

# 9

# Illinois

# IAR

# GRADE 5 MATHEMATICS PRACTICE TESTS

Full-Length Standards-Aligned Practice  
for Strong Math Performance

$$A = l \times w$$

$$x^2 + 3x - 4 = 0$$

$$y = 2x + 1$$



$$2,345 \times 6 = 14,070$$



$$\frac{3}{4} + \frac{1}{8} = \frac{7}{8}$$

$$7.2 \div 0.8 = 9$$



$$(12 + 8) \div 4 = 5$$



Build Confidence



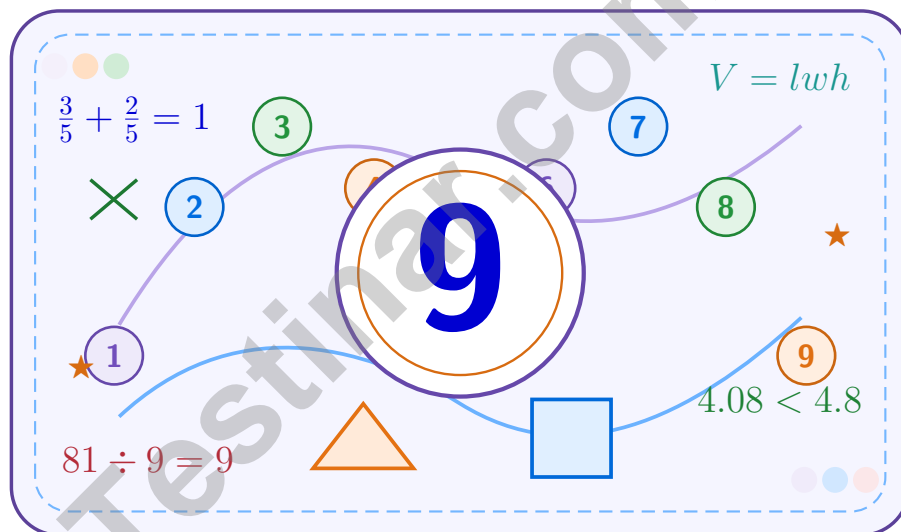
Improve Math Skills



Achieve Success

# 9 Illinois IAR Grade 5 Math Practice Tests

*A nine-step confidence climb with clear review, smart strategy, and practice that gets stronger every round*



**Nine full tests, focused skill boosters, and student-friendly support from start to finish for Grade 5 mathematicians who want to climb higher.**

**Jay Daie and Reza Nazari**



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# Welcome to the Confidence Climb

This book is here to help you practice with purpose and rise step by step

## To the Grade 5 Mathematician

This practice book is a place to think, try, fix, and grow. You do not have to be perfect on the first question or the first test. What matters most is careful effort, clear work, and learning from each round of practice.

Use these nine tests like stepping-stones. Take one test at a time, check your answers honestly, and notice which skills need more attention. Small improvements add up fast.

### Try

Give each problem your best thinking.

### Check

Study mistakes and learn what happened.

### Rise

Bring that lesson into the next round.

**A strong habit for every page:** read carefully, estimate when it helps, show your steps, and keep going even when a question feels tricky. That is how steady math confidence is built.

# How to Use This Book

A simple practice routine that turns nine tests into steady growth

## A Nine-Session Climb Map

Session	Mission Focus
1	Take Test 1; review place value and operation slips.
2	Take Test 2; keep work neat and easy to read.
3	Take Test 3; give extra time to fractions and decimals.
4	Take Test 4; slow down on word problems and units.
5	Take Test 5; compare scores and habits with earlier rounds.
6	Take Test 6; notice which habits are now automatic.
7	Take Test 7; explain open-ended answers clearly.
8	Take Test 8; review topics that still need attention.
9	Take Test 9; finish with calm, careful, confident work.

### