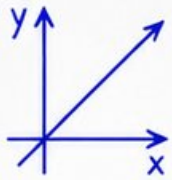
5 Indiana ILEARN

GRADE 7 MATH

PRACTICE TESTS

Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs



$y = mx + b$

$\frac{2}{3} + \frac{1}{6} = \frac{5}{6}$

$V = \pi r^2 h$

5 PRINTED TESTS

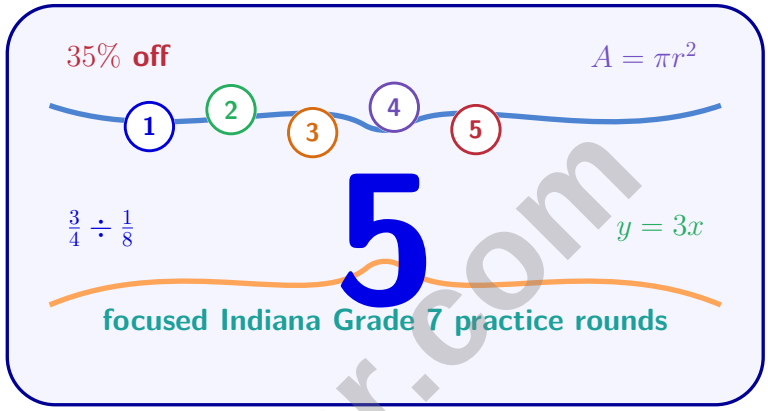
2 ONLINE TESTS

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

5 Indiana ILEARN Grade 7 Math Practice Tests

Standards Review with Practice Tests, Answer Keys, and Explanations



Five 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!

Five focused rounds for sharper ILEARN math thinking

This book gives you five 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.

How to Use This Book

A five-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?

Five ILEARN tests, 200 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 3–5	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.

Table of Contents

1) A box contains 15 pens: 6 red, 4 blue, 3 black, and 2 green. A pen is selected at random. What is the probability of selecting a red or green pen?

☐ A. $\frac{6}{15}$
☐ B. $\frac{8}{15}$
☐ C. $\frac{4}{15}$
☐ D. $\frac{7}{15}$

2) An error analysis: A student calculates the final price of a \$125 item with 32% discount plus 7% tax by doing: $125 \times 0.32 = \$40$ (discount amount), then $125 - 40 = \$85$ (discounted price), then $85 + 0.07 = \$85.07$. What is the student's error?

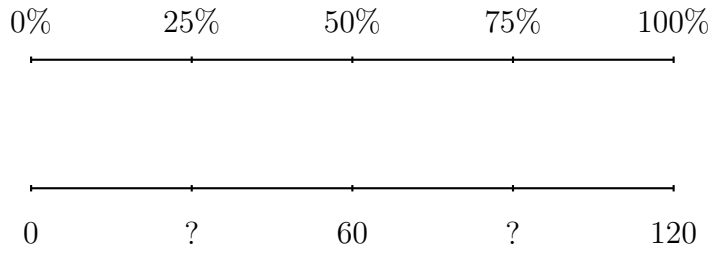
☐ A. There is no error.
☐ B. Student applied discount and tax in the wrong order.
☐ C. Student miscalculated the discount amount.
☐ D. Student added 0.07 instead of 7% of \$85.

3) Which equation is equivalent to finding the distance between -12 and 3 on a number line?

☐ A. $|-12-3|$
☐ B. $-12-3$
☐ C. $3-12$
☐ D. $|-12-(-3)|$

4) A sector measuring 252° represents what percent of a circle?

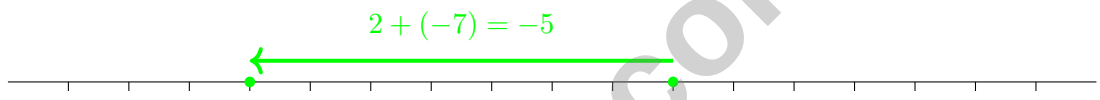
☐ A. 63%
☐ B. 70%
☐ C. 75%
☐ D. 85%



5) On the double number line, what value corresponds to 25% if 100% equals 120?

☐ A. 15
☐ C. 25
☐ B. 20
☐ D. 30

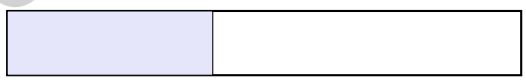
6) Which addition problem results in a sum of -5?



