Illinois IAR

GRADE 6

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

5 PRINTED TESTS

- Full-Length Practice Tests
- Realistic Questions
- Answer Key & Explanations

+ 2 ONLINE TESTS

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

PREPARE • PRACTICE • SUCCEED

5 Illinois IAR Grade 6 Math Practice Tests

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

Five 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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Jay Daie and Reza Nazari

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Welcome, Illinois Math Explorer!

Eight focused rounds using prairie-to-city reasoning

This book gives you five 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

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How to Use This Book

A five-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.

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What Is Inside?

Eight IAR tests, 320 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 rounds with expressions, equations, geometry, data, and problem models.
Test 5	Final stamina round 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.

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1) Which expression has exactly 2 terms, both with variables, and a coefficient of 4?

☐ A. $4x + 7$
☐ B. $4a + b$
☐ C. $4m + 4n$
☐ D. $2x + 2y$

2) Two different scale drawings are made of the same object. Scale A is 1 inch = 5 feet, and Scale B is 1 inch = 10 feet. Which scale makes a larger drawing?

☐ A. Scale A (because the scale factor is smaller)
☐ B. Scale B (because it goes up to 10 feet)
☐ C. Both drawings are the same size
☐ D. It depends on the object being drawn

3) Write $\frac{4}{5}$ as a decimal and then as a percent.

☐ A. 0.45 and 45%
☐ B. 1.25 and 125%
☐ C. 0.04 and 4%
☐ D. 0.8 and 80%

4) For $3, 5, 7, 9, 11, 13, 15$, find the interquartile range.

5) A recipe ratio table is shown. What is the value of y that makes the relationship proportional with constant $k = 2.5$?

x	2	4	6
y	5	10	?

☐ A. 12
☐ B. 15
☐ C. 16
☐ D. 18

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6) What is $\frac{5}{8} \div \frac{5}{6}$?

☐ A. $\frac{25}{48}$
☐ B. 1
☐ C. $\frac{8}{6}$
☐ D. $\frac{3}{4}$

7) A pentagon has vertices at $(1, 1)$, $(5, 1)$, $(7, 4)$, $(4, 7)$, and $(1, 5)$. How many sides does it have?

☐ A. 4 sides
☐ B. 5 sides
☐ C. 6 sides
☐ D. 7 sides

8) A recipe uses flour, sugar, and butter in the ratio $3 : 2 : 1$. If you use 2 cups of sugar, how much flour do you need?

☐ A. 2 cups
☐ B. 6 cups
☐ C. 4 cups
☐ D. 3 cups

9) A recipe for trail mix uses almonds, raisins, and chocolate chips in a $4 : 3 : 5$ ratio. If the mix contains 12 ounces of almonds, how many ounces of raisins and chocolate chips combined are in the mix?

☐ A. 12 oz
☐ B. 18 oz
☐ C. 20 oz
☐ D. 24 oz

10) A bakery sells 24 cookies for \$6.00. What is the unit price per cookie?

☐ A. \$0.15 per cookie
☐ B. \$0.20 per cookie
☐ C. \$0.25 per cookie
☐ D. \$0.30 per cookie

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11) A water fountain fills 10 gallons in 2 minutes. What is the unit rate in gallons per minute?

☐ A. 2 gal/min
☐ B. 5 gal/min
☐ C. 8 gal/min
☐ D. 20 gal/min

12) A factory produces 24 widgets in 4 hours. The table shows equivalent production rates. What is the missing number of widgets?

Widgets	Hours
24	4
?	8
72	12

☐ A. 36
☐ B. 64
☐ C. 60
☐ D. 48

13) A graph shows the relationship between the number of soccer practice hours and the number of goals scored. The points $(2, 6)$ and $(5, 15)$ are on the line.
What is the unit rate (goals per practice hour)?

☐ A. 2 goals per hour
☐ B. 6 goals per hour
☐ C. 5 goals per hour
☐ D. 3 goals per hour

14) A sweater originally costs \$40. It is on sale for 25% off. What is the sale price?

