

6 Louisiana LEAP

GRADE 8 MATH PRACTICE TESTS

Standards Aligned Problem Solving For
Comprehensive Assessment Programs



6 PRINTED
TESTS



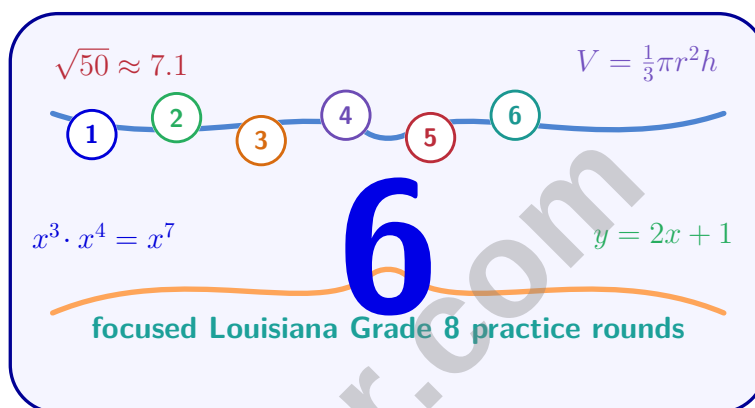
2 ONLINE
TESTS



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

6 Louisiana LEAP Grade 8 Math Practice Tests

Grade 8 Standards Practice with Mixed Skills and Complete Answer Support



Six 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



Copyright ©

Testinar Inc



Published by Testinar Inc

Testinar.com

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the author, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law, including Section 107 or 108 of the 1976 United States Copyright Act.

This publication is independently produced and has no official connection to any state, district, or national testing program.

Test names and organizational names used herein are the property of their respective trademark holders.



Copyright ©

Welcome, Louisiana Grade 8 Problem Solver!

Six focused rounds for sharper LEAP math thinking

This book gives you six 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 six-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?

Six LEAP tests, 240 questions, and a complete review path

Part	What You Will Practice
Tests 1–3	Real numbers, exponents, scientific notation, equations, and careful reading.
Tests 4–6	Functions, systems, transformations, geometry, data analysis, and multi-step problem solving.
Answer Pages	Compact keys and explanations that show why each answer works.

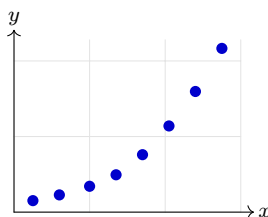
The tests are mixed on purpose. Grade 8 success means recognizing which idea is being tested even when the next question changes format.



Scan me!
For more practice
& answers

Table of Contents

★ Practice Test 1	_____	15
★ Practice Test 2	_____	30
★ Practice Test 3	_____	45
★ Practice Test 4	_____	60
★ Practice Test 5	_____	76
★ Practice Test 6	_____	91
Practice Test Answer Keys	_____	106
Practice Test Answers and Explanations	_____	110



1)

A scatter plot shows the population of a city over 50 years. The points follow an exponential growth curve: slow growth initially, then rapid growth. This is an example of:

- ☐ A. Nonlinear association ☐ D. Positive linear correlation with outliers
☐ B. Negative linear correlation
☐ C. No correlation

2) Which expression equals a rational number?

- ☐ A. $\sqrt{2} \times \sqrt{3}$ ☐ C. $\sqrt{3} + \sqrt{3}$
☐ B. $\sqrt{4} + \sqrt{5}$ ☐ D. $\sqrt{9} \times \sqrt{4}$

3) A savings account earns 2% simple interest annually. If you deposit \$6,000, how much will you have after 2 years?

