

3

Indiana I LEARN

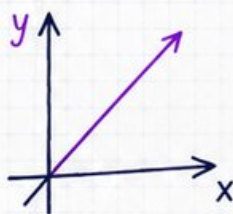
GRADE

7

MATH

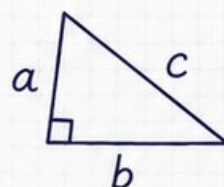
PRACTICE TESTS

- ✓ Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs



$$y = mx + b$$

$$\frac{2}{3}x - \frac{4}{5} = \frac{1}{2}$$



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



3 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



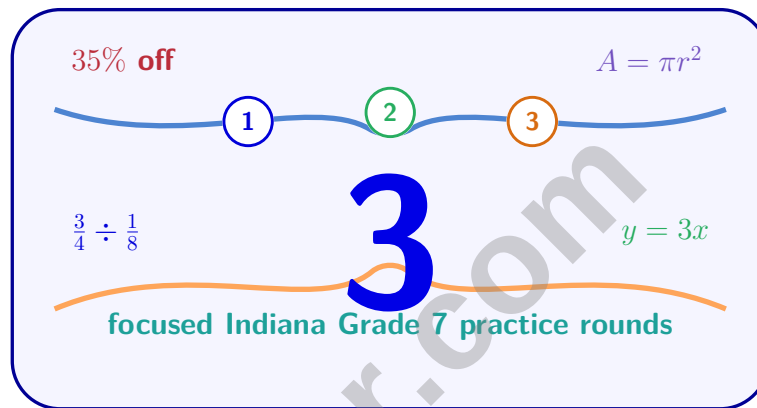
Detailed Answers
& Explanations



Improve Test
Performance

3 Indiana ILEARN Grade 7 Math Practice Tests

Indiana Practice Tests with Review, Keys, and Explanations



Three 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!

Three focused rounds for sharper ILEARN math thinking

This book gives you three 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 three-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?

Three ILEARN tests, 120 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.
Test 3	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

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- 1) A bike shop charges \$25 to rent a bike per day. Write the equation for total cost T as a function of days d .

☐ A. $d = 25T$

☐ C. $T = \frac{25}{d}$

☐ B. $T = d + 25$

☐ D. $T = 25d$

- 2) A chef estimated 3.5 cups of sugar were needed, but the recipe called for 4 cups. What is the percent error?

☐ A. 87.5%

☐ C. 0.5%

☐ B. 14.3%

☐ D. 12.5%

- 3) Expand: $(x + 5) \cdot (-2)$

☐ A. $-2x - 10$

☐ C. $2x - 10$

☐ B. $-2x + 5$

☐ D. $x - 10$

- 4) What inequality is represented on this number line?



☐ A. $x > 2$

☐ C. $x < 2$

☐ B. $x \geq 2$

☐ D. $x \leq 2$

- 5) The width of a room on a floor plan is 2 inches. The actual room is 20 feet wide. What is the scale of the floor plan?

☐ A. 2 inches : 1 foot

☐ C. 1 inch : 10 feet

☐ B. 1 inch : 1 foot

☐ D. 1 inch : 20 feet

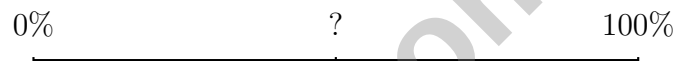


- 6) A store owner reads an advertisement incorrectly. The ad says “25% off all winter coats!” Instead, she marks coats down by \$25 each. A coat originally priced at \$125 is marked at \$100. What is the actual percent discount she gave?

☐ A. 25% ☐ C. 20%
☐ B. \$25 ☐ D. 50%

- 7) A student borrows \$2500 for a bike at 9% simple interest per year. If the loan must be repaid in 18 months, how much interest will the student pay?

☐ A. \$225 ☐ C. \$450
☐ B. \$675 ☐ D. \$337.50

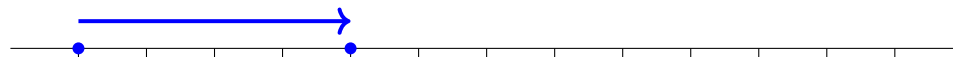


8)

According to the double number line, 16 corresponds to what percent of 40?

☐ A. 30% ☐ C. 40%
☐ B. 35% ☐ D. 45%

- 9) A student computed $-7 + 4$ and got -11 . What error did the student make?



Correct: start at -7 , move 4 right to -3

☐ A. Added the absolute values instead of subtracting them ☐ C. Subtracted in the wrong order
☐ B. Flipped the signs ☐ D. Forgot to use a number line



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- 10) A recipe calls for 2 cups of flour for every 1 cup of sugar. If the recipe uses s cups of sugar, which expression shows the amount of flour needed?

☐ A. $s + 2$

☐ B. $2s$

☐ C. $\frac{s}{2}$

☐ D. $2 + s$

- 11) The difference between two integers is -9 . If one integer is 4, what is the other integer? (Hint: difference means subtract.)

- 12) Simplify: $-3p - 4p + 2p$

☐ A. $-5p$

☐ B. $-9p$

☐ C. $9p$

☐ D. 0

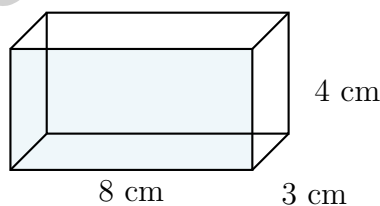
- 13) Factor: $-5a - 20b$

☐ A. $-5(a + 4b)$

☐ B. $5(a + 4b)$

☐ C. $-5(a - 4b)$

☐ D. $5(-a - 4b)$



- 14)

A rectangular prism has dimensions $8\text{ cm} \times 4\text{ cm} \times 3\text{ cm}$. One student mistakenly calculates the surface area as $8 + 4 + 3 = 15$, then multiplies by 2 to get 30 cm^2 . What is the correct surface area?

☐ A. 30 cm^2

☐ B. 96 cm^2

☐ C. 136 cm^2

☐ D. 192 cm^2



- 1) A data company offers cloud storage at \$9.99 per month with a one-time activation fee of \$29.99. Which expression shows the total cost C for n months?

☐ A. $C = 29.99n + 9.99$

☐ C. $C = 9.99 + 29.99n$

☐ B. $C = 9.99n + 29.99$

☐ D. $C = (9.99 + 29.99)n$

- 2) Two angles are supplementary. If one angle measures 65° , what is the measure of the other angle?

☐ A. 25°

☐ C. 115°

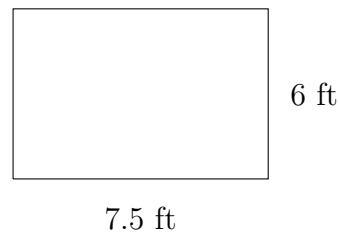
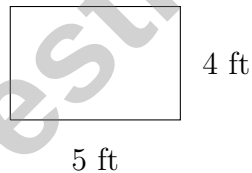
☐ B. 35°

☐ D. 295°

- 3) An athlete's personal record was 12 seconds. After training, the record improved to 10.56 seconds. What is the percent decrease in time?



4)



The two rectangles are similar. What is the scale factor from the first to the second?

☐ A. 0.67

☐ C. 1.5

☐ B. 1

☐ D. 2



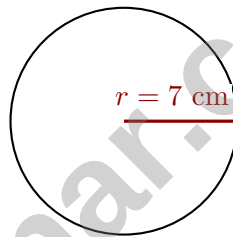
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- 5) A delivery service charges \$4.50 base fee plus \$1.25 per mile. What is the cost to deliver a package 12 miles away?

- 6) A plate has diameter 10 inches. Using $\pi \approx \frac{22}{7}$, approximately what is its circumference?

- ☐ A. $\frac{220}{7}$ in
☐ B. $\frac{110}{7}$ in

- ☐ C. $\frac{440}{7}$ in
☐ D. $\frac{80}{7}$ in



7)

Circle C

A circle has a radius of 7 centimeters. What is its area? Use $\pi \approx \frac{22}{7}$.

- ☐ A. 44 cm^2
☐ B. 88 cm^2

- ☐ C. 154 cm^2
☐ D. 308 cm^2

- 8) A water tank in the shape of a cylinder has a radius of 4 feet and a height of 10 feet. Find the volume. Use $\pi \approx 3.14$.

- ☐ A. 125.6 ft^3
☐ B. 251.2 ft^3

- ☐ C. 502.4 ft^3
☐ D. 1004.8 ft^3



- 1) A sports team orders x uniforms at \$15 each. After a \$20 bulk discount, the total is \$130. Which equation represents this?

- ☐ A. $15x - 20 = 130$ ☐ C. $x(15 - 20) = 130$
☐ B. $15(x - 20) = 130$ ☐ D. $15x + 20 = 130$

2)

Outcome	Red	Blue	Yellow
Probability	0.4	0.35	0.25

Does this table represent a valid probability model?

- ☐ A. No, Yellow's probability is too small. ☐ C. Yes, all probabilities are between 0 and 1.
☐ B. No, the probabilities do not sum to 1. ☐ D. No, Red's probability is too large.
- 3) A mortgage broker charges a 1% origination fee on a loan of \$300,000. What is the origination fee?

