

# 5

# FULL-LENGTH

# Illinois

# IAR

## GRADE 5 MATH

### ★ PRACTICE TESTS ★



**5 FULL-LENGTH  
PRACTICE TESTS**



**COMPLETE  
STANDARDS  
REVIEW**



**SKILL PRACTICE,  
WORD PROBLEMS,  
AND MORE!**

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



$$12 \times 3 = 36$$



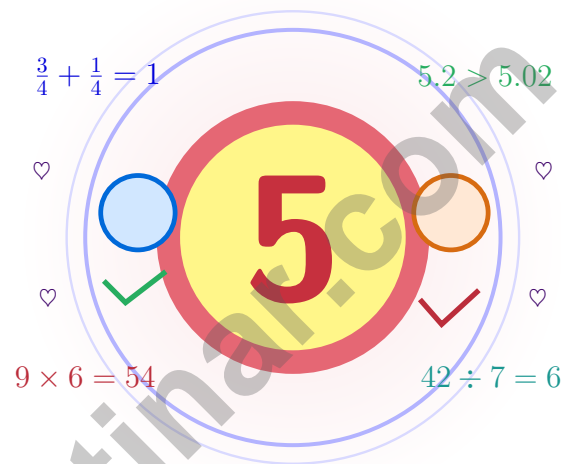
$$\frac{7}{10} = 0.7$$



**BUILT FOR SUCCESS. DESIGNED TO HELP EVERY STUDENT.**

# 5 Illinois IAR Grade 5 Math Practice Tests

*Your practice journey starts here, one smart checkpoint at a time*



Five full tests, a friendly quick review, smart strategy pages, and student-tested support that turn Grade 5 practice in The Prairie State into a steady quest of real growth.

**Jay Daie and Reza Nazari**



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# Welcome to the Math Quest, Illinois

Your practice journey starts here, one smart checkpoint at a time

## Quest Briefing for Illinois Grade 5 Math Crew

This book is your practice zone, not a place to be perfect. Each of the five tests gives you a chance to notice clues, choose a strategy, check your thinking, and come back stronger for the next round. Math is like a tower in Chicago: every floor stands on the one below, so the careful first steps lift the whole building.

Some questions will feel easy right away. Some will make you slow down, draw, estimate, or retry. That is excellent news. It means your math brain is doing real work.

### Spot Clues

Notice the numbers, units, and tricky words.

### Make a Plan

Choose the strategy or model that fits.

### Bounce Back

Mistakes show you exactly where to grow next.

**A strong quest habit for Illinois:** slow down, write neatly, estimate before you solve, and keep going even when a problem looks tricky at first. That is exactly how confident math students are built.

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# How to Use This Book

A simple routine that turns five tests into real growth

## Step 1: Warm Up

**Sharpen your math brain with the quick review.**

Wake up important ideas before you begin so your brain is ready to use them.

## Step 2: Quest Run

**Take a full practice test in a calm spot.**

Find a quiet space, work carefully, and let accuracy matter more than speed.

## Step 3: Debrief

**Score honestly and circle missed questions.**

Circle missed questions and look for patterns. Which skill or habit needs another try?

## Step 4: Repair Kit

**Fix the missed work and lock the lesson in.**

Read the explanation, repair the work, and carry that lesson into the next test.

## A Five-Week Illinois Quest Map

Week	Mission Focus
Week 1	Take Test 1 and sketch your starting blueprint.
Week 2	Take Test 2 and notice one habit that grew sharper.
Week 3	Take Test 3 and reinforce fractions, decimals, and conversions.
Week 4	Take Test 4 and slow down on multi-step word problems.
Week 5	Take Test 5 and finish the floor plan with calm, careful work.



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## Grade 5 Mathematics Reference Materials

### PERIMETER AND AREA

Perimeter of Rectangle  $P = 2l + 2w$  or  $P = 2(l + w)$

Area of Rectangle  $A = l \times w$

Area of Triangle  $A = \frac{1}{2} \times b \times h$

Volume of Rectangular Prism  $V = l \times w \times h$

### LENGTH

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1 foot (ft) = 12 inches (in.)