- ☐ A. \$6,120 ☐ C. \$6,240
☐ B. \$6,180 ☐ D. \$6,300

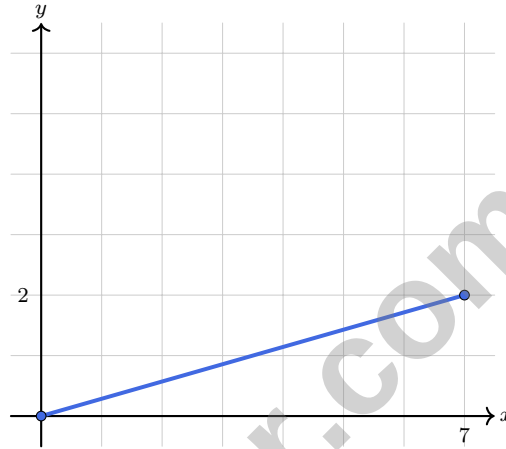
4) Divide $\frac{8.4 \times 10^6}{2.1 \times 10^3}$. Express in scientific notation.

- ☐ A. 4×10^2 ☐ C. 6.3×10^3
☐ B. 0.4×10^2 ☐ D. 4×10^3



Scan me!
For more practice
& answers

- 5) Two trend-line slopes are 1.2 and 1.1. What is their difference?



6)

The slope is approximately:

- ☐ A. 3.5 ☐ C. 0.29
☐ B. 0.43 ☐ D. 2.86
- 7) A jar contains 4 white tokens, 6 black tokens, and 5 red tokens. Two tokens are drawn without replacement. What is the probability that both tokens are black? Express your answer as a fraction in simplest form.



8) The value of $\sqrt{42.5}$ is closest to?

☐ A. 6.8

☐ C. 6.7

☐ B. 6.6

☐ D. 6.5

9) Simplify $\frac{(k^2)^3 \cdot k^{-1}}{k^5}$.

☐ A. k^{-5}
☐ C. k^{10}
☐ B. k^2
☐ D. $k^0 = 1$

10) A square field has an area of 256 square meters. What is its perimeter?

☐ A. 32 meters

☐ C. 64 meters

☐ B. 48 meters

☐ D. 96 meters

11) Error analysis: A student says “ $y = 2x$ and $y = 2x + 5$ have the same slope.” Is this correct?

☐ A. Yes, both slopes are 2

☐ C. No, slopes are 0 and 2

☐ B. No, slopes are 2 and 5

☐ D. Cannot determine

12) Which of these functions is LINEAR?

☐ A. $y = 4x^2 - 1$
☐ C. $y = \frac{2}{x+3}$
☐ B. $y = 10x - 6$
☐ D. $y = 3^x$

13) A fitness trainer charges a client based on the number of sessions attended. The data table shows:

Sessions	2	5	8
Cost (\$)	60	150	240

What is the slope (cost per session)?

☐ A. \$30 per session

☐ C. \$20 per session

☐ B. \$60 per session

☐ D. \$150 per session


Scan me!
For more practice
& answers

+ -

.....

19

.....

× ÷

Testinar.com

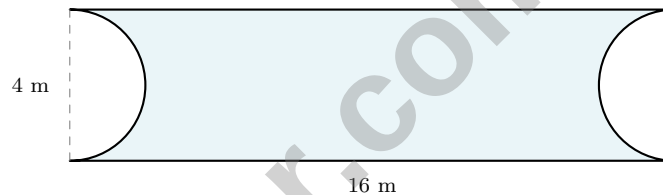
Decimal Classification	
Terminating	Repeating
0.25 0.5	$0.\overline{33}$ $0.\overline{142857}$

1)

Both categories shown contain rational numbers. Which is irrational?

- ☐ A. 0.1234567 (terminating) ☐ C. $\frac{22}{7}$
☐ B. 0.999... (repeating 9's) ☐ D. 0.3030030003... (non-repeating)

2) A composite figure has a rectangle (16 m by 4 m) with a semicircle (diameter 4 m) removed from each short end. Find the perimeter of the resulting outline.



- ☐ A. 32 m ☐ C. 44.56 m
☐ B. 40 m ☐ D. 52.56 m

3) In a regular hexagon, each interior angle measures:

- ☐ A. 144° ☐ C. 90°
☐ B. 120° ☐ D. 108°

4) Two similar triangles have corresponding sides in the ratio 2 : 7. The smaller triangle has a side of 6 cm. Find the length of the corresponding side in the larger triangle.



