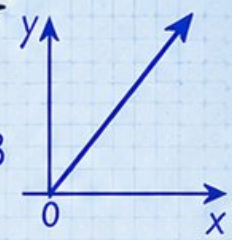
3 Illinois IAR

GRADE 6 MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs



$y = 2x + 3$

$\frac{3}{5} + \frac{2}{10} = \frac{8}{10} = \frac{4}{5}$

36% of 150 = ?

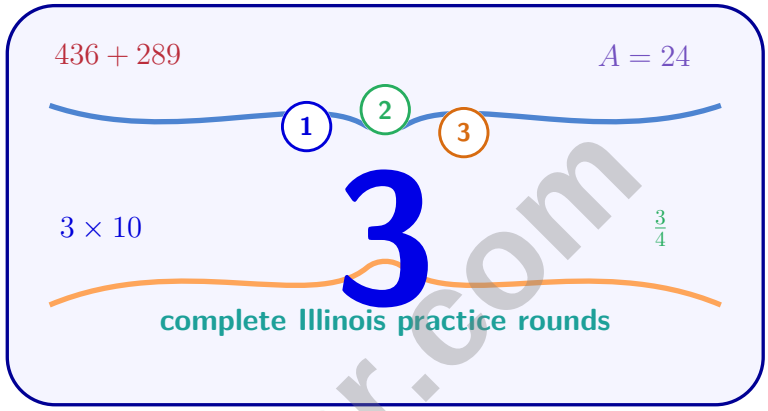
3 PRINTED TESTS

2 ONLINE TESTS

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

3 Illinois IAR Grade 6 Math Practice Tests

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



Three 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!

Three focused rounds using prairie-to-city reasoning

This book gives you three 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.

How to Use This Book

A three-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?

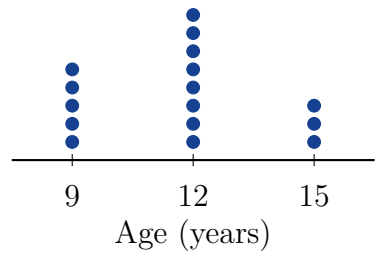
Three IAR tests, 120 questions, and a full review path

Part	What You Will Practice
Tests 1–2	Foundation rounds for ratios, rational numbers, operations, and careful reading.
Test 3	Final stamina round for expressions, equations, geometry, data, problem models, and mixed review.
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.

Table of Contents

1) A dot plot displays the ages of people visiting an ice cream shop. The dot plot shows 5 people aged 9 years old, 8 people aged 12 years old, and 3 people aged 15 years old. How many total people are represented in the dot plot?



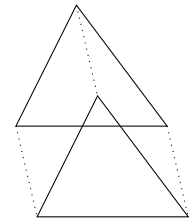
☐ A. 16
☐ B. 25
☐ C. 20
☐ D. 18

2) A ribbon is $\frac{5}{6}$ yard long. You need pieces that are $\frac{1}{6}$ yard long. How many pieces can you cut?

☐ A. 1
☐ B. 4
☐ C. 5
☐ D. 6

3) A triangular prism has a base with sides 6 cm, 7 cm, and 7 cm. The height of the prism is 9 cm. What is the lateral surface area?

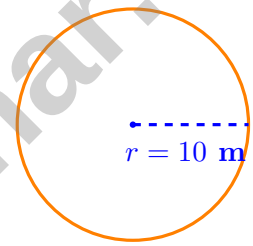
Height = 9 cm



Perimeter of base = 20 cm

☐ A. 108 cm^2
☐ B. 144 cm^2
☐ C. 180 cm^2
☐ D. 216 cm^2

Circular Field

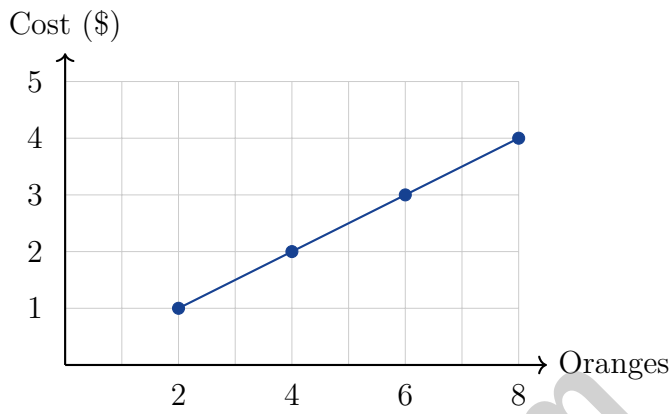


4)

A circular field has a radius of 10 meters. Using $\pi \approx 3.14$, what is the area?