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### CAPACITY

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### TIME

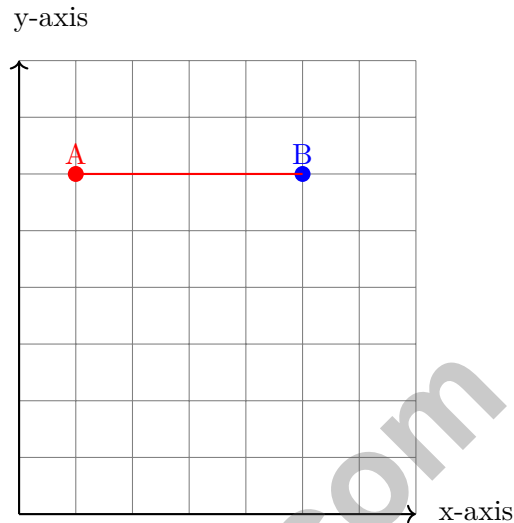
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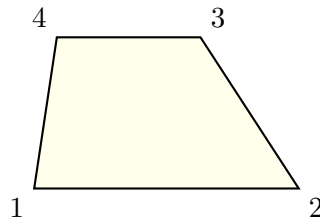
- 1) On a coordinate grid, point A is at (1, 6) and point B is at (5, 6). The two points are on the same:



- A. x-axis
- B. y-axis
- C. Horizontal line
- D. Vertical line
- 2) A display pedestal has volume 84 cubic inches. Its base is 6 inches by 7 inches. What is its height?
- A. 1 inch
- B. 2 inches
- C. 3 inches
- D. 42 inches
- 3) Pattern:  $25 \times 4 = 100$ ;  $25 \times 40 = 1,000$ ;  $25 \times 400 = ?$
- A. 1,000
- B. 10,000
- C. 100,000
- D. 10



- 4) Look at the shape. How many obtuse angles does it have?



- A. 0                                       C. 2  
 B. 1                                       D. 4
- 5) What is  $480 \div 10$ ?
- A. 48                                       C. 4.8  
 B. 4,800                                       D. 0.48
- 6) Write 0.005 in word form.
- A. Five tenths                                       C. Five thousandths  
 B. Five hundredths                                       D. Fifty thousandths
- 7) A student incorrectly added  $\frac{1}{3} + \frac{1}{4}$  and got  $\frac{2}{7}$ . What is the correct answer?
- A.  $\frac{7}{12}$                                        C.  $\frac{2}{12}$   
 B.  $\frac{2}{7}$  (the student is correct)                                       D.  $\frac{1}{12}$
- 8) A family drives 156 miles on day 1 and 144 miles on day 2. How many feet is the total distance traveled?  
*Use: 1 mile = 5,280 feet*
- A. 300 feet                                       C. 1,584,000 feet  
 B. 158,400 feet                                       D. 2,471,040 feet



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1) Which number has a 6 in the hundredths place?

A. 4.687

C. 3.64

B. 6.483

D. 9.061

2) Compare without calculating:  $6 \times 20$    $12 \times 10$

A. >

C. =

B. <

D. Cannot tell

3) What is  $\frac{4}{9} \times \frac{3}{5}$  in simplest form?

A.  $\frac{13}{45}$

C.  $\frac{7}{14}$

B.  $\frac{4}{15}$

D.  $\frac{2}{3}$

4) A sports team has 15 pounds of practice sand. Each training bag holds  $\frac{1}{2}$  pound. How many training bags can the team fill?

Each pound makes 2 half-pound bags



Model shows 5 of the 15 pounds; each pound makes 2 bags

A. 18 bags

C. 36 bags

B. 24 bags

D. 30 bags

5) A craft project uses  $\frac{1}{4}$  meter of ribbon. The ribbon is cut into 3 equal pieces. How long is each piece?

A.  $\frac{1}{12}$  meter

C.  $\frac{1}{1}$  meter

B.  $\frac{3}{4}$  meter

D.  $\frac{1}{7}$  meter



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1) Round 9.951 to the nearest hundredth.

A. 9.95

C. 10.0

B. 9.96

D. 9.9

2) Find the difference:  $\frac{3}{4} - \frac{1}{6}$ .

*Record your answer in the space provided.*

3) A rectangle has length  $(4 + 3)$  cm and width 5 cm. Which expression represents the area?

A.  $4 + 3 + 5$

C.  $4 + 3 \times 5$

B.  $4 \times (3 + 5)$

D.  $(4 + 3) \times 5$

4) Which fraction is equivalent to  $\frac{7}{10}$  with denominator 30?

