

4 Illinois IAR

GRADE
6
MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

4

**PRINTED
TESTS**



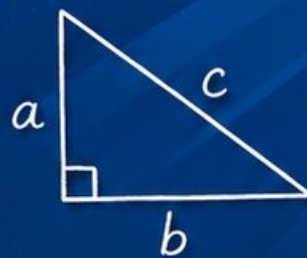
2

**ONLINE
TESTS**



- ✓ Build Confidence
- ✓ Master Key Math Skills
- ✓ Answer Explanations for Every Question
- ✓ Test-Taking Strategies That Work

$$2x + 5 = 21$$
$$x = 8$$



$$\frac{3}{4} + \frac{1}{2} = \frac{5}{4}$$



**USE THESE TWO
ADDITIONAL ONLINE
PRACTICE TESTS**

**FOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.**

4 Illinois IAR Grade 6 Math Practice Tests

Standards-Aligned Prairie-To-City Reasoning for Illinois Assessment of Readiness



Four complete 40-question Grade 6 practice rounds for IAR, built for prairie-to-city reasoning with ratios, rational numbers, expressions, equations, geometry, statistics, answer keys, and clear explanations for every item.

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Welcome, Illinois Math Explorer!

Four focused rounds using prairie-to-city reasoning

This book gives you four full Grade 6 practice tests for IAR. Each round uses prairie grids, city routes, and clear written work as a fresh mental backdrop while you read closely, choose a smart strategy, show your work, and check whether your answer makes sense.

Your Illinois Practice Promise

Keep the logic visible: line up numbers, label units, and use the answer choices as a final check.

Read

Plan

Check

How to Use This Book

A four-session routine for prairie-to-city reasoning

1. **Preview the skills.** Scan the quick review pages before beginning the first round.
2. **Work in order.** Take one 40-question test at a time in a quiet place.
3. **Mark confidence.** Put a small star beside problems where your plan felt strong.
4. **Correct actively.** Retry missed items before reading the full explanation.
5. **Plan the next round.** Use the growth log to choose one habit and one skill to practice.

Illinois review rhythm: Complete a round, review patterns in the misses, and set a short Chicago-strong target for next time.



What Is Inside?

Four IAR tests, 160 questions, and a full review path

Part	What You Will Practice
Tests 1–2	Foundation rounds for ratios, rational numbers, operations, and careful reading.
Tests 3–4	Skill-building and final stamina rounds with expressions, equations, geometry, data, and problem models.
Answer Pages	Compact keys and explanations that show why each answer works.

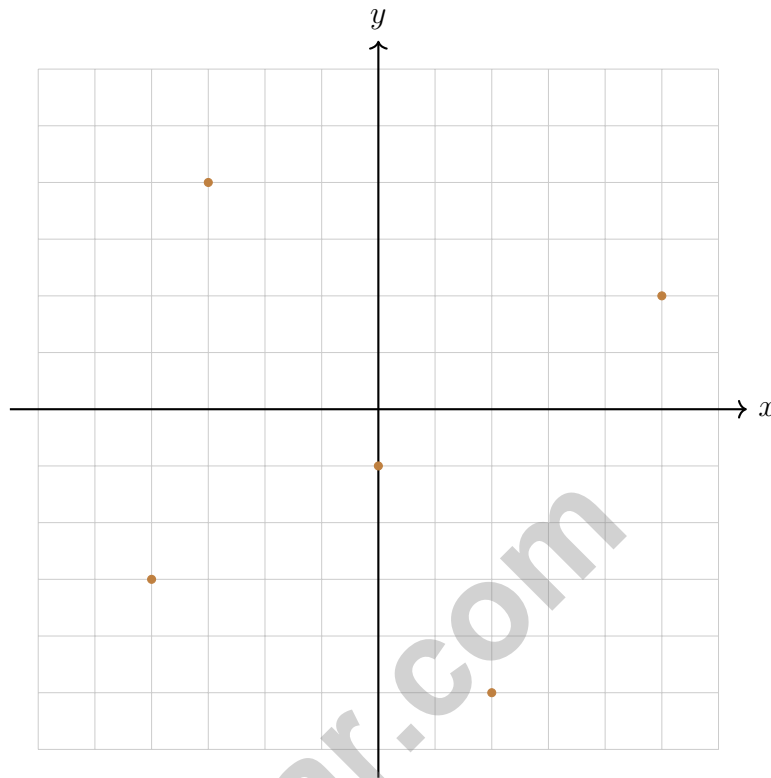
The tests are mixed on purpose. Prairie-to-city reasoning means recognizing the skill even when the next question changes topic, changes format, or asks for an explanation.



Scan me!
For more practice
& answers

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5)

How many of the plotted points lie on an axis?

- A. 0
- B. 3
- C. 2
- D. 1

6) Compare -3.5 and -3.75 . Which symbol makes the statement true?

$$-3.5 \square -3.75$$

- A. $<$
- B. $>$
- C. $=$
- D. Cannot determine



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7) What is the distance between $(-4, 0)$ and $(-4, 9)$?

A. 8 units

C. 10 units

B. 9 units

D. 11 units

8) A babysitter charges \$12 per hour. If the sitter works for h hours, the total earnings are $e = 12h$. When this relationship is graphed with hours on the horizontal axis and earnings on the vertical axis, what earnings value does the line cross the vertical axis at?

A. 0

C. 6

B. 12

D. 24

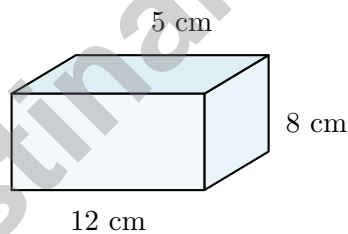
9) A parallelogram has a base of 8 m and a height of 5 m. What is its area?

A. 13 m^2

C. 40 m^2

B. 26 m^2

D. 80 m^2



10)

A gift box is 12 cm long, 8 cm wide, and 5 cm high. How many cubic centimeters is its volume?

A. 25 cm^3

C. 240 cm^3

B. 120 cm^3

D. 480 cm^3



- 1) A science teacher is comparing two chemical solutions. Solution A has a mass of 50 grams and Solution B has a mass of 75 grams. The volumes are 10 mL and 15 mL respectively. Which solution shows a proportional mass-to-volume relationship?

Solution	Mass (g)	Volume (mL)
A	50	10
B	75	15

- A. Only Solution A has a ratio of 5 : 1 C. Both have the same proportional ratio of 5 : 1
 B. Only Solution B has a ratio of 5 : 1 D. Neither; the ratios are different
- 2) Consider the wording of two questions:

Non-Statistical	Statistical
How many wheels are on a car?	How many wheels do cars parked in a parking lot have?

What change makes the second question statistical?

- A. Adding the word “how many” C. Adding the word “cars”
 B. Adding a specific location and comparing multiple cars D. Changing the word order
- 3) An online store’s order values (in dollars) for 5 days: {150, 175, 200, 225, 500}. How should the center be best described?
- A. Use the mean because it is always best. C. Use the mode because it is most reliable.
 B. Use the median because the outlier distorts the mean. D. Use the range because it gives spread.



4) A jar contains 24 buttons: 9 red, 7 blue, and 8 yellow. If one button is chosen at random, what is the probability it is blue or yellow?

A. $\frac{7}{24}$
 B. $\frac{8}{24}$

C. $\frac{15}{24}$
 D. $\frac{16}{24}$

5) A researcher plots reaction times (in milliseconds) for 11 participants:

Stem	Leaf
20	2, 5, 7
21	1, 3, 6, 8
22	0, 4, 6, 9

What is the median reaction time?

A. 213 ms
 B. 216 ms

C. 218 ms
 D. 220 ms

6) A fitness center surveyed 420 members. The circle graph shows $33\frac{1}{3}\%$ have annual memberships. How many have annual memberships?

A. 140
 B. 120

C. 100
 D. 160

7) A teacher uses a histogram to compare test scores. The histogram has intervals: 50–60 (freq 2), 60–70 (freq 5), 70–80 (freq 8), 80–90 (freq 4), 90–100 (freq 1).

What percentage of students scored between 70 and 90?

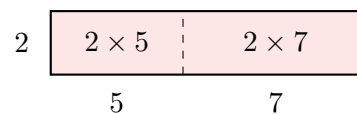
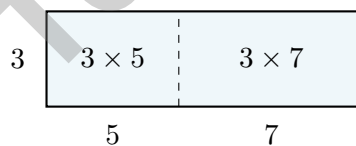
A. 48%
 B. 52%

C. 60%
 D. 80%



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- 1) Three vertices of a rectangle are at $(1, 1)$, $(7, 1)$, and $(7, 5)$. Where is the fourth vertex?
- A. $(1, 5)$ C. $(5, 1)$
 B. $(1, 7)$ D. $(7, 1)$
- 2) What is $6,292 \div 34$? Round to the nearest whole number if there is a remainder.
- A. 185 C. 190
 B. 187 D. 192
- 3) A pizza is cut into 8 slices. One slice costs \$2.50. What is the total cost of the pizza?
- A. \$18.00 C. \$16.00
 B. \$20.00 D. \$22.00
- 4) What is the GCF of 14 and 21?
- A. 2 C. 14
 B. 21 D. 7
- 5) Two area models are shown below. What is the **sum** of both total areas shown (every small rectangle)?