Scan me!
For more practice
& answers

5) The table below shows preferences for sports among 100 students.

	Football	Basketball	Total
Boys	35	20	55
Girls	15	30	45
Total	50	50	100

How many boys prefer basketball?

☐ A. 15

☐ C. 35

☐ B. 20

☐ D. 50

6) A data set has $MAD = 0$. What must be true about the data?

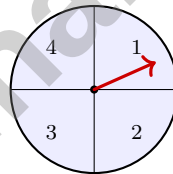
☐ A. All values are zero

☐ C. There is exactly one value

☐ B. The mean is zero

☐ D. All values are identical

7) A spinner with 4 equal sections is spun twice. What is the probability of landing on section 1 at least once?



☐ A. $\frac{7}{16}$

☐ C. $\frac{1}{8}$

☐ B. $\frac{9}{16}$

☐ D. $\frac{1}{2}$

8) A license plate has 2 letters followed by 3 digits. Letters can be any of A through Z, and digits can be 0 through 9. How many possible license plates are there?

☐ A. $26^2 \times 10^3 = 676,000$

☐ C. $26 \times 10 = 260$

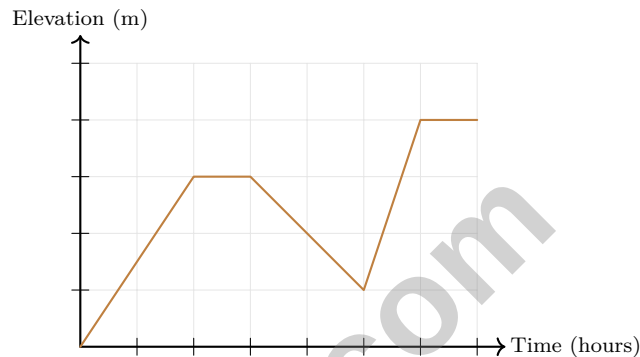
☐ B. $26 + 26 + 10 + 10 + 10 = 82$

☐ D. $(26 + 10)^5 = 60,466,176$



- 1) A restaurant offers 10 appetizers, 12 mains, 5 sides, and 6 desserts. A complete meal includes one appetizer, one side, and one dessert. How many different complete meals can be ordered?

- ☐ A. $10 + 5 + 6 = 21$
☐ C. $10 \times 5 \times 6 = 300$
☐ B. $10 \times 12 \times 5 \times 6 = 3,600$
☐ D. $(10 + 12) \times 5 \times 6 = 660$



2)

A hiker starts at sea level. Which part of the journey involves going downhill?

- ☐ A. From 0 to 2 hours
 ☐ C. From 3 to 5 hours
☐ B. From 2 to 3 hours
 ☐ D. From 5 to 7 hours

- 3) A square has area 50 square units. What is the approximate length of its diagonal?

- ☐ A. $\sqrt{50}$ units
 ☐ C. 7.07 units (approximately $5\sqrt{2}$)
☐ B. 10 units
 ☐ D. 25 units

- 4) A segment has length 20 cm and is dilated by a scale factor of 0.4. What is the new length?

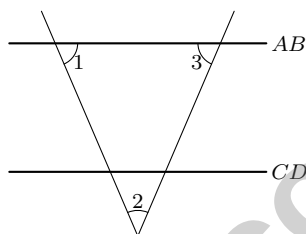
- ☐ A. 8 cm
 ☐ C. 24 cm
☐ B. 20 cm
 ☐ D. 50 cm



Scan me!
For more practice
& answers

- 5) How many solutions does the system $\begin{cases} y = \frac{1}{2}x + 1 \\ y = \frac{1}{2}x + 4 \end{cases}$ have? Explain why.

- 6) In the diagram, $AB \parallel CD$. If angle 1 is 63° and angle 2 is 95° , what is angle 3?



