation.

☐ A. 60×10^5

☐ C. 5×10^5

☐ B. 6×10^6

☐ D. 6×10^5

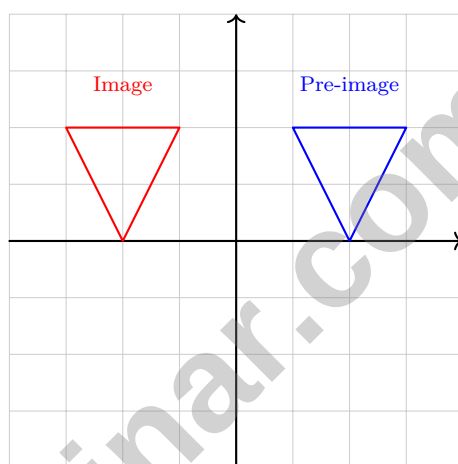
6) A cube has an edge length of 3 inches. Find its total surface area.

☐ A. 9 in^2

☐ C. 54 in^2

☐ B. 27 in^2

☐ D. 81 in^2



7)

The triangle was reflected across which line?

☐ A. $y = x$

☐ C. The y -axis

☐ B. $y = -x$

☐ D. The line $y = 2$



1) Approximately how many times larger is 3×10^5 than 5×10^4 ?

☐ A. About 10 times

☐ C. About 6 times

☐ B. About 60 times

☐ D. About 100 times

2) A data point is at $(6, 8)$. The trend line at $x = 6$ gives a predicted value of $y = 7$. What is the residual?

☐ A. 14

☐ C. 1

☐ B. 7

☐ D. -1

3) Rectangle X is similar to Rectangle Y . Rectangle X has perimeter 20 m. Rectangle Y has perimeter 50 m. What is the ratio of the side lengths (X to Y)?

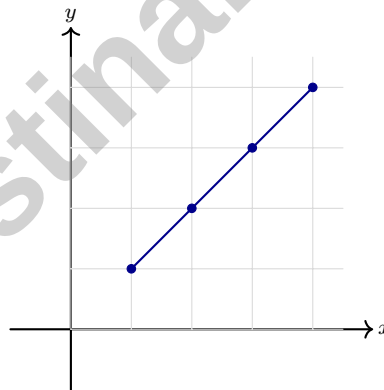
☐ A. $2 : 5$

☐ C. $5 : 2$

☐ B. $4 : 25$

☐ D. $25 : 4$

4) The graph shows function h . Which of the following is true?



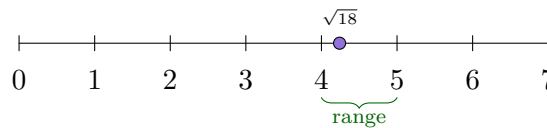
☐ A. $h(2) = 3$

☐ C. $h(3) = 2$

☐ B. $h(1) = 1$

☐ D. $h(4) = 3$





5)

Between which two whole numbers does $\sqrt{18}$ lie?

☐ A. 3 and 4

☐ C. 5 and 6

☐ B. 6 and 7

☐ D. 4 and 5

6) A student claims that $0.\overline{3}$ is less than $\frac{1}{3}$. Which is true?

☐ A. The student is correct; $0.\overline{3} < \frac{1}{3}$.

☐ C. The student is incorrect; $0.\overline{3} > \frac{1}{3}$.

☐ B. We cannot compare them without a calculator.

☐ D. The student is incorrect; $0.\overline{3} = \frac{1}{3}$.

7) A student claims $\sqrt{50}$ is between 5 and 6 because 50 is between 5 and 6. What is the student's error?

☐ A. Correct reasoning

☐ D. Should compare 50 to perfect squares, not integers

☐ B. Should use 7 and 8 instead

☐ C. $\sqrt{50}$ is actually an integer

8) Which statement is true?