☐ A. $8 + (-3)$
☐ C. $-1 + 6$
☐ B. $-9 + 3$
☐ D. $2 + (-7)$

7) Simplify: $3xy + 5xy - 2xy$

☐ A. $6xy$
☐ C. $8xy$
☐ B. $10xy$
☐ D. 0

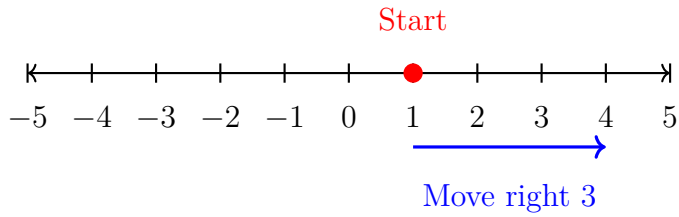


8) 40% Total = 125

If the shaded bar represents 40% of the whole and the whole is 125, how many does the shaded part represent?

☐ A. 40
☐ C. 75
☐ B. 85
☐ D. 50

9) The number line shows a move. Which operation does it represent?



☐ A. $1 - 3$
☐ B. $1 - (-4)$
☐ C. $1 + (-3)$
☐ D. $1 + 3$

10) Which division problem has a quotient of $\frac{2}{5}$?

☐ A. $\frac{4}{5} \div 2$
☐ B. $\frac{1}{5} \div 2$
☐ C. $\frac{2}{15} \div 3$
☐ D. $\frac{4}{10} \div 2$

11) A recipe calls for $\frac{9}{10}$ cup of flour. What is this as a decimal?

☐ A. 0.09 cup
☐ B. 0.9 cup
☐ C. 0.19 cup
☐ D. 1.9 cups

12)

Time (hours)	Temperature change (°F)
1	−1.5
2	−3.0
3	−4.5

Based on the pattern, what is the temperature change after 5 hours?

☐ A. −6.0°F
☐ B. −7.5°F
☐ C. 7.5°F
☐ D. −13.5°F

1) In a circle with center O and radius 10 cm, a chord is drawn. What is the maximum possible length of the chord?

☐ A. 10 cm
☐ B. 15 cm
☐ C. 20 cm
☐ D. 30 cm

2) A family takes out a personal loan of \$8000 at 10% simple interest for 3 years. What is the total amount they will repay?

☐ A. \$8800
☐ B. \$9200
☐ C. \$10400
☐ D. \$11200

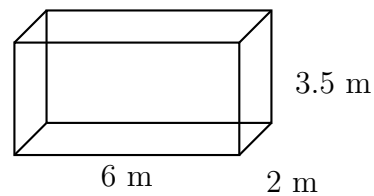
3) A juice stand sells drinks at a proportional rate. When 5 drinks are sold, the revenue is \$30. Write the equation for revenue r in terms of drinks d.

☐ A. $r = 5d$
☐ B. $r = \frac{d}{6}$
☐ C. $r = 30d$
☐ D. $r = 6d$

4) A student made an error. They said: "In the table, $x = 2$ gives $y = 10$, and $x = 4$ gives $y = 20$, so $k = 2$." What mistake did they make?

☐ A. There is no mistake.
☐ B. They computed $10/2 = 5$, not $k = 2$.
☐ C. They forgot to check the second point.
☐ D. They used $y - x$ instead of y/x.

5)



A rectangular prism has dimensions 6 m × 3.5 m × 2 m. Calculate the surface area.

☐ A. 49 m^2
☐ B. 73 m^2
☐ C. 80 m^2
☐ D. 147 m^2

6) A company wants to estimate the average salary of all its employees. It randomly selects 50 employees and calculates the mean. The 50 employees are a _____ of all company employees.

☐ A. population
☐ B. sample
☐ C. statistic
☐ D. parameter

7) A bag contains 3 red marbles, 2 blue marbles, and 5 green marbles. To simulate drawing one marble, which probability does rolling a standard die best represent?

☐ A. Probability of drawing red
☐ B. Probability of drawing blue
☐ C. Probability of drawing green
☐ D. Probability of drawing blue or green

8) Solve for x: $9(x + 2) = 63$

☐ A. $x = 3$
☐ B. $x = 5$
☐ C. $x = 7$
☐ D. $x = 9$

9) A student solved $-4x + 2 > 10$ and wrote $x > -2$. What error did the student make?

☐ A. Did not subtract 2 correctly
☐ B. Did not flip the inequality sign when dividing by -4
☐ C. The solution is actually correct
☐ D. Should have added instead of subtracted

1) A spinner is divided into 3 equal sections (Red, Blue, Yellow), and a fair coin is flipped. How many total outcomes are possible?

