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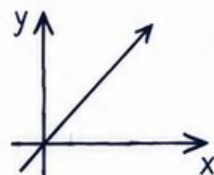
Indiana I LEARN

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



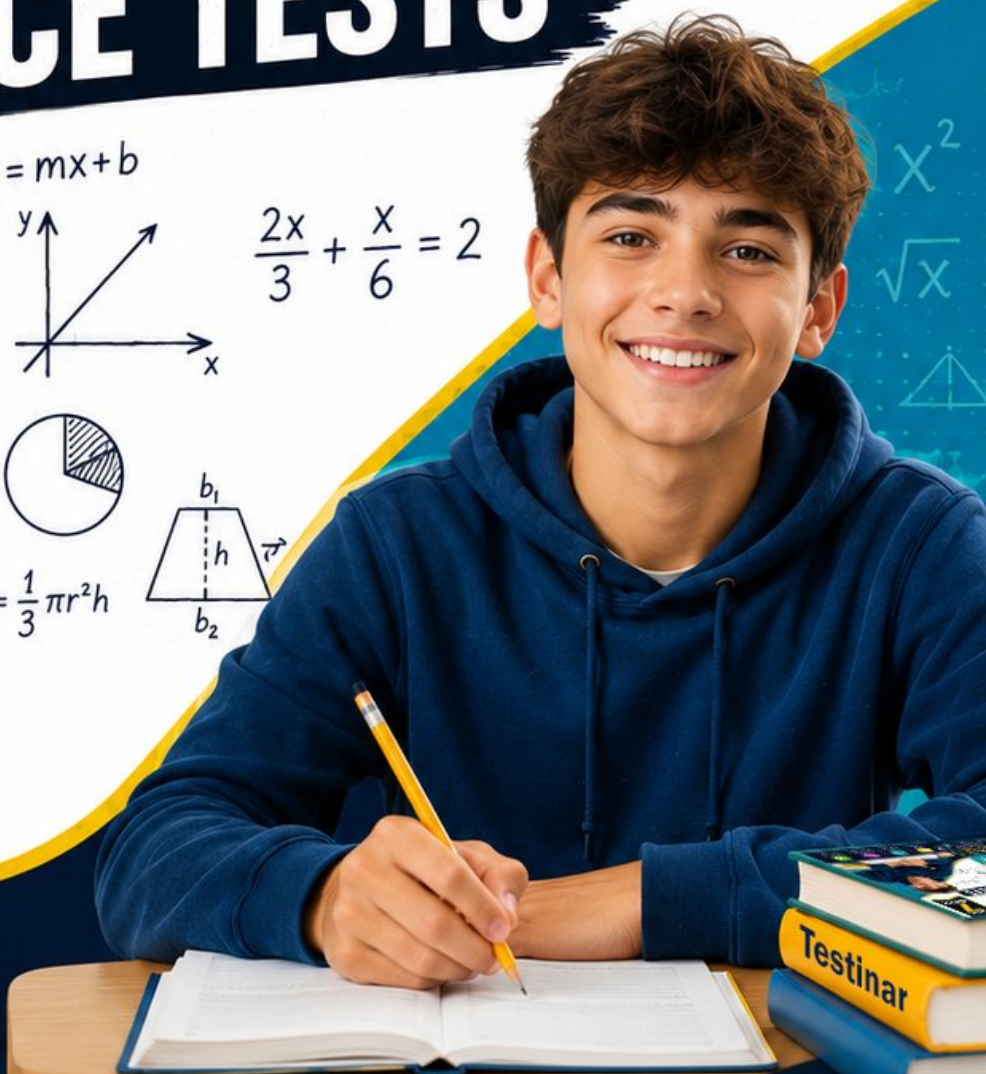
Strengthen
Math Skills



Detailed Answers
& Explanations

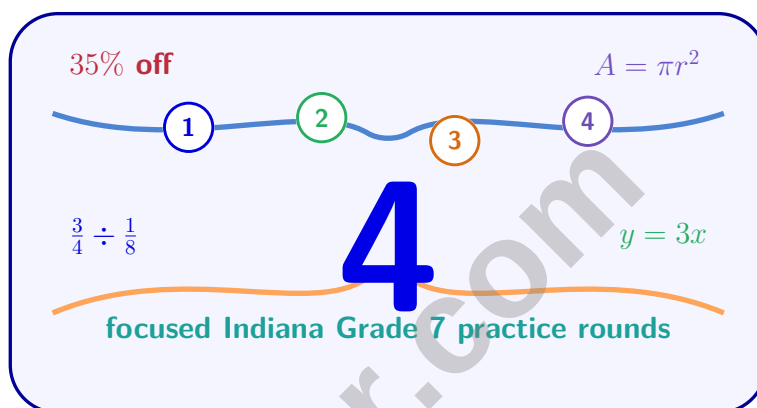


Improve Test
Performance



4 Indiana ILEARN Grade 7 Math Practice Tests

Short, Focused Indiana Practice with Complete Explanations



Four complete 40-question Grade 7 ILEARN 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, Indiana Grade 7 Problem Solver!

Four focused rounds for sharper ILEARN math thinking

This book gives you four full Grade 7 ILEARN 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 Indiana 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.

Indiana 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 ILEARN 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

Table of Contents

★ Practice Test 1	_____	14
★ Practice Test 2	_____	28
★ Practice Test 3	_____	43
★ Practice Test 4	_____	58
Practice Test Answer Keys	_____	73
Practice Test Answers and Explanations	_____	76

- 1) If $m \div (-4) = -7$, what is m ?
- ☐ A. -28 ☐ C. -11
☐ B. 28 ☐ D. 3
- 2) Two exam score distributions have overlapping ranges but different centers. Which pair of statistics best justifies moving a class to a harder curriculum?
- ☐ A. Comparing means only ☐ D. Comparing minimums and maximums
☐ B. Comparing ranges only
☐ C. Comparing medians and MAD
- 3) A dot plot shows quiz scores: 70 (one student), 75 (two students), 80 (four students), 85 (two students), 90 (one student). Which statement is correct?