☐ A. $\sqrt{36}$ is irrational

☐ C. $\sqrt{11}$ is irrational

☐ B. π is rational

☐ D. $0.333\ldots$ is irrational


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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.B.7) Interest: $I = 5000 \times 0.05 \times 4 = \$1,000$. Total: $5000 + 1000 = \$6,000$.
- 2) **Choice B is correct.** (8.G.C.9) Lateral surface area $= 2\pi rh = 2\pi(5)(12) = 120\pi \text{ cm}^2$.
- 3) **The correct answer is 3.33×10^5 .** (8.EE.A.3) Divide: $\frac{2 \times 10^{30}}{6 \times 10^{24}} = \frac{2}{6} \times 10^6 = \frac{1}{3} \times 10^6 \approx 3.33 \times 10^5$.
- 4) **Choice B is correct.** (8.G.A.1) Shape A has a corner at $(-2, 1)$ and shape B has a corresponding corner at $(2, 1)$. The horizontal shift is $2 - (-2) = 4$ units.
- 5) **Choice D is correct.** (8.EE.B.6) Slope $= \frac{-2 - 4}{2 - (-1)} = \frac{-6}{3} = -2$.
- 6) **Choice A is correct.** (8.EE.C.7) Subtract 9: $-x = -5$. Multiply by -1 : $x = 5$. Check: $9 - 5 = 4$ ✓. (Distractor B: sign error; C: adding instead of subtracting.)
- 7) **Choice C is correct.** (8.G.C.9) From $V = \frac{1}{3}\pi r^2 h$: $314 = \frac{1}{3} \times 3.14 \times r^2 \times 12 \Rightarrow r^2 = 25 \Rightarrow r = 5 \text{ cm}$.
- 8) **Choice B is correct.** (8.SP.A.3) Set $R = 8900$: $8900 = 12x + 500 \Rightarrow 12x = 8400 \Rightarrow x = 700$.
- 9) **The correct answer is $\frac{53}{90}$.** (8.NS.A.1) Set $x = 0.5\bar{8} = 0.5888\dots$. Then $10x = 5.\bar{8}$ and $100x = 58.\bar{8}$. Subtracting: $90x = 53$, so $x = \frac{53}{90}$.
- 10) **Choice D is correct.** (8.EE.A.1) $\frac{5^6}{5^2} = 5^{6-2} = 5^4 = 625$.
- 11) **Choice C is correct.** (8.EE.B.5) $k = \frac{4}{8} = \frac{1}{2} = 0.5$.
- 12) **Choice C is correct.** (8.EE.C.8a) Add the equations: $(x + 2y) + (3x - 2y) = 10 + 2$, so $4x = 12$, giving $x = 3$. Substitute: $3 + 2y = 10$, so $2y = 7$ and $y = \frac{7}{2}$. Solution: $(3, \frac{7}{2})$.
- 13) **Choice A is correct.** (8.EE.C.8b) Add 6: $2x \leq 16$. Divide by 2: $x \leq 8$.
- 14) **Choice A is correct.** (8.EE.C.7) Area $= (2x + 1)(x + 3) = 2x^2 + 6x + x + 3 = 2x^2 + 7x + 3 \text{ m}^2$.
- 15) **Choice C is correct.** (8.EE.C.8b) SOLID boundary (includes line) + BELOW shading $= \leq$. Verify: $(0, 0)$ in shaded region: $0 \leq -\frac{1}{2}(0) + 3 = 3$ ✓ TRUE. Distractor A shows algebra error (forgot flip); B shows double error; D shows inverted shading.
- 16) **Choice C is correct.** (8.F.A.1) For each time of day, there is exactly one temperature reading. Options A, B, and D can give more than one output for the same input.
- 17) **Choice C is correct.** (8.F.A.2) Slope of p : $\frac{3}{2} = 1.5$. From table q : $(5 - 2)/(2 - 0) = 3/2 = 1.5$. Both have slope 1.5.
- 18) **Choice A is correct.** (8.F.B.4) Initial length is 10 cm (when $w = 0$). Change from 2 to 4 weights: length goes from 14 to 18 cm, a change of 4 cm for 2 weights, so slope is 2. Equation: $L = 2w + 10$.
- 19) **Choice D is correct.** (8.F.B.5) From $x = 0$ to $x = 3$, the function values drop from 5 to 2, so the function is decreasing over this interval.
- 20) **The correct answer is A,C.** (8.NS.A.1) Statement A is true because rational numbers are closed under addition. Statement C is true because any terminating decimal, such as $0.75 = \frac{3}{4}$, is rational. Statement B is false because two irrational numbers can multiply to a rational number, for example $\sqrt{2} \times \sqrt{8} = 4$. Statement D is false because integers are rational. Statement E is false because perfect squares have rational square roots, not irrational ones.
- 21) **Choice C is correct.** (8.G.A.3) Under 180° rotation, $(x, y) \rightarrow (-x, -y)$: $(1, 0) \rightarrow (-1, 0)$, $(3, 0) \rightarrow (-3, 0)$, $(2, 3) \rightarrow (-2, -3)$.
- 22) **Choice D is correct.** (8.G.A.5) Corresponding angles are equal: $5x - 10 = 3x + 50$, so $2x = 60$ and $x = 30$.
- 23) **Choice C is correct.** (8.G.B.6, 8.G.B.7) Check C: $7^2 + 9^2 = 49 + 81 = 130 \neq 121 = 11^2$. All others satisfy the Pythagorean Theorem (A: 9-12-15 is 3-4-5 scaled by 3; B: 6-8-10 is 3-4-5 scaled by 2; D: 20-21-29 is a Pythagorean triple).
- 24) **Choice C is correct.** (8.G.C.9) When linear scale is $k = \frac{3}{2}$, volume scales by $k^3 = (\frac{3}{2})^3 = \frac{27}{8}$.
- 25) **Choice B is correct.** (8.G.B.7) For a semicircle on top of a rectangle, the top edge of the rectangle is NOT part of the perimeter outline; it's replaced by the semicircular arc. The student added both, overcounting.



Hi, Grade 8 Math Star!

◇ You finished this practice set with real effort. Grade 8 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 3 full Grade 8 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 8 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 8 Math Friend

PRACTICE TODAY, ACHIEVE TOMORROW!

GRADE
8

Give your child the edge they need with **3 full-length** Grade 8 Math practice tests that reflect real test formats and cover all key math standards. Perfect for building skills, boosting confidence, and preparing for success on test day!



WHAT'S INSIDE?



Standards-Aligned Practice

Questions designed to cover essential Grade 8 math standards.



Variety of Question Types

Multiple-choice, short answer, and more to build well-rounded skills.



Real-World Applications

Engaging problems that connect math to everyday life.



Step-by-Step Progress

Track improvement and build confidence with every test.



Build Skills & Boost Confidence

Strengthen understanding and feel prepared for test day.

COVERS ALL ESSENTIAL TOPICS

- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Ratios & Proportional Relationships
- ✓ Linear Equations
- ✓ Functions
- ✓ Geometry
- ✓ Measurement & Data
- ✓ Statistics & Probability
- ✓ Pythagorean Theorem
- ✓ Volume & Surface Area
- ✓ Transformations
- ✓ Inequalities
- ✓ Data Analysis & Graphing
- ✓ And More!



2 Extra Online Practice Tests Included!

Use these two additional online practice tests for extra review after the printed tests.

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PRACTICE. PREPARE. SUCCEED.



Testinar

More Practice. More Confidence.
Better **Results**.