☐ A. 31.4 m^2
☐ B. 62.8 m^2
☐ C. 314 m^2
☐ D. 628 m^2

5) A store sells oranges at a constant rate. The graph below shows the relationship between the number of oranges and the total cost in dollars.



What is the unit rate (cost per orange)?

☐ A. $0.25 per orange
☐ B. $2.00 per orange
☐ C. $1.00 per orange
☐ D. $0.50 per orange

6) A class of 80 students has 20 absent. What percent are absent?

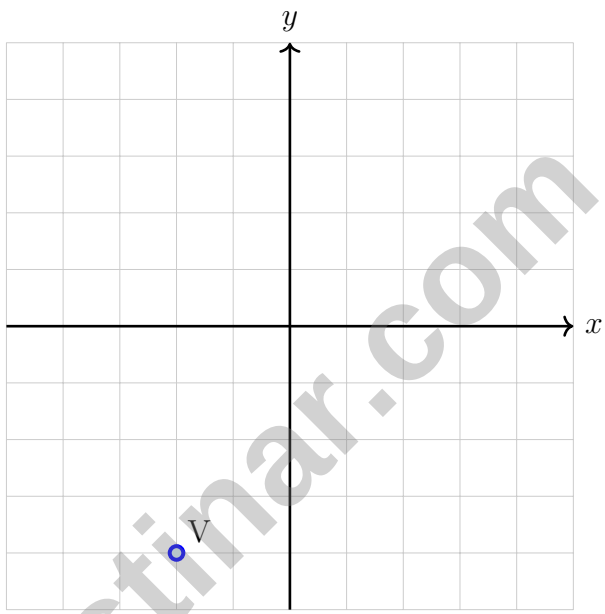
☐ A. 20%
☐ B. 25%
☐ C. 30%
☐ D. 50%

7) In a student club, the ratio of 6th graders to 7th graders is 4 : 6. If there are 12 sixth graders, how many seventh graders are in the club?

1) A triangle is part of a composite figure. If it has a base of 6 inches and a height of 4 inches, what is its area?

☐ A. 10 in^2
☐ B. 12 in^2
☐ C. 24 in^2
☐ D. 48 in^2

2)



Point V is at $(-2, -4)$. It is reflected over the x-axis. What are the coordinates of V'?

☐ A. $(-2, 4)$
☐ B. $(2, -4)$
☐ C. $(2, 4)$
☐ D. $(-2, -4)$

3) Consider the question: "How much time do students in my class spend on video games each week?"
What makes this a statistical question?

☐ A. It is asked every week.
☐ B. It requires a calculator to answer.
☐ C. It mentions video games.
☐ D. It involves many people with different answers.

4) A store manager wants to know the "typical" shoe size sold. Which measure of center would be most useful?

☐ A. Mean
☐ B. Median
☐ C. Mode
☐ D. Range

5) Find the mean of $20, 30, 40, 50$.

☐ A. 30
☐ B. 35
☐ C. 40
☐ D. 45

6) A gym tracks weekly visitor counts: $120, 135, 128, 142, 151, 140, 130$. When ordered: $120, 128, 130, 135, 140, 142, 151$. Find the interquartile range.

☐ A. 12
☐ B. 31
☐ C. 15
☐ D. 14

7) If $Q_1 = 15$ and $Q_3 = 35$, what is the IQR?

☐ A. 10
☐ B. 15
☐ C. 20
☐ D. 50

1) A discount applies when you spend less than \$50. If d represents the amount you spend, which inequality is correct?

☐ A. $d < 50$
☐ B. $d \leq 50$
☐ C. $d > 50$
☐ D. $d \geq 50$

2) A car rental charges a daily rate of \$40 per day. Write an equation relating total cost C to number of days d.

☐ A. $C = d + 40$
☐ B. $C = 40d$
☐ C. $d = 40C$
☐ D. $C = \frac{40}{d}$

3) A trapezoid has bases of 13 ft and 7 ft and an area of 50 ft^2. What is the height?

