

# 9

# Illinois IAR

GRADE

# 6

MATH

## PRACTICE TESTS

Standards-Aligned Review  
Mixed Practice & Answer Key



### 9 PRINTED TESTS

Realistic practice to build confidence and mastery



### DETAILED ANSWER EXPLANATIONS

Learn with step-by-step solutions



### FOCUSED & EFFECTIVE

Target key math skills with purposeful practice



### BUILD CONFIDENCE

Strengthen problem solving and test-taking skills



9 PRINTED TESTS  
+2 ONLINE TESTS

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

**PRACTICE TODAY.  
SUCCEED TOMORROW.**



PRACTICE



REVIEW



SUCCEED

# 9 Illinois IAR Grade 6 Math Practice Tests

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

$436 + 289$   $A = 24$

1 2 3 4 5 6 7 8 9

$7 \times 8$   $\frac{5}{6}$

**9**

complete Illinois practice rounds

Nine 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.

**Jay Daie and Reza Nazari**



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# Welcome, Illinois Math Explorer!

Nine focused rounds using prairie-to-city reasoning

This book gives you nine 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 nine-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?

Nine IAR tests, 360 questions, and a full review path

Part	What You Will Practice
Tests 1–3	Foundation rounds for ratios, rational numbers, operations, and careful reading.
Tests 4–6	Skill-building rounds with expressions, equations, geometry, data, and problem models.
Tests 7–9	Final stamina rounds for mixed review, neat work, and flexible strategy choices.
Answer Pages	Compact keys and explanations that show why each answer works.

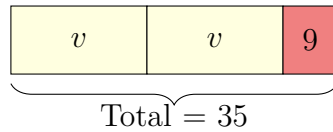
The tests are mixed on purpose. Prairie-to-city reasoning means recognizing the skill even when the next question changes topic, changes format, or asks for an explanation.



Scan me!  
For more practice  
& answers

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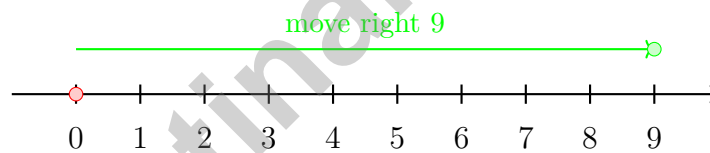


1)

The bar model shows two equal parts of  $v$  and one part of 9. If the total is 35, what is the value of  $v$ ?

 A. 13 C. 44 B. 26 D. 17.5

2) What is the GCF of 16 and 40?

 A. 4 C. 16 B. 20 D. 83) What is  $0 - (-9)$ ? A. -9 C. 9 B. 0 D. 18









1) Two summer camps compare camper satisfaction scores (0–100) using histograms. Camp A has a symmetric, bell-shaped distribution. Camp B has a right-skewed distribution. Both have the same median of 75. What is most likely different?

- A. Camp A’s mean is higher than Camp B’s
- B. Means cannot be compared for differently-shaped distributions
- C. Both have the same mean
- D. Camp B’s mean is higher than Camp A’s

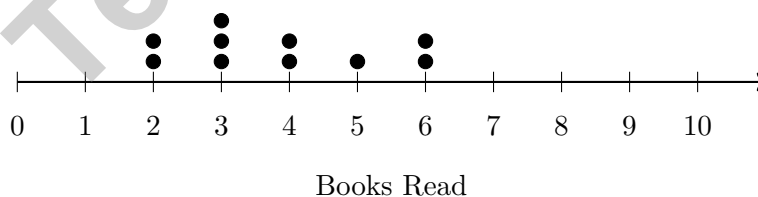
2) A cube has surface area  $216 \text{ cm}^2$ . What is the length of its edge?

- A. 6 cm
- B. 8 cm
- C. 9 cm
- D. 12 cm

3) Which is a non-statistical question?

- A. How many inches tall are sixth graders in this school?
- B. How many wheels does a bicycle have?
- C. What are the birth months of students in our class?
- D. How much money do students spend on snacks each week?

4) The dot plot below shows the number of books read by students in one month.

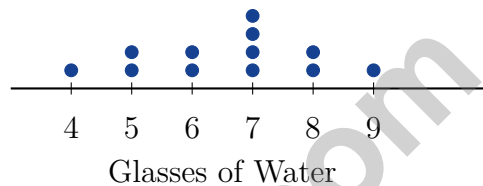


What is the median number of books read?

- A. 3
- B. 4
- C. 5
- D. 6

- 5) The mean of five numbers is 25. Four of the numbers are 20, 22, 28, 30. What is the fifth number?

- 6) A dot plot displays the number of glasses of water consumed daily by 12 people. The values are: 4, 5, 5, 6, 6, 7, 7, 7, 7, 8, 8, 9. Which is true?



- A. The mode is 5 glasses                       C. The range is 6 glasses  
 B. The mode is 7 glasses                       D. The median is 5 glasses
- 7) A student creates a stem-and-leaf plot with stems 3, 4, 5 and forgets to order the leaves. The correct ordered plot should have leaves from smallest to largest. Which plot shows an ordering error?

Incorrect	Stem	Correct
3, 7, 5	2	3, 5, 7
9, 2, 6	3	2, 6, 9

What is the error in the incorrect plot?

- A. Stems are not ordered                       D. Leaves are not ordered from  
 B. The first leaf should be a stem                      smallest to largest  
 C. Too many leaves in stem 3



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& answers

**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.**



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## Illinois Practice Test Answers and Explanations

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

### Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** **(6.EE.B.6)** The bar shows  $v + v + 9 = 2v + 9 = 35$ . So  $2v = 26$  and  $v = 13$ .
- 2) **Choice D is correct.** **(6.NS.B.4)** Factors of 16: 1, 2, 4, 8, 16. Factors of 40: 1, 2, 4, 5, 8, 10, 20, 40. The greatest common factor is 8.
- 3) **Choice C is correct.** **(6.NS.B.3)** Subtracting a negative is the same as adding its opposite:  $0 - (-9) = 0 + 9 = 9$ .
- 4) **Choice B is correct.** **(6.EE.C.9)** Total:  $\$500 + \$250 + \$150 + \$100 = \$1000$ .
- 5) **Choice A is correct.** **(6.NS.B.2)** Since  $5,200 \div 13 = 400$ , adding 13 to the dividend gives  $5,213 \div 13 = 401$  exactly.
- 6) **Choice B is correct.** **(6.NS.B.3)** Add:  $12.4 + 11.8 + 13.2 = 37.4$  s.
- 7) **Choice A is correct.** **(6.NS.B.4)** Treat  $(4+5)$  like a chunky variable and slide it outside:  $3(4+5) + 2(4+5) = (3+2)(4+5)$ . Choice B totals 45, but shows every miniature product—not one clean factored form. Choice C mistakenly multiplies by 14, and Choice D chops the parentheses.
- 8) **Choice B is correct.** **(6.NS.C.5)** Below sea level is represented by a negative integer. A depth of 25 meters below sea level is  $-25$  meters.
- 9) **Choice C is correct.** **(6.NS.C.7c)**  $|-5| = 5$ ,  $|-3| = 3$ ,  $|2| = 2$ . So  $5 + 3 - 2 = 6$ .
- 10) **Choice C is correct.** **(6.NS.C.6c)** Point T is three tick marks to the right of 0. With quarter-mark spacing, this is  $\frac{3}{4}$ .
- 11) **Choice C is correct.** **(6.NS.C.8)** Distance on map:  $|9 - 3| = 6$  units. Actual trail length:  $6 \times 150 = 900$  meters.
- 12) **Choice A is correct.** **(6.NS.B.3)** In 8 hours, there are 4 periods of 2 hours. Change:  $(-3) \times 4 = -12^\circ$ .
- 13) **Choice D is correct.** **(6.G.A.1)**  $A = \frac{1}{2} \times 7 \times 8 = 28 \text{ cm}^2$ .
- 14) **Choice B is correct.** **(6.G.A.1)** Using  $72 = \frac{1}{2}(15 + 9) \times h = 12h$ , so  $h = 6$  cm.
- 15) **Choice D is correct.** **(6.G.A.2)**  $V = 10 \times 7 \times 2 = 70 \times 2 = 140 \text{ in}^3$ .
- 16) **Choice B is correct.** **(6.G.A.3)** Perimeter =  $2(\text{length} + \text{width})$ , so  $28 = 2(9 + w)$ , which gives  $14 = 9 + w$ , thus  $w = 5$  units.
- 17) **Choice A is correct.** **(6.NS.C.8)** Translating left subtracts from  $x$ :  $C(3, 3) \rightarrow C'(3 - 2, 3) = C'(1, 3)$ .
- 18) **The correct answer is The graph is a straight line through the origin, and the ratio of  $y$  to  $x$  is always constant.** **(6.NS.C.7d)** Statements A and B correctly describe proportional relationships. C is wrong because  $b$  must equal 0 for proportionality. D is wrong because proportional equations have the form  $y = kx$ , not  $y = k/x$ . E is wrong because a proportional relationship must start at the origin.
- 19) **Choice C is correct.** **(6.RP.A.1)** Area of a circle =  $\pi r^2 \approx 3.14 \times 5^2 = 3.14 \times 25 = 78.5 \text{ cm}^2$ .
- 20) **Choice C is correct.** **(6.SP.A.2)** The different responses (25, 45, 30, 50, 35 minutes) demonstrate that this question has variability and requires data collection, which are hallmarks of a statistical question.
- 21) **The correct answer is 120.** **(6.RP.A.3c)**  $25\% \text{ of } 480 = 0.25 \times 480 = 120$  products were sold online.
- 22) **Choice C is correct.** **(6.SP.B.5c)** Both classes have the same mean, but Class A has a lower MAD (4 vs. 7), indicating less variability and more consistent performance.
- 23) **Choice D is correct.** **(6.RP.A.3)** The data is: 21, 23, 25, 28, 30, 34, 37, 42, 46. Each value appears exactly once, so there is no mode (no repeated value).
- 24) **Choice D is correct.** **(6.NS.C.8)** Quadrant IV is in the lower right, where  $x$  values are positive and  $y$  values are negative.
- 25) **The correct answer is 9.** **(6.RP.A.3)** Ratio 5 : 3 with 15 red marbles: each part is  $15 \div 5 = 3$  marbles. Blue marbles:  $3 \times 3 = 9$ .
- 26) **Choice B is correct.** **(6.NS.C.7d)** All negatives come before zero, and all zeros come before positives. Among negatives,  $-0.5 < -0.2$ . Among positives,  $0.3 < 0.8$ .
- 27) **The correct answer is 0.5.** **(6.RP.A.3)** Divide actual by drawing:  $4 \text{ m} \div 8 \text{ cm} = 0.5 \text{ m per cm}$ .