A.  $\frac{14}{30}$

C.  $\frac{24}{30}$

B.  $\frac{21}{30}$

D.  $\frac{27}{30}$

5) A composite art display is made from two non-overlapping rectangular prisms. Prism A is 7 meters long, 4 meters wide, and 4 meters tall. Prism B is 6 meters long, 2 meters wide, and 4 meters tall. What is the total volume?

A. 112 cubic meters

C. 188 cubic meters

B. 48 cubic meters

D. 160 cubic meters



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- 1) Two rectangular boxes are placed side by side. Box 1 has dimensions 5 inches  $\times$  3 inches  $\times$  4 inches. Box 2 has dimensions 6 inches  $\times$  3 inches  $\times$  4 inches. What is the combined volume?

Box	Length	Width	Height
Box 1	5	3	4
Box 2	6	3	4

- A. 48 cubic inches
- B. 60 cubic inches
- C. 84 cubic inches
- D. 132 cubic inches
- 2) Find:  $42 \times 10^6$ .

*Record your answer in the space provided.*



## Practice Test Answer Keys

### How to use this section:

1. check your answer
2. circle missed questions
3. rework them before reading the explanation

**Good correction habits build strong scores.**

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## Practice Test Answers and Explanations

### Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** (5.G.A.2) Both points have the same y-coordinate (6), which means they lie on a horizontal line at height 6.
- 2) **Choice B is correct.** (5.MD.C.5) The base layer has  $6 \times 7 = 42$  square units. Divide the volume by the base area:  $84 \div 42 = 2$ , so the height is 2 inches.
- 3) **Choice B is correct.** (5.NBT.A.2) Each step the multiplier gains one zero, and the product gains one zero too. So  $25 \times 400 = 10,000$ .
- 4) **Choice C is correct.** (5.G.B.3) The two top angles, angles 3 and 4, are wider than right angles, so they are obtuse. The two bottom angles are smaller than right angles.
- 5) **Choice A is correct.** (5.NBT.A.2) Dividing by 10 moves the decimal point one place to the left.  $480 \div 10 = 48$ .
- 6) **Choice C is correct.** (5.NBT.A.1) 0.005 has the digit 5 in the thousandths place, so it is read as “five thousandths.”
- 7) **Choice A is correct.** (5.NF.A.1) The correct answer is  $\frac{1}{3} + \frac{1}{4} = \frac{4}{12} + \frac{3}{12} = \frac{7}{12}$ . The student incorrectly added numerators and denominators.
- 8) **Choice C is correct.** (5.MD.A.1) First add the miles:  $156 + 144 = 300$  miles. Then convert miles to feet:  $300 \times 5,280 = 1,584,000$  feet.
- 9) **Choice C is correct.** (5.NF.A.2) Picture A shows  $\frac{1}{2}$  shaded (one half). Picture B shows  $\frac{2}{4}$  shaded (two fourths). Both equal the same amount because  $\frac{1}{2} = \frac{2}{4}$ .
- 10) **Choice D is correct.** (5.MD.C.4) A cube with edge 3:  $3 \times 3 \times 3 = 27$  unit cubes.
- 11) **Choice A is correct.** (5.NBT.A.2) Dividing by 10 moves the decimal one place left, so 85.4 becomes 8.54. The student’s result is correct.
- 12) **Choice B is correct.** (5.G.A.2) The ordered pairs should be (2,1), (4,2), and (6,3), so Student 2 is correct.
- 13) **The correct answer is  $3\frac{1}{4}$ .** (5.NF.A.1) Rewrite  $4\frac{1}{2} = 4\frac{2}{4}$ . Subtract:  $(4 - 1) + (\frac{2}{4} - \frac{1}{4}) = 3\frac{1}{4}$ .
- 14) **Choice D is correct.** (5.NF.B.7c) The unit fraction is the amount being shared, so divide  $\frac{1}{12}$  by 4. The equation is  $\frac{1}{12} \div 4 = n$ .
- 15) **The correct answer is equilateral.** (5.G.B.4) The side lengths are 5 cm, 5 cm, and 5 cm, so all 3 sides are equal. The triangle is equilateral.
- 16) **Choice A is correct.** (5.NF.B.7c) Start with one unit fraction,  $\frac{1}{7}$ , and share it into 4 equal parts. Each part is  $\frac{1}{7} \div 4 = \frac{1}{28}$  of the whole.
- 17) **Choice B is correct.** (5.G.A.2) Doubling means multiplying by 2. If the input is 5, then the output is  $2 \times 5 = 10$ .
- 18) **Choice B is correct.** (5.MD.A.1) Each foot has 12 inches.  $25 \times 12 = 300$ , so 25 feet equals 300 inches.
- 19) **Choice D is correct.** (5.MD.B.2) There are 3 plants that got  $\frac{3}{4}$  cup. The total is  $3 \times \frac{3}{4} = 2\frac{1}{4}$  cups.
- 20) **Choice B is correct.** (5.NBT.A.3b) The extra zero in 0.60 does not change the value. Both decimals show 6 tenths, so  $0.6 = 0.60$ .
- 21) **The correct answer is  $180 \text{ cm}^3$ .** (5.MD.C.5c) The first prism has volume  $8 \times 5 \times 3 = 120$  cubic centimeters. The second has volume  $4 \times 5 \times 3 = 60$  cubic centimeters. Add them to get 180 cubic centimeters.
- 22) **Choices A, B are correct.** (5.MD.A.1) A is correct: 1 m = 100 cm. B is correct: 1 km = 1,000 m. C is incorrect: 1 L = 1,000 mL (not 10). D is incorrect: 1 kg = 1,000 g (the relationship is reversed).
- 23) **Choice B is correct.** (5.NF.B.4b) Area = length  $\times$  width =  $\frac{2}{3} \times \frac{1}{4} = \frac{2}{12} = \frac{1}{6}$  square yard.
- 24) **Choice D is correct.** (5.MD.C.3b) The base is  $7 \times 6 = 42$  square feet. With a height of 2 feet, the volume is  $42 \times 2 = 84$  cubic feet.
- 25) **Choice B is correct.** (5.G.B.4) The number 3 is in the intersection. A square has four right angles and four equal sides, so it belongs in both circles.
- 26) **Choice B is correct.** (5.G.A.2) A vertical line has the same x-coordinate for both points. Choice B has both points at  $x = 4$ , making them vertical.
- 27) **Choice A is correct.** (5.NBT.B.7) Hundredths:  $75 + 38 = 113$  hundredths, which is 1 whole and 13 hundredths. Add that extra whole to  $1 + 2$ : the correct sum is 4.13. Nice careful regrouping keeps each place value in its place.