- ☐ A. \$1,000 ☐ C. \$30,000
☐ B. \$300,000 ☐ D. \$3,000

4)

Account Type	Annual Interest Rate
Savings Account	1.5%
Money Market	3%
Certificate of Deposit (CD)	4%

Keisha has \$2,000 to deposit. If she wants to maximize her interest earnings in one year without restrictions, which account should she choose?

- ☐ A. Savings Account ☐ C. Certificate of Deposit
☐ B. Money Market ☐ D. None; interest rates are equal



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- 5) A scholarship fund grows from \$5,000 to \$5,512.50 in two years under annual compound interest. What is the interest rate?
- ☐ A. 4% ☐ C. 5.12%
- ☐ B. 10% ☐ D. 5%
- 6) Two shops have different pricing on the same jacket. Shop A: originally \$80, marked down 15%. Shop B: originally \$75, marked down 10%. Which shop has the lower final price?
- ☐ A. Shop A; \$68 ☐ C. They cost the same.
- ☐ B. Shop A; \$65 ☐ D. Shop B; \$67.50
- 7) At what annual simple interest rate will \$2000 grow to \$2400 in 4 years?
- ☐ A. 2% ☐ C. 7%
- ☐ B. 10% ☐ D. 5%
- 8) The additive inverse (opposite) of -14 is which value?
- ☐ A. 14 ☐ C. 0
- ☐ B. -14 ☐ D. $\frac{1}{14}$
- 9) Evaluate $\frac{m}{2} + 6$ when $m = 10$.
- ☐ A. 8 ☐ C. 16
- ☐ B. 26 ☐ D. 11
- 10) Simplify: $\frac{1}{2}a + \frac{1}{4}a$
- ☐ A. $\frac{1}{8}a$ ☐ C. $\frac{3}{4}a$
- ☐ B. $\frac{1}{6}a$ ☐ D. $\frac{2}{6}a$