Scan me!  
For more practice  
& answers

Star Player Pep Talk

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## Hi, Star Player!

◇ 9 practice tests. Every one of them was a chance to grow. You took every chance. That's why you're a math star today! ◇

★ **Star players know:** confidence comes from practice. You can't fake it. You build it. You built yours over 9 tests. It's real now! ★

### Star Player Stats

- **Practice:** OFF THE CHARTS!
- **Skills:** BROAD! You can do many problem types.
- **Toughness:** HIGH! You don't quit on hard problems.
- **Game Plan:** READY! You know your strategies.

**Star tip:** on test day, take it one play at a time. One problem. Then the next. You will earn your stars!

If you want to share something or ask a question, please email me at [jay@testinar.com](mailto:jay@testinar.com).

**Jay Daie**

Your Math Coach

# PRACTICE MORE. ACHIEVE MORE.

This **Grade 6 Math Practice Tests** book is designed to help students strengthen their math skills, master important concepts, and build the confidence they need to excel on any test.

With 9 full-length printed tests and 2 online tests, students get the review, practice, and realistic test experience they need to improve accuracy, develop problem-solving abilities, and reach their full potential.

Perfect for classroom use, homework, test preparation, and extra practice at home.

## PERFECT FOR:

- ✓ Classroom Practice
- ✓ Homework & Review
- ✓ Independent Learning
- ✓ Test Preparation
- ✓ Skill Reinforcement
- ✓ Building Confidence

★ PRACTICE TODAY.  
SUCCEED TOMORROW.

## WHAT STUDENTS WILL 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 math concepts aligned with standards.



### Test Confidence

Get familiar with test formats and improve accuracy.



### 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

Extra online practice to reinforce learning and build confidence.

## MORE PRACTICE. GREATER RESULTS.

Give your child the tools needed to develop strong math skills, confidence, and a positive attitude toward learning.



9 PRINTED  
PRACTICE TESTS



2 ONLINE  
PRACTICE TESTS



DETAILED ANSWER  
EXPLANATIONS