## Hello, Ace Pilot!

★ Flight certification complete! You've successfully piloted through five complete training missions, navigating mathematical turbulence and landing solutions with expert precision like a certified pilot! Each test was a flight through different conditions, and you demonstrated excellent navigation skills, situational awareness, and steady control throughout. You're cleared for your important test day flight!

★

◇ **Here's what experienced pilots understand:** they complete hundreds of hours of flight training before flying solo. They practice procedures until they become automatic responses. You've logged those training hours through these five tests! Your mathematical flight skills have become so developed that you'll navigate test day smoothly and confidently! ◇

### Pre-Flight Clearance Report

- **Navigation Systems:** All problem-solving instruments calibrated and functioning!
- **Weather Assessment:** You can handle any mathematical conditions that arise!
- **Emergency Procedures:** You know how to respond when encountering difficult questions!
- **Flight Approved:** Tower clears you for test day takeoff!

**Remember this aviation principle:** pilots stay calm because they trust their training. When you encounter turbulence on test day, remember your five training missions. You've already experienced challenging questions and navigated successfully through them. Use your instruments (strategies), trust your training, and fly confidently toward your destination!

Want to share flight logs or discuss interesting mathematical air traffic patterns? Send transmissions to [reza@testinar.com](mailto:reza@testinar.com). Your control tower is listening!

**Reza Nazari & Jay Daie**

Your Math Teacher and Practice Partner

# 5 FULL-LENGTH TESTS. STRONG SKILLS. BRIGHTER RESULTS.



Build confidence and master math with **5 full-length** practice tests designed to reflect the real test experience. This book provides the practice, review, and support students need to succeed in Grade 5 and beyond!

## WHAT'S INSIDE:



### 5 FULL-LENGTH PRACTICE TESTS

Realistic tests that build familiarity, boost focus, and improve test readiness.



### COMPLETE STANDARDS REVIEW

Covers all essential Grade 5 math topics with clear explanations and examples.



### SKILL PRACTICE

Strengthen key math skills through a wide variety of practice questions.



### WORD PROBLEMS

Build critical thinking and problem-solving skills with real-world questions.



### FULL ANSWER KEY

Step-by-step explanations for every question to help students learn and improve.



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with consistent  
practice



**Improve Accuracy**  
and problem-  
solving skills



**Time Management**  
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