☐ A. \$10
☐ B. \$15
☐ C. \$30
☐ D. \$50

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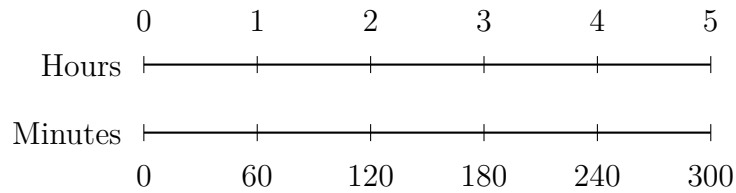
1)



Based on the double number line, what is the rate in minutes per hour?

- ☐ A. 30 minutes per hour
- ☐ B. 60 minutes per hour
- ☐ C. 90 minutes per hour
- ☐ D. 150 minutes per hour

2) Which of these is a statistical question?

- ☐ A. How tall am I?
- ☐ B. What is the capital of Texas?
- ☐ C. How many minutes do students in my class spend on homework each night?
- ☐ D. How many days are in a year?

3) A basketball team's game scores: $\{78, 82, 85, 87, 88, 89, 90, 92, 96\}$. If a student calculated the median as 88 but got the mean as 79, what is the student's error?

- ☐ A. Median is correct but mean is wrong; mean should be about 87.4
- ☐ B. Median is wrong; should be 87. Mean of 79 is too low
- ☐ C. Both calculations are correct but the student misunderstood spread
- ☐ D. Median is correct but mean is wrong; mean should be 89.33

4) What integer added to -10 equals -6?

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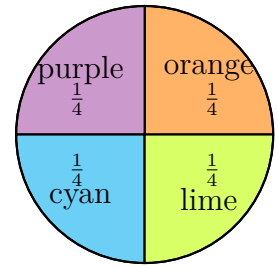


5)

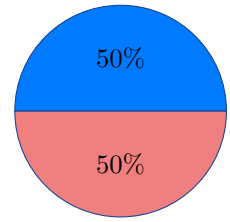
The spinner above has four equal sections. What is the probability of spinning orange or cyan?

☐ A. $\frac{1}{4}$
☐ B. $\frac{1}{2}$
☐ C. $\frac{3}{4}$
☐ D. 1

6) In a back-to-back stem-and-leaf plot, Class A (left) and Class B (right) show test scores. What is the smallest score in Class A?

Class A	Stem	Class B
7, 5, 2	8	1, 4, 6

☐ A. 81
☐ B. 82
☐ C. 84
☐ D. 86



7)

A music store polled 200 customers about preferred instruments. If the circle graph shows 50% prefer guitar, how many customers prefer guitar?

☐ A. 100
☐ B. 75
☐ C. 50
☐ D. 150

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1) A toy store records daily sales revenue over two weeks: Week 1: \$180, \$200, \$195, \$210, \$190, \$205, \$215 Week 2: \$160, \$240, \$175, \$225, \$190, \$210, \$200 Both weeks have the same mean of \$199. Without calculating MAD, which week likely has a higher MAD?

☐ A. Week 1 has a higher MAD.
☐ B. Week 2 has a higher MAD.
☐ C. Both weeks have the same MAD.
☐ D. Cannot be determined without calculation.

2) A dataset's box plot is perfectly symmetric (whiskers are equal length, and the median is exactly between Q_1 and Q_3). Which statement must be true?

☐ A. The distribution is symmetric around the median.
☐ B. The data has no outliers.
☐ C. The mean equals the median.
☐ D. All data values are equally spaced.

3) A histogram shows age distribution skewed left (tail on the left). Where is the mean relative to the median?

☐ A. The mean is less than the median.
☐ B. The mean equals the median.
☐ C. The mean is greater than the median.
☐ D. Cannot be determined.

4) A spinner has 8 equal sections. Two sections are red, three are blue, and three are green. What is the probability of spinning green?