- ☐ A. 22°
☐ C. 42°
☐ B. 32°
☐ D. 52°
- 7) Multiply: $(3x + 4)(2x - 1)$
- ☐ A. $5x^2 + 5x - 4$
☐ C. $6x^2 + 5x - 4$
☐ B. $6x^2 + 11x - 4$
☐ D. $6x^2 - 3x - 4$
- 8) Which set of ordered pairs does NOT represent a function?
- ☐ A. $\{(0, 5), (1, 6), (2, 7), (3, 8)\}$
☐ C. $\{(1, 3), (2, 3), (3, 3), (4, 3)\}$
☐ B. $\{(1, 1), (2, 4), (3, 9), (4, 16)\}$
☐ D. $\{(2, 4), (2, 5), (3, 6), (4, 7)\}$



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.

Testinar.com



Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** (8.SP.A.1) An exponential curve is nonlinear. The rate of change is not constant, increasing over time.
- 2) **Choice D is correct.** (8.NS.A.1) $\sqrt{9} \times \sqrt{4} = 3 \times 2 = 6$, which is rational. The other expressions yield irrationals: $\sqrt{3} + \sqrt{3} = 2\sqrt{3}$, $\sqrt{4} + \sqrt{5} = 2 + \sqrt{5}$, and $\sqrt{2} \times \sqrt{3} = \sqrt{6}$.
- 3) **Choice C is correct.** (8.G.B.7) Interest: $I = 6000 \times 0.02 \times 2 = \240 . Total: $6000 + 240 = \$6,240$.
- 4) **Choice D is correct.** (8.EE.A.3) Divide coefficients and subtract exponents: $\frac{8 \cdot 4}{2 \cdot 1} = 4$ and $10^{6-3} = 10^3$, giving 4×10^3 .
- 5) **The correct answer is 0.1.** (8.SP.A.2) Compute $1.2 - 1.1 = 0.1$.
- 6) **Choice C is correct.** (8.EE.B.5) Slope = $\frac{2}{7} \approx 0.286 \approx 0.29$. This is a shallow line (slope less than 1).
- 7) **The correct answer is $\frac{1}{7}$.** (8.G.B.7) Total: 15 tokens. $P(\text{black first}) = \frac{6}{15}$; $P(\text{black second} \mid \text{black first}) = \frac{5}{14}$. Product: $\frac{6}{15} \times \frac{5}{14} = \frac{1}{7}$.
- 8) **Choice D is correct.** (8.NS.A.2) $(6.5)^2 = 42.25$ and $(6.6)^2 = 43.56$. Since 42.5 is closer to 42.25, $\sqrt{42.5}$ is closer to 6.5.
- 9) **Choice D is correct.** (8.EE.A.1) $(k^2)^3 = k^6$; then $k^6 \cdot k^{-1} = k^5$; then $\frac{k^5}{k^5} = k^0 = 1$.
- 10) **Choice C is correct.** (8.EE.A.2) Area = 256, so $s = \sqrt{256} = 16$ m. Perimeter = $4s = 4 \times 16 = 64$ m.
- 11) **Choice A is correct.** (8.F.A.2) Both $y = 2x$ and $y = 2x + 5$ have slope $m = 2$. The y -intercepts differ (0 vs 5), but slopes are equal. Student is correct.
- 12) **Choice B is correct.** (8.F.A.3) $y = 10x - 6$ is in the form $y = mx + b$ with $m = 10$ and $b = -6$, making it linear. The others involve exponents, fractions with x , or exponential bases.
- 13) **Choice A is correct.** (8.EE.B.5) Using (2, 60) and (5, 150): slope = $\frac{150 - 60}{5 - 2} = \frac{90}{3} = \30 per session.
- 14) **Choice C is correct.** (8.EE.C.8c) Initial salt: $0.15(200) = 30$ gallons. After adding x gallons of fresh water: total volume = $200 + x$, salt amount = 30. Setting salinity to 10%: $\frac{30}{200+x} = 0.10$, so $30 = 0.10(200 + x) = 20 + 0.10x$, giving $0.10x = 10$, thus $x = 100$ gal.
- 15) **Choice B is correct.** (8.F.A.1) Solve $50 + 10n = 150$ for n : subtract 50 to get $10n = 100$, so $n = 10$ weeks.
- 16) **Choice C is correct.** (8.G.C.9) Bottom: $4 \times 2 = 8$ sq. ft. Two long sides: $2(4 \times 2.5) = 20$ sq. ft. Two short sides: $2(2 \times 2.5) = 10$ sq. ft. Total = $8 + 20 + 10 = 38$ sq. ft.