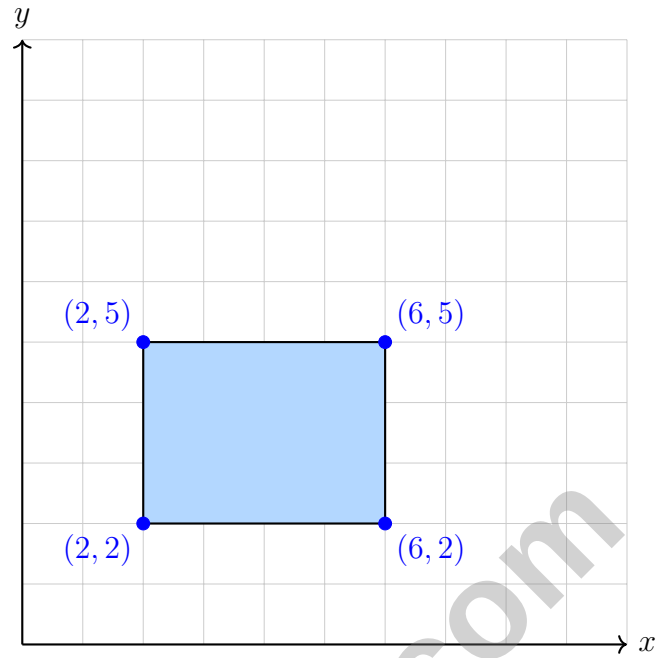
☐ A. 4 ft
☐ B. 5 ft
☐ C. 6 ft
☐ D. 7 ft

4) A wooden block has dimensions $2\frac{1}{4}$ in by 2 in by 3 in. What is its volume?

☐ A. 7.25 in^3
☐ B. 13.5 in^3
☐ C. 14.5 in^3
☐ D. 18.5 in^3

5) Which number is least: -2.5, $\frac{3}{2}$, -1, 0, or $-\frac{1}{2}$?

6)



What type of polygon is shown?

☐ A. Square
☐ B. Pentagon
☐ C. Trapezoid
☐ D. Rectangle

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 three 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.SP.B.4 Add the number of people at each age: $5 + 8 + 3 = 16$ total people.

2) **Choice C is correct.** 6.NS.A.1 $\frac{5}{6} \div \frac{1}{6} = \frac{5}{6} \times 6 = 5$.

3) **Choice C is correct.** 6.G.A.4 Lateral surface area = perimeter × height $= (6 + 7 + 7) \times 9 = 20 \times 9 = 180$ cm^2.

4) **Choice C is correct.** 6.RP.A.1 Area $= \pi r^2 \approx 3.14 \times 10^2 = 3.14 \times 100 = 314$ m^2.

5) **Choice D is correct.** 6.RP.A.3a At the point where oranges = 2, cost = \$1, giving a ratio of $\$1 \div 2 = \$0.50$ per orange. Or use any point: at $(8, 4)$, the rate is $\$4 \div 8 = \$0.50$ per orange.

6) **Choice B is correct.** 6.RP.A.3c $\frac{20}{80} = \frac{1}{4} = \frac{25}{100} = 25\%$.

7) **The correct answer is** 18. 6.RP.A.3 The ratio of sixth graders to seventh graders is $4 : 6$, which simplifies to $2 : 3$. If 2 parts are 12 students, each part is 6, so seventh graders are $3 \times 6 = 18$.

8) **Choice D is correct.** 6.RP.A.3c 40% of $300 = 0.40 \times 300 = 120$ votes.

9) **The correct answer is** 9 **dollars per book.** 6.RP.A.3d Divide the total cost by the number of books: $45 \div 5 = 9$ dollars per book.

10) **Choice C is correct.** 6.RP.A.3 Unit rate: $\frac{1}{2} \div 2 = \frac{1}{4}$ cup per person. For 8 people: $\frac{1}{4} \times 8 = 2$ cups.

11) **Choice B is correct.** 6.RP.A.3d Convert 2 quarts to pints: $2 \times 2 = 4$ pints. Total: $6 + 4 = 10$ pints.

12) **Choice A is correct.** 6.NS.C.7d 30% of \$80 is $0.30 \times 80 = \$24$.