- ☐ A. The median is 70 ☐ C. The median is 85
☐ B. The median is 80 ☐ D. The median is 90
- 4) A spinner is divided into 5 equal sections labeled A, B, C, D, E . What is the probability of not landing on A ?
- ☐ A. $\frac{1}{5}$ ☐ C. $\frac{4}{5}$
☐ B. $\frac{2}{5}$ ☐ D. $\frac{3}{5}$
- 5) A coin is flipped and a six-sided die is rolled. How many outcomes are in the sample space?
- ☐ A. 6 ☐ C. 12
☐ B. 8 ☐ D. 36



- 6) A dot plot shows the number of cookies sold daily by two bakeries. Bakery A: 15, 16, 16, 17, 17, 17, 17, 18, 19 cookies; Bakery B: 10, 12, 18, 20, 22, 25 cookies. Which bakery has more stable sales?

- ☐ A. Bakery A (most values cluster at 16–17)
- ☐ B. Bakery B (sold more cookies overall)
- ☐ C. Both bakeries have identical sales patterns
- ☐ D. Bakery B (wider range shows more opportunity)
- 7) On a number line, if the point -12 is 12 units from zero, how many units from zero is the point 12?



- 8) Three coins are flipped. What is the probability of getting at least one head?

- ☐ A. $\frac{1}{8}$
- ☐ B. $\frac{3}{8}$
- ☐ C. $\frac{6}{8}$
- ☐ D. $\frac{7}{8}$
- 9) A charity conducted a phone survey calling 500 households. 340 people answered and agreed to participate. Based on this experimental data, what is the probability that a randomly called household will answer and agree?

- ☐ A. $\frac{340}{500}$
- ☐ B. $\frac{17}{50}$
- ☐ C. 0.32
- ☐ D. $\frac{160}{500}$



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10) The stem-and-leaf plot displays:

Stem	Leaves
3	4, 7, 9
4	1, 2, 5, 8
5	0, 3, 6

Which statement is true?

- ☐ A. The data ranges from 30 to 56 ☐ C. There are 10 data points total
☐ B. Stem 4 contains the fewest values ☐ D. The median falls in stem 4
- 11) A construction worker needs to find the area of a lot shaped like a rectangle (16 yd $\times$ 12 yd) minus a triangular section (12 yd base, 4 yd height) cut from one corner. What is the usable area?
- ☐ A. 168 yd² ☐ C. 192 yd²
☐ B. 176 yd² ☐ D. 216 yd²
- 12) A rectangular prism has length 8 cm, width 6 cm, and height 10 cm. Convert its volume to liters if 1 liter = 1,000 cm³.
- ☐ A. 0.48 L ☐ C. 48 L
☐ B. 480 L ☐ D. 4.8 L



1) An elevator starts at the 5th floor, goes down 8 floors, then up 6 floors. On which floor does it end?

☐ A. Floor -3

☐ C. Floor 3

☐ B. Floor 1

☐ D. Floor 19

2) What is $(2 \times 3) \times (-5)$?

☐ A. -30

☐ C. 10

☐ B. -10

☐ D. 30

3) A construction worker needs to find the side of a square concrete pad with area 289 square feet. What is the side length?

☐ A. 15 feet

☐ C. 17 feet

☐ B. 16 feet

☐ D. 18 feet

4) An electronics store marks up a TV by 25%. If the cost is c dollars, which expression shows the selling price?

☐ A. $c + 0.25c = 1.25c$

☐ C. $0.25c$

☐ B. $c - 0.25c$

☐ D. $c \div 1.25$

5) A smoothie recipe uses ingredients in this ratio:

Berries (cups)	1	2.5	x
Yogurt (cups)	0.5	y	4

What is $x + y$?

☐ A. 10

☐ C. 8

☐ B. 11

☐ D. 9.25



6) Marcus walks 12 meters east. To return to his starting point, he must walk 12 meters west. Which number represents his westward walk?

- ☐ A. -12 (opposite direction) ☐ C. 0 (no displacement)
☐ B. 12 (same direction as eastward walk) ☐ D. -24 (double the distance in opposite direction)

7) Which expression represents “4 less than half of c ”?

- ☐ A. $\frac{c}{2} - 4$ ☐ C. $\frac{c-4}{2}$
☐ B. $4 - \frac{c}{2}$ ☐ D. $\frac{c}{2} + 4$

8) Simplify: $-\frac{1}{2}a + \frac{3}{2}a - a$

- ☐ A. a ☐ C. $\frac{1}{2}a$
☐ B. 0 ☐ D. $2a$

9) A teenager receives \$200 per month. Their budget allocates 40% to savings, 35% to entertainment, 20% to clothing, and the rest to charitable donations. How much money do they allocate to charitable donations each month?

10) A rectangular garden has an area of $12m + 20$ square meters. Which could be the dimensions?

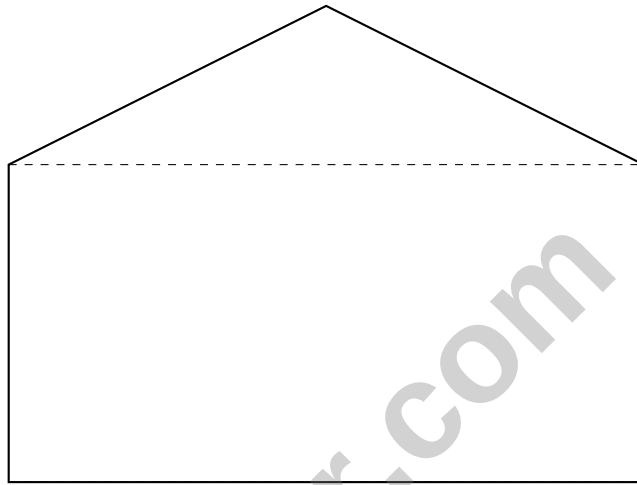
- ☐ A. Length 3, width $4m + 5$ ☐ C. Length 2, width $6m + 10$
☐ B. Length 4, width $3m + 5$ ☐ D. Length 5, width $2.4m + 4$



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- 1) Raw data: 55, 52, 58, 51, 56, 53, 59. After creating a stem-and-leaf plot and ordering, what is the value at the second position?

- ☐ A. 51 ☐ C. 53
☐ B. 52 ☐ D. 55



2)

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 ☐ C. 72 sq units
☐ B. 63 sq units ☐ D. 81 sq units

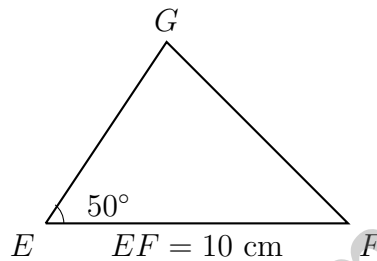
- 3) A triangular prism has a right-triangular base with legs 7 cm and 4 cm, and a depth of 9 cm. What is the volume?

- ☐ A. 20 cm³ ☐ C. 126 cm³
☐ B. 63 cm³ ☐ D. 252 cm³



4) A sector of a circle is best described as:

- ☐ A. A line through the circle ☐ C. A chord and an arc
☐ B. A pie-shaped region bounded by two radii and an arc ☐ D. Half of a circle



5)

Triangle EFG has $EF = 10 \text{ cm}$ and $\angle E = 50^\circ$. To construct this triangle uniquely, we need:

- ☐ A. One more side length ☐ D. Nothing; the triangle is already unique
☐ B. One more angle measure
☐ C. Either another side or another angle

6) A temperature drops 45°F over 9 hours. What is the average drop per hour?

7) Factor: $12p - 8$

- ☐ A. $4(3p - 2)$ ☐ C. $8(4p - 1)$
☐ B. $2(6p - 4)$ ☐ D. $6(2p - 1.33)$



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Indiana ILEARN 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 Indiana ILEARN practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** (7.NS.1-7.NS.3) $m = (-7) \times (-4) = 28$.
- 2) **Choice C is correct.** (7.SP.1-7.SP.4) Medians show typical performance (center). MAD shows consistency. Together, they reveal whether the entire class has shifted up (higher median) with stable performance (stable MAD), justifying curriculum advancement.
- 3) **Choice B is correct.** (7.SP.1-7.SP.4) With 10 students total, the median is between the 5th and 6th values: positions 1 (70), 2–3 (75), 4–7 (80). The 5th and 6th values are both 80, so median = 80.
- 4) **Choice C is correct.** (7.SP.5-7.SP.8) Not A: sections B, C, D, E (4 out of 5). $P(\text{not } A) = \frac{4}{5}$.
- 5) **Choice C is correct.** (7.SP.5-7.SP.8) The coin has 2 outcomes and the die has 6. By the counting principle: $2 \times 6 = 12$ total outcomes.
- 6) **Choice A is correct.** (7.SP.3) Stable sales mean consistent output. Bakery A's clustering at 16–17 with range 4 (15–19) shows stability. Bakery B's spread from 10–25 (range 15) shows inconsistent sales.
- 7) **The correct answer is 12.** (7.NS.1-7.NS.3) Both -12 and 12 are the same distance from zero, which is 12 units. They are opposites.
- 8) **Choice D is correct.** (7.SP.5-7.SP.8) Easier using complement: $P(\text{at least one head}) = 1 - P(\text{all tails}) = 1 - \frac{1}{8} = \frac{7}{8}$.
- 9) **Choice A is correct.** (7.SP.6) Experimental probability = $\frac{340}{500}$. This simplifies to $\frac{17}{25} = 0.68$. Option A gives the most direct form from the observed data.
- 10) **Choice D is correct.** (7.SP.1-7.SP.4) There are 10 values; the median is between the 5th and 6th values, both in stem 4 (45 and 48).
- 11) **Choice A is correct.** (7.G.4-7.G.6) Rectangle: $16 \times 12 = 192 \text{ yd}^2$. Triangle: $\frac{1}{2} \times 12 \times 4 = 24 \text{ yd}^2$. Remaining: $192 - 24 = 168 \text{ yd}^2$.
- 12) **Choice A is correct.** (7.G.4-7.G.6) $V = 8 \times 6 \times 10 = 480 \text{ cm}^3 = 480/1000 = 0.48 \text{ L}$.
- 13) **Choice C is correct.** (7.G.1-7.G.5) Isosceles means at least two equal sides. This triangle has two 3 cm sides, so it IS isosceles (the base does not need to be the longest or different side).
- 14) **The correct answer is -1 .** (7.NS.2) Total change: $(-1.2) \times 5 = -6$ degrees. Final temperature: $5 + (-6) = -1^\circ\text{C}$.
- 15) **Choice B is correct.** (7.G.4-7.G.6) The segment BA passes through the center O and has endpoints on the circle, making it a diameter.
- 16) **Choice C is correct.** (7.SP.5-7.SP.8) $0.75 = \frac{3}{4}$, so it is located $\frac{3}{4}$ of the way along the number line.
- 17) **Choice B is correct.** (7.G.1-7.G.5) Three specific side lengths define exactly one unique triangle (up to congruence) by the SSS condition, provided the Triangle Inequality is satisfied. Check: $6.3 + 8.4 = 14.7 > 10.5$ ✓; all conditions hold, so exactly one triangle exists.
- 18) **Choice C is correct.** (7.SP.1-7.SP.4) $\frac{10}{250} = \frac{x}{50000}$. Reduce: $\frac{1}{25} = \frac{x}{50000} \Rightarrow x = 2000$.
- 19) **The correct answer is B, C.** (7.RP.1-7.RP.3) Option B: cost = $1.50 \times$ pounds (proportional, of form $y = kx$). Option C: distance = speed $\times$ time (proportional). Option A is a general trend but not a strict proportional relationship. Option D: height does not scale proportionally with age (growth rates vary).
- 20) **The correct answer is 100.** (7.NS.1-7.NS.3) Perimeter = $4s = 40$, so $s = 10 \text{ cm}$. Area = $s^2 = 10^2 = 100 \text{ cm}^2$.
- 21) **Choice D is correct.** (7.RP.3) Discount = $0.15 \times 80 = \$12$. Sale price = $80 - 12 = \$68$.
- 22) **Choice D is correct.** (7.NS.1-7.NS.3) $9 - (-4) = 9 + 4 = 13$.
- 23) **Choice C is correct.** (7.SP.1-7.SP.4) 20% of $\$3000 = 0.20 \times 3000 = \600 .
- 24) **Choice D is correct.** (7.RP.3) 5% of 200 is $0.05 \times 200 = 10$.
- 25) **Choice D is correct.** (7.RP.1-7.RP.3) A proportional relationship has the form $y = kx$ and passes through $(0, 0)$. The equation $y = 0.5x + 3$ includes the added constant $+3$, so it has a y -intercept of 3 and is linear but not proportional.
- 26) **Choice C is correct.** (7.RP.3) Increase: $\frac{15}{100} \times 5000 = 750$. New revenue: $5000 + 750 = \$5750$.
- 27) **Choice D is correct.** (7.RP.1-7.RP.3) Unit rate = $\frac{900}{3/4} = 900 \times \frac{4}{3} = 1200$ dollars per house.
- 28) **The correct answer is 24.** (7.EE.1-7.EE.2) Distribute and distribute the negative: $2x + 14 - x + 3 + 5$. Combine like terms: $(2x - x) + (14 + 3 + 5) = x + 22$. With $x = 2$: $2 + 22 = 24$.



Hi, Math Hero!

◇ This carefully paced book gave you four steady Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. You showed up for Grade 7 practice again and again. That is what real growth looks like: steady effort, honest review, and a willingness to try. ◇

★ **Remember this:** A math hero is not someone who never misses a question. A math hero learns from the miss and comes back stronger. ★

Hero Habits

- **Courage:** You try problems that are not automatic.
- **Honesty:** You review what needs work.
- **Patience:** You let skills grow over time.
- **Pride:** You recognize the effort you gave.

Grade 7 test-day tip: Save one solved problem you are proud of. Looking back at progress helps motivation stay strong.

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

Jay Daie

Your Math Hero Guide

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.

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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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