- 17) **The correct answer is 24.** (8.EE.C.7b) Calculate the factorial: $4! = 4 \times 3 \times 2 \times 1 = 24$ different arrangements.
- 18) **Choice A is correct.** (8.EE.B.6) Slope = $\frac{3-7}{0-(-2)} = \frac{-4}{2} = -2$. When $x = 0$, $y = 3$, so $b = 3$. Thus $y = -2x + 3$.
- 19) **The correct answer is $\frac{34}{99}$.** (8.NS.A.1) Set $x = 0.\overline{34}$, so $100x = 34.\overline{34}$. Subtracting: $100x - x = 34$, giving $99x = 34$ and $x = \frac{34}{99}$.
- 20) **Choice C is correct.** (8.G.A.1) A 180° rotation about the origin maps $(x, y) \rightarrow (-x, -y)$. The pre-image at (1, 1) maps to $(-1, -1)$ in the image, confirming the rotation.
- 21) **Choice D is correct.** (8.EE.C.7) Perimeter = $2(\text{length}) + 2(\text{width}) = 2(w + 3) + 2w = 26$.
- 22) **The correct answer is A, C.** (8.G.A.4) Correct: (A) All linear measurements (sides, perimeter) are multiplied by 2.5. (C) Area is multiplied by $(2.5)^2 = 6.25$. Incorrect: (B) Angles are congruent in dilation, not scaled. (D) Perimeter is multiplied, not divided, by 2.5. (E) Dilation preserves shape; polygon type does not change.
- 23) **Choice D is correct.** (8.EE.C.8b) Subtract 8: $-3x \geq -6$. Divide by -3 (FLIP): $x \leq 2$.
- 24) **Choice B is correct.** (8.EE.C.8b) SOLID line means the boundary is INCLUDED ($\leq$ or $\geq$). Shading to the LEFT means x values are at most 4, so $x \leq 4$.
- 25) **Choice C is correct.** (8.G.C.9) Volume of a sphere: $V = \frac{4}{3}\pi r^3 = \frac{4}{3} \times 3.14 \times 6^3 = \frac{4}{3} \times 3.14 \times 216 = \frac{4}{3} \times 678.24 = 904.32$ cm³.
- 26) **Choice B is correct.** (8.SP.A.3) The line crosses the y -axis at (0, 1), so the y -intercept is 1.
- 27) **Choice D is correct.** (8.NS.A.2) Since $5.5^2 = 30.25 \approx 30$, we have $\sqrt{30} \approx 5.48$.



You Are Building Test Stamina

Hi, Stamina Builder!

◇ This deep and steady book gave you six full Grade 8 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. Completing practice tests builds more than math knowledge. It builds the focus needed to think clearly for a long stretch. ◇

★ **Remember this:** That stamina matters. On real test day, calm pacing can be just as important as remembering a formula. ★

Stamina Skills

- **Breathe:** Reset before a difficult page.
- **Pace:** Do not spend too long in one place.
- **Return:** Come back to skipped questions with fresh eyes.
- **Finish Strong:** Use the last minutes to check.

Grade 8 test-day tip: Practice a simple reset: pause, breathe, reread, then choose your next step.

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

Jay Daie

Your Test-Stamina Coach

PRACTICE TODAY. ACHIEVE TOMORROW.

6

Give your child the confidence and skills they need with **6 full-length Grade 8 Math** practice tests that reflect real test formats and cover all key math standards. Perfect for building skills, strengthening problem-solving abilities, and achieving 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.



COVERS ALL ESSENTIAL TOPICS

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



6 PRINTED TESTS



2 ONLINE TESTS



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