13) **Choice C is correct.** 6.NS.C.7d Ratios: $200/32 = 6.25$, $350/55 \approx 6.36$, $420/65 \approx 6.46$. The ratio is not constant, so the relationship is not proportional. Larger size does not guarantee proportionality.

14) **The correct answer is** 12 **gal/min.** 6.RP.A.3b $144 \div 12 = 12$ gallons per minute.

15) **Choice A is correct.** 6.EE.C.9 Surplus is $\$300 - \$180 = \$120$. As percent: $\$120 \div \$300 = 0.40 = 40\%$.

16) **Choice C is correct.** 6.RP.A.3 Multiply: 4 cm × 1.5 m/cm = 6 m.

17) **Choice A is correct.** 6.NS.B.2 $4{,}752 \div 24 = 198$. Check: $24 \times 198 = 4{,}752$.

18) **Choice A is correct.** 6.NS.B.3 Align the decimal points. In the tenths place, 6 is smaller than 8, so regroup one whole as ten tenths: the 5 becomes 4 and the tenths become 16. Then $16 - 8 = 8$ tenths, $4 - 3 = 1$ one, and $2 - 1 = 1$ ten, so the result is 11.8.

19) **Choice B is correct.** 6.NS.B.4 Since 7 and 11 are both prime and share no common factors, their LCM is their product: $7 \times 11 = 77$.

20) **Choice C is correct.** 6.NS.B.4 Find GCF$(12, 18)$. Factors of 12: $1, 2, 3, 4, 6, 12$. Factors of 18: $1, 2, 3, 6, 9, 18$. GCF is 6. She can make 6 piles with 2 red shirts and 3 blue shirts each.

21) **Choice C is correct.** 6.NS.C.5 The difference is $5 - (-15) = 5 + 15 = 20$ degrees.

22) **The correct answer is Girls to boys is** $10 : 15 = 2 : 3$ **(Choice A is correct). Boys to total is** $15 : 25 = 3 : 5$ **(Choice B is correct).**. 6.RP.A.1 Choice A is correct because girls to boys is $10 : 15$, which simplifies to $2 : 3$. Choice B is correct because boys to total is $15 : 25$, which simplifies to $3 : 5$. The other choices either flip the order, swap which group is named first, or use the wrong total (10 girls out of 25 students is $2 : 5$, not $1 : 3$).

23) **The correct answer is** 24. 6.RP.A.3 The rate is $50 : 4$ or $12.5 : 1$. For 300 cubic yards: $300 \div 50 \times 4 = 24$ hours.

24) **Choice B is correct.** 6.NS.C.7c $-(-6) = 6$. The opposite of 6 is -6.

25) **Choice B is correct.** 6.NS.C.6c -2.25 is exactly halfway between -2.5 and -2, found by: $\frac{-2.5+(-2)}{2} = -2.25$.

26) **Choice A is correct.** 6.NS.C.8 Only the point $(3, 1)$ has both positive x and positive y coordinates, placing it in Quadrant I.

27) **Choice A is correct.** 6.NS.C.7d $A = -0.5$ and $B = 2.5$. Since $-0.5 < 2.5$, we have $A < B$.

Author's Note

Pilot's Pre-Flight Note

Hi, Math Pilot!

◇ 3 flights done in your math airplane. You have flown through smooth skies and bumpy clouds. You are a real pilot now. ◇

⋆ **Pilots know:** a good check before takeoff makes a smooth flight. Before each problem, do your check: read, plan, solve, verify. ⋆

Pilot Skills

- **Pre-Flight:** You read the question carefully.
- **Steering:** You pick the right strategy.
- **Smooth Flight:** You stay calm in long tests.
- **Landing:** You always check your final answer.

Pilot tip: on test day, take off one problem at a time. Trust your training. You earned your wings!

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

Jay Daie

Your Math Pilot

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes 3 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:

- 3 Full-Length Printed Tests
- 2 Online Practice Tests
- Detailed Answer Explanations

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

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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

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

VISIT TESTINAR.COM/MATH6

FOR MORE PRACTICE TESTS AND LEARNING RESOURCES

PRACTICE REGULARLY | STAY FOCUSED | SOLVE CONFIDENTLY | SUCCEED BRIGHTLY

PREPARE TODAY. SUCCEED TOMORROW!