- A. $3(5 + 7) + 2(5 + 7) = 60$ C. $3 \cdot 5 + 2 \cdot 7 = 29$
 B. $3(5 + 7) - 2(5 + 7) = 12$ D. $(3 + 2)(5 \times 7) = 175$



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& answers

6) Which point would be closest to the origin?

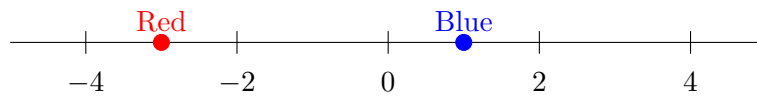
A. $(-5, 7)$

C. $(-8, 6)$

B. $(3, -2)$

D. $(0, -4)$

7)



Which is true?

A. Red = Blue

C. Red < Blue

B. Red > Blue

D. They are opposite

8) On a map, the grocery store is at $(1, 2)$ and the bank is at $(7, 2)$. The distance on the map is 6 units. If each unit is 100 meters, what is the real-world distance?

A. 500 m

C. 700 m

B. 600 m

D. 800 m

9) A painter charges \$40 per hour. If the painter works for 3.5 hours, what is the total charge? Show that the relationship between hours and cost is proportional by checking that the equation $c = 40h$ passes through the origin.



Illinois IAR Practice Test Answer Keys**How to use this Illinois IAR answer section with a Grade 6 student:**

1. check the answer first, then write one quick reason the choice is correct
2. mark questions to try again, especially the skills that feel connected to prairie-to-city reasoning
3. rework the problem before reading the full explanation, using this reminder:
Keep the logic visible: line up numbers, label units, and use the answer choices as a final check.

A calm Illinois correction routine turns every missed item into useful practice. Complete a round, review patterns in the misses, and set a short Chicago-strong target for next time.



Illinois Practice Test Answers and Explanations

Review the four printed IAR tests with organized, resilient, and ready for the next set habits.

Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** **(6.RP.A.3c)** $\frac{12}{40} = \frac{3}{10} = \frac{30}{100} = 30\%$ (simplify, then write as a fraction with denominator 100).
- 2) **The correct answer is 15%.** **(6.RP.A.3c)** Percent discount is $\frac{30}{200} = 0.15 = 15\%$.
- 3) **Choice C is correct.** **(6.NS.C.7c)** Both $|5| = 5$ and $|-5| = 5$. Numbers equidistant from zero on opposite sides have the same absolute value.
- 4) **Choice C is correct.** **(6.NS.C.6c)** Distance from -4 to 2 is $2 - (-4) = 6$. Distance from 0 to 6 is also 6 .
- 5) **Choice D is correct.** **(6.NS.C.8)** Only the point $(0, -1)$ lies on an axis (the y -axis, since $x = 0$). The other points have both coordinates non-zero.
- 6) **Choice B is correct.** **(6.NS.C.7d)** -3.5 is closer to zero than -3.75 , so -3.5 is greater. More negative means smaller.
- 7) **Choice B is correct.** **(6.NS.C.8)** Same x -coordinate (-4) : $|9 - 0| = 9$ units.
- 8) **Choice A is correct.** **(6.EE.C.9)** The equation $e = 12h$ has no constant added, so when $h = 0$ (zero hours), $e = 0$ (zero earnings). The line crosses the vertical axis at earnings $= 0$.
- 9) **Choice C is correct.** **(6.G.A.1)** Area of a parallelogram $= \text{base} \times \text{height} = 8 \times 5 = 40 \text{ m}^2$.
- 10) **Choice D is correct.** **(6.G.A.2)** $V = 12 \times 8 \times 5 = 96 \times 5 = 480 \text{ cm}^3$.
- 11) **Choice C is correct.** **(6.G.A.3)** For a horizontal segment: $10 - 2 = 8$ units.
- 12) **Choice A is correct.** **(6.G.A.1)** Base: $9 - 1 = 8$ units. Height: $9 - 1 = 8$ units. Area $= \frac{1}{2} \times 8 \times 8 = 32$ square units.
- 13) **Choice C is correct.** **(6.EE.B.8)** "No more than" means the weight limit is at most 5,000 pounds: $w \leq 5,000$.
- 14) **The correct answer is 4.** **(6.RP.A.3)** Ratio 2 : 5 with flour = 10 cups: each part is $10 \div 5 = 2$ cups. Sugar: $2 \times 2 = 4$ cups.
- 15) **Choice B is correct.** **(6.G.A.1)** $A = \frac{1}{2} \times 11 \times 8 = 44 \text{ cm}^2$.
- 16) **Choice D is correct.** **(6.G.A.4)** In this cross net with an extension (T above U), L and R are on opposite ends of the center row. When folded, L is opposite to R .
- 17) **Choice C is correct.** **(6.RP.A.1)** Area $= \pi r^2 \approx 3.14 \times 50^2 = 3.14 \times 2500 = 7850 \text{ m}^2$.
- 18) **Choice B is correct.** **(6.SP.B.4)** Histograms are designed to show the frequency distribution of grouped data across multiple units, making them ideal for showing how household incomes are distributed.
- 19) **Choice D is correct.** **(6.NS.C.7d)** This is not proportional because the cost per notebook is not constant. For example, 1 notebook costs \$0, but 2 notebooks cost \$5, so the ratio of cost to notebooks changes.
- 20) **Choice A is correct.** **(6.EE.C.9)** Selling price: $\$80 + 25\%$ of $\$80 = \$80 + \$20 = \100 .
- 21) **The correct answer is The unit rate is 25 items per hour, and the y-value when $x = 1$ is 25.** **(6.RP.A.3a)** A is correct because $50 \div 2 = 25$ items per hour. D is correct because when $x = 1$, $y = 25$. Choice B is false for a proportional relationship, Choice C should be $y = 25x$, and Choice E is false.
- 22) **Choice B is correct.** **(6.RP.A.3)** Divide the actual length by the scale factor: $60 \div 12 = 5$ inches.
- 23) **Choice A is correct.** **(6.NS.B.2)** The long division shows $16 \times 216 = 3,456$, so the quotient is exactly 216 with no remainder.
- 24) **Choice D is correct.** **(6.NS.B.3)** 0.5 has 1 place and 0.04 has 2 places, giving $1 + 2 = 3$ places total: 0.020.
- 25) **Choice A is correct.** **(6.NS.B.4)** The student confused the larger number with the GCF. Factors of 18: 1, 2, 3, 6, 9, 18. Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24. Common: 1, 2, 3, 6. GCF is 6, not 24.
- 26) **Choice C is correct.** **(6.NS.B.4)** Factors of 32: 1, 2, 4, 8, 16, 32. Factors of 48: 1, 2, 3, 4, 6, 8, 12, 16, 24, 48. Common factors: 1, 2, 4, 8, 16. GCF is 16.
- 27) **The correct answer is 12.** **(6.RP.A.3d)** Divide: $96 \text{ fl oz} \div 8 \text{ fl oz/cup} = 12$ cups.
- 28) **Choice A is correct.** **(6.NS.C.5)** The increase is $8 - (-5) = 8 + 5 = 13^\circ\text{F}$.



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For more practice
& answers

Hi, Brave Explorer!

◇ What a trip! You explored 4 full tests. You went to many math places: multiplication, fractions, area, time, and more. ◇

★ **Smart explorers know:** every trip teaches something. Through 4 tests, you learned a lot. You are a stronger math explorer now. ★

Your Explorer Tools

- **Map Reading:** You read problems carefully.
- **Trail Skills:** You take steps in the right order.
- **Backpack:** You have many math tools.
- **Brave Heart:** You explore even hard problems.

Explorer tip: on test day, use the tools you packed. You have the skills. You are ready!

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

Jay Daie

Your Math Trail Guide

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes 4 full-length Math practice tests and 2 online tests to help Grade 6 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 Answer 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



Stronger Math Skills

Build a solid foundation through targeted practice and review.



Better Problem Solving

Develop logical thinking and effective solution strategies.



Deeper Understanding

Reinforce key concepts with clear explanations and meaningful practice.



Test Confidence

Familiarize with test formats and improve accuracy and speed.



Achieve Success

Build confidence and perform your best on test day.

TOPICS COVERED

- ✓ Ratios & Rates
- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Geometry
- ✓ Fractions & Decimals
- ✓ Percents
- ✓ Statistics & Probability
- ✓ Data Analysis
- ✓ Measurement & Conversions
- ✓ And More!



2 ONLINE TESTS

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