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 D is correct.** (7.RP.1-7.RP.3) Cost equals the daily rate times the number of days. The equation is $T = 25d$.
- 2) **Choice D is correct.** (7.RP.3) Percent error = $\frac{|3.5-4|}{4} \times 100\% = \frac{0.5}{4} \times 100\% = 12.5\%$.
- 3) **Choice A is correct.** (7.EE.1-7.EE.2) Distribute -2 to both terms: $(x) \cdot (-2) + (5) \cdot (-2) = -2x - 10$.
- 4) **Choice C is correct.** (7.EE.4b) An open circle at 2 with a left-pointing arrow shows $x < 2$.
- 5) **Choice C is correct.** (7.RP.1-7.RP.3) Divide actual by plan: $20 \text{ feet} \div 2 \text{ inches} = 10 \text{ feet per inch}$, so scale is $1 \text{ inch} : 10 \text{ feet}$.
- 6) **Choice C is correct.** (7.RP.3) Actual discount amount = $125 - 100 = \$25$. Percent = $(25/125) \times 100 = 20\%$. (Not the intended 25% off).
- 7) **Choice D is correct.** (7.RP.3) STEP 1: Convert 18 months to years: $t = 18 \div 12 = 1.5$ years. STEP 2: $I = 2500 \times 0.09 \times 1.5 = \337.50 .
- 8) **Choice C is correct.** (7.RP.3) $\frac{16}{40} = \frac{2}{5} = 0.40 = 40\%$.
- 9) **Choice A is correct.** (7.NS.1b) The student added $|-7| + |4| = 7 + 4 = 11$ and kept the negative sign. For opposite signs, subtract: $|-7| - |4| = 7 - 4 = 3$, so the correct answer is -3 .
- 10) **Choice B is correct.** (7.EE.1-7.EE.2) The ratio is 2 cups flour per 1 cup sugar, so $f = 2s$.
- 11) **The correct answer is 13.** (7.NS.1-7.NS.3) If the difference is $4 - x = -9$, then $x = 4 - (-9) = 4 + 9 = 13$. Check: $4 - 13 = -9$ ✓.
- 12) **Choice A is correct.** (7.EE.1) Combine: $(-3 - 4 + 2)p = -5p$. All terms are like terms with variable p .
- 13) **Choice A is correct.** (7.EE.1-7.EE.2) Factor out -5 : $-5a - 20b = -5(a + 4b)$.
- 14) **Choice C is correct.** (7.G.4-7.G.6) The correct formula: $SA = 2(8 \cdot 4 + 8 \cdot 3 + 4 \cdot 3) = 2(32 + 24 + 12) = 2(68) = 136 \text{ cm}^2$. The student added dimensions instead of multiplying them.
- 15) **Choice C is correct.** (7.SP.1-7.SP.4) A sample of 300 from 12,000 is approximately 2.5% of the population and is large enough to provide reliable results. Samples of 20 and 50 are too small and may not represent the full diversity of students. A sample of 2000 would give similar reliability but is unnecessary.
- 16) **Choice A is correct.** (7.SP.5-7.SP.8) Before running a simulation, identify which outcomes meet the criteria: $(2, 6), (3, 5), (3, 6), (4, 4), (4, 5), (4, 6), (5, 3), (5, 4), (5, 5), (5, 6), (6, 2), (6, 3), (6, 4), (6, 5), (6, 6)$ — that is 15 outcomes out of 36.
- 17) **Choice D is correct.** (7.RP.3) Set up the proportion: $\frac{1}{20} = \frac{p}{100}$. Cross-multiply: $p = 5$, so $\frac{1}{20} = 0.05 = 5\%$.
- 18) **The correct answer is $\frac{9}{2}$.** (7.RP.1-7.RP.3) 3 dozen is 6 times $\frac{1}{2}$ dozen, so flour is $\frac{3}{4} \times 6 = \frac{18}{4} = \frac{9}{2} = 4\frac{1}{2}$ cups.
- 19) **Choice B is correct.** (7.NS.1-7.NS.3) When denominators are the same, add the numerators: $-\frac{3}{5} + \frac{4}{5} = \frac{1}{5}$.
- 20) **The correct answer is B,D.** (7.SP.1-7.SP.4) Total is $280 + 420 + 100 = 800$. Online: $280/800 = 0.35 = 35\%$, so B is correct. In-store: $420/800 = 0.525 = 52.5\%$, so D is correct. A is wrong (not exactly 50%). C is wrong ($100/800 = 12.5\%$, not 10%).
- 21) **Choice B is correct.** (7.NS.2d) The decimal $0.\overline{3}$ repeats the digit 3 infinitely and never terminates. It equals $\frac{1}{3}$.
- 22) **Choice A is correct.** (7.NS.1-7.NS.3) Temperature change = $-0.3 \times 5 = -1.5^\circ\text{C}$. New temperature = $12 + (-1.5) = 10.5^\circ\text{C}$.
- 23) **Choice B is correct.** (7.EE.4b) $x \geq -1$ includes -1 (filled circle) and all values greater than -1 (arrow right).
- 24) **Choice A is correct.** (7.G.1-7.G.5) Applying the translation vector to $C(4, 3)$: $(4, 3) + (-2, 1) = (2, 4)$.
- 25) **Choice D is correct.** (7.RP.1-7.RP.3) A proportional relationship passes through the origin. The marked point is $(2, 1)$, so the unit rate $k = 1/2 = 0.5$. The line equation is $y = 0.5x$.
- 26) **Choice A is correct.** (7.RP.3) Miscellaneous = $(100\% - 50\% - 20\% - 15\% - 10\%) \times \$1,500 = 5\% \times 1500 = \75 .
- 27) **Choice B is correct.** (7.NS.1-7.NS.3) $(-56) \div (-8) = 7$ and $(-56) \div 8 = -7$. Since $7 > -7$, the first is larger.
- 28) **Choice B is correct.** (7.NS.1-7.NS.3) Net change: $150 - 210 = -60$ feet.
- 29) **Choice A is correct.** (7.NS.1-7.NS.3) Option A differs by only $0.1 \times 10^{-2} = 0.001$. Other pairs differ by much larger amounts.



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You Know More Than You Think

Hi, Skilled Learner!

◇ After working through Grade 7 practice, you now have more tools than you may realize: models, formulas, graphs, equations, and reasoning habits. ◇

★ **Remember this:** The next step is learning when to use each tool. That comes from practice, review, and the courage to try a method even when you are unsure. This version gave you 3 opportunities to rehearse test-day habits. ★

Tools You Can Use

- **Models:** Make relationships visible.
- **Equations:** Represent unknowns clearly.
- **Graphs:** Show change and location.
- **Formulas:** Organize measurement problems.

Grade 7 test-day tip: Before solving, name the tool you plan to use. That small choice makes your work more intentional.

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

Jay Daie

Your Skill-Building Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **3** 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:

3 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.



Strengthen Math Skills

Develop key math concepts and problem solving abilities.



Detailed Answers & Explanations

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



Improve Test 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.



2 EXTRA ONLINE TEST ACCESS CODE IS INSIDE THE BOOK!

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