☐ A. $\frac{1}{8}$
☐ B. $\frac{1}{4}$
☐ C. $\frac{3}{8}$
☐ D. $\frac{5}{8}$

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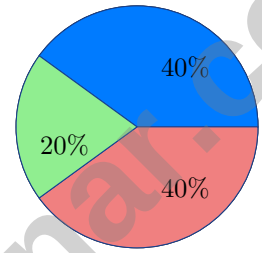
5) The mode is the value that appears most often. In a stem-and-leaf plot, the mode occurs in which stem if we see a repeated leaf?

☐ A. The stem with the most leaves
☐ B. The largest stem
☐ C. The smallest stem
☐ D. The stem corresponding to the repeated leaf value

6) Evaluate $2n - 7$ when $n = 15$.



7)

A circle graph shows the results of a survey with 300 students. One section is 20%. How many students are in this section?

☐ A. 20
☐ B. 60
☐ C. 80
☐ D. 100

8) Write 0.005 as a percent.

☐ A. 0.5%
☐ B. 5%
☐ C. 50%
☐ D. 500%

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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 five 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.EE.A.2b $4m + 4n$ has 2 terms ($4m$ and $4n$), both have variables, and both have coefficient 4.
2) **Choice A is correct.** 6.RP.A.3 A smaller scale factor (fewer feet per inch) means the drawing must be larger to represent the same object. Scale A represents fewer feet per inch, so the drawing is larger.
3) **Choice D is correct.** 6.RP.A.3c $\frac{4}{5} = \frac{80}{100} = 0.8 = 80\%$.
4) **The correct answer is** 8. 6.SP.B.5 $Q_1 = 5$ and $Q_3 = 13$, so IQR $= 13 - 5 = 8$.
5) **Choice B is correct.** 6.NS.C.7d For constant $k = 2.5$: $y/x = 2.5$. When $x = 6$: $y/6 = 2.5$, so $y = 6 \times 2.5 = 15$.
6) **Choice D is correct.** 6.NS.A.1 $\frac{5}{8} \times \frac{6}{5} = \frac{30}{40} = \frac{3}{4}$.
7) **Choice B is correct.** 6.G.A.3 A pentagon has 5 vertices and 5 sides by definition.
8) **Choice D is correct.** 6.RP.A.1 Use the order flour:sugar:butter. Sugar is the 2-part amount, and it is 2 cups, so one ratio part is 1 cup. Flour is 3 parts, or 3 cups.
9) **Choice D is correct.** 6.RP.A.3 Almonds are the 4-part amount, and $12 \div 4 = 3$, so each part is 3 oz. Raisins are $3 \times 3 = 9$ oz and chips are $5 \times 3 = 15$ oz; together that is 24 oz.
10) **Choice C is correct.** 6.RP.A.3d Divide total cost by number of cookies: $6.00 \div 24 = 0.25$ dollars per cookie.
11) **Choice B is correct.** 6.RP.A.3b Divide total gallons by time: $10 \div 2 = 5$ gallons per minute.
12) **Choice D is correct.** 6.RP.A.3 The ratio is $24 : 4$ or $6 : 1$. For 8 hours: $6 \times 8 = 48$ widgets.
13) **Choice D is correct.** 6.RP.A.3a The unit rate is the change in goals divided by the change in hours: $\frac{15-6}{5-2} = \frac{9}{3} = 3$ goals per hour.
14) **Choice C is correct.** 6.RP.A.3c 25% of \$40 is $0.25 \times 40 = \$10$. Sale price is $\$40 - \$10 = \$30$.
15) **Choice A is correct.** 6.RP.A.3 Ratio $5 : 3$ with width 12 means each part is $12 \div 3 = 4$ feet. Length is $5 \times 4 = 20$ feet.
16) **Choice C is correct.** 6.RP.A.3d Multiply: $1.2 \times 1000 = 1200$ grams.
17) **Choice D is correct.** 6.NS.C.7d $\frac{\$200}{\$25 \text{ per month}} = 8$ months.
18) **Choice C is correct.** 6.EE.C.9 Emergency and Car: $(22\% + 16\%) = 38\%$ of $\$5000 = 0.38 \times 5000 = \$1900$.
19) **Choice C is correct.** 6.NS.B.2 $8{,}456 \div 56 = 151$ with no remainder. Check: $56 \times 151 = 8{,}456$.
20) **The correct answer is** 3. 6.NS.B.3 Number of green marbles $= \frac{1}{3} \times 9 = 3$.
21) **The correct answer is A statistical question anticipates variability and is answered by collecting data..** 6.SP.A.2 Options B and C are correct: statistical questions expect varied answers and require data collection. Option A is wrong (statistical questions do NOT have single answers). Option D is irrelevant (statistical questions can be about unfamiliar topics). Option E partially overlaps with B and C but is less precise.
22) **Choice A is correct.** 6.NS.B.3 Multiply: $2.35 \times 5 = 11.75$ minutes.
23) **Choice B is correct.** 6.NS.B.4 Common factors shared by 32 and 48 are 1, 2, 4, 8, and 16; the greatest is 16. (You can also peel out matching prime factors: both have four factors of 2 in common.)
24) **The correct answer is** 71.5. 6.SP.B.4 In order: $67, 68, 71, 72, 74, 75$. With 6 values, the median is the average of the 3rd and 4th values: $(71 + 72)/2 = 71.5$.
25) **Choice A is correct.** 6.NS.B.4 Using the distributive property: $7(4 + 6) = 7 \cdot 4 + 7 \cdot 6 = 28 + 42 = 70$.
26) **Choice C is correct.** 6.NS.C.7c Check each: A: $2 = 2$ (equal). B: $4 = 4$ (equal). C: $3 \neq 5$ (NOT equal). D: $6 = 6$ (equal).
27) **Choice C is correct.** 6.NS.C.6c $\frac{2}{5} = \frac{4}{10} = 0.4$, so $-\frac{2}{5} = -0.4$.

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Hi, Math Builder!

◇ Through 5 practice tests, you built your math house brick by brick. The walls are strong. The roof is on. You are ready for anything test day brings. ◇

⋆ **Builders know:** good plans make strong houses. You learned to plan, then build. That helps with any problem. ⋆

Builder's Tools

- **Foundation:** ROCK SOLID. Math facts are in place.
- **Frame:** STRONG. You can break problems into parts.
- **Walls:** TIDY. Your work is neat and clear.
- **Roof:** DONE. You always answer the question.

Builder tip: on test day, build each answer like a tiny house. Read first. Plan next. Do the math. Then check!

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

Jay Daie

Your Math Builder

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PRACTICE MORE. ACHIEVE MORE.

This book provides **5 full-length Math practice tests** designed to help Grade 6 students strengthen their skills, build confidence, and excel on standardized assessments.

Each test is carefully crafted to reflect the latest standards and covers a wide range of math topics with realistic questions and detailed answer explanations.

BUILD CONFIDENCE
Practice builds familiarity and reduces test anxiety.

IMPROVE ACCURACY
Sharpen skills and avoid common mistakes.

ACHIEVE SUCCESS
Consistent practice leads to greater results.

WHAT'S INSIDE?

5 Full-Length Practice Tests
Realistic tests designed to mirror actual exam conditions.

Realistic Questions
A variety of question types to strengthen problem-solving skills.

Answer Keys & Explanations
Detailed solutions to help students learn and improve.

Performance Tracking
Track progress and identify areas that need improvement.

Comprehensive Coverage
All essential topics aligned with Grade 6 math standards.

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PRACTICE REGULARLY | STAY FOCUSED | SOLVE CONFIDENTLY | SUCCEED BRIGHTLY

PREPARE TODAY. SUCCEED TOMORROW!