☐ A. 3
☐ B. 5
☐ C. 6
☐ D. 9

2) Which fraction converts to $0.\overline{1}$ (where 1 repeats)?

☐ A. $\frac{1}{9}$
☐ B. $\frac{1}{10}$
☐ C. $\frac{1}{11}$
☐ D. $\frac{1}{8}$

3) A stock price drops by \$3.20 per day. After 5 days, a trader notices the loss. What is the total change in stock price?

☐ A. −\$16
☐ B. −\$8
☐ C. +\$16
☐ D. +\$3.20

4) A lawn-care service charges \$35 for the first yard and \$25 for each additional yard. If someone pays \$110, which equation finds y, the total number of yards mowed?

☐ A. $25y + 35 = 110$
☐ B. $35y + 25 = 110$
☐ C. $25(y - 1) + 35 = 110$
☐ D. $25y + 35y = 110$

5) Solve: $-2x + 3 < 9$

☐ A. $x > -3$
☐ B. $x < -3$
☐ C. $x < 6$
☐ D. $x \geq 3$

6) A runner completes 4 miles in 3 hours at a constant speed. What is the unit rate in miles per hour?

☐ A. 0.75 miles per hour
☐ B. 1 mile per hour
☐ C. 1.33 miles per hour
☐ D. 3 miles per hour

7) Which statement about investment returns is true?

☐ A. Simple interest always beats compound interest
☐ B. Higher interest rates always mean less risk
☐ C. Investing early allows more time for growth
☐ D. Investment accounts never experience losses

8) What is $\sqrt{49}$?

☐ A. 6
☐ B. 7
☐ C. 8
☐ D. 9

9)

Standard:	83,500
Scientific:	8.35×10

What is the missing exponent?

☐ A. 3
☐ B. 4
☐ C. 5
☐ D. 6

10) Solve for x: $6(x - 2) = 36$

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.

Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

1) **Choice B is correct.** 7.SP.5-7.SP.8 Red or green $= 6 + 2 = 8$. $P(\text{red or green}) = \frac{8}{15}$.
2) **Choice D is correct.** 7.RP.3 Correct calculation: tax $= 0.07 \times 85 = \$5.95$, final $= 85 + 5.95 = \$90.95$. Student's error was treating 7% as the amount \$0.07 instead of computing 7% of the discounted price.
3) **Choice A is correct.** 7.NS.1-7.NS.3 Distance is found using absolute value: $|-12-3| = |-15| = 15$ or equivalently $|3-(-12)| = 15$. Only choice A gives the correct distance.
4) **Choice B is correct.** 7.SP.1-7.SP.4 $252° \div 360° \times 100 = 70\%$.
5) **Choice D is correct.** 7.RP.3 25% is $\frac{1}{4}$ of the total. $\frac{1}{4} \times 120 = 30$.
6) **Choice D is correct.** 7.NS.1b Check each: A: $8 + (-3) = 5$. B: $2 + (-7) = -5$ ✓. C: $-1 + 6 = 5$. D: $-9 + 3 = -6$. Only B equals -5.
7) **Choice A is correct.** 7.EE.1 All terms are like terms with variable xy. Combine: $(3 + 5 - 2)xy = 6xy$.
8) **Choice D is correct.** 7.RP.3 Using the proportion $\frac{40}{100} = \frac{x}{125}$, cross-multiply: $x = 50$.
9) **Choice D is correct.** 7.NS.1-7.NS.3 Starting at 1 and moving right 3 units represents adding 3, so $1 + 3 = 4$.
10) **Choice A is correct.** 7.NS.1-7.NS.3 $\frac{4}{5} \div 2 = \frac{4}{5} \times \frac{1}{2} = \frac{4}{10} = \frac{2}{5}$.
11) **Choice B is correct.** 7.NS.2d $9 \div 10 = 0.9$. Powers of 10 produce terminating decimals with the numerator shifted by decimal places.
12) **Choice B is correct.** 7.NS.1-7.NS.3 Change per hour is $-1.5°$F. After 5 hours: $-1.5 \times 5 = -7.5°$F.
13) **Choice A is correct.** 7.NS.1-7.NS.3 Final elevation $= 1,450 + 325 - 180 = 1,595$ feet.
14) **Choice D is correct.** 7.RP.1-7.RP.3 Unit rate $= \frac{3/4}{1/2} = \frac{3}{4} \times 2 = \frac{3}{2}$ gallons per minute.
15) **Choice D is correct.** 7.RP.1-7.RP.3 The table has ratio y/x : $5/1 = 5, 10/2 = 5, 15/3 = 5, 20/4 = 5$ (constant). Option B: $y = 6x$ is proportional. Option C: line through origin $(0, 0)$ and $(3, 12)$ has slope 4, so $y = 4x$ (proportional). All are proportional.
16) **Choice D is correct.** 7.RP.1-7.RP.3 The point $(1, 0.4)$ is the unit-rate point, so the constant of proportionality is $k = 0.4$. Therefore, the equation is $y = 0.4x$. (Verify: $(5, 2)$ gives $2 = 0.4 \times 5$ ✓)
17) **The correct answer is 60 .** 7.RP.1-7.RP.3 Each ratio gives the same unit rate: $120 \div 2 = 60$, $180 \div 3 = 60$, and $300 \div 5 = 60$.
18) **Choice A is correct.** 7.RP.3 Strategy X: \$600 (no interest). Strategy Y: $\$360 + (5\% \times \$360) \approx \$360 + \$18 = \$378$ total. Strategy X provides more total value (\$600 > \$378), showing that saving more per month outweighs the benefit of interest—a key Grade-7 investment trade-off: higher savings frequency can beat lower savings with interest.
19) **Choice A is correct.** 7.NS.1-7.NS.3 $21{,}000 > 3{,}500$, so 2.1×10^4 is larger.
20) **Choice A is correct.** 7.NS.2 $\frac{3}{4} \times 8 = \frac{3 \times 8}{4} = \frac{24}{4} = 6$.
21) **The correct answer is A,C.** 7.RP.1-7.RP.3 From the table, $k = 14/2 = 7$, so A is true and the equation is $y = 7x$ (C is true). B is false: $k = 7$, not 2.8. D is false: when $x = 10$, $y = 7 \cdot 10 = 70$, not 68.
22) **Choice B is correct.** 7.NS.1-7.NS.3 $8^2 = 64$ and $9^2 = 81$. Since 75 is closer to 81 than to 64, $\sqrt{75} \approx 8.66$, which rounds to 9.
23) **Choice A is correct.** 7.EE.1-7.EE.2 $\gcd(20, 30) = 10$, so $10(2x+3)$ factors out the greatest common factor completely.
24) **The correct answer is 20 .** 7.RP.1-7.RP.3 If 2.5 cm = 50 km, then 1 cm $= 50 \div 2.5 = 20$ km.
25) **Choice B is correct.** 7.SP.5-7.SP.8 The left spinner has equal sections (uniform). The right spinner has unequal sectors: one 60°, one 120°, one 180° (non-uniform).
26) **Choice C is correct.** 7.RP.3 Processing fee $= 0.03 \times 1000 = \$30$.
27) **Choice A is correct.** 7.SP.1-7.SP.4 The tens digit (6) is the stem; the ones digit (7) is the leaf.
28) **Choice A is correct.** 7.G.4-7.G.6 Rectangle: $10 \times 8 = 80$ m^2. Triangle removed: $\frac{1}{2} \times 10 \times 2 = 10$ m^2. Remaining: $80 - 10 = 70$ m^2.
29) **Choice C is correct.** 7.RP.1-7.RP.3 The unit rate is $3 \div 8 = 0.375$ gallons per wall. For 16 walls: $16 \times 0.375 = 6$ gallons.

Author's Note

A Page for Persistence

Hi, Persistent Problem Solver!

◇ Some Grade 7 questions ask you to hold several ideas in your mind at once. That can feel hard, and that is exactly why practice matters. ◇

⋆ **Remember this:** You showed persistence by continuing through the set. That habit is powerful because difficult problems often open after one more good attempt. You practiced across 5 full Grade 7 practice tests, and that repeated effort matters. ⋆

Persistence Tools

- **Try a Smaller Case:** Use an easier number to see the pattern.
- **Draw It:** Make the situation visible.
- **Restate It:** Say the question in your own words.
- **Check One Step:** Fix the first unclear place.

Grade 7 test-day tip: When stuck, do not restart everything. Find the first step you trust, then rebuild from there.

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

Jay Daie

Your Persistence Coach

PRACTICE TODAY.
SUCCEED TOMORROW!

This book includes **5** 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:

- **5** 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.

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.

2 EXTRA ONLINE TEST ACCESS CODE IS INSIDE THE BOOK!

Don't lose it—your extra practice and success start here!

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PRACTICE REGULARLY | STAY FOCUSED | SOLVE CONFIDENTLY | SUCCEED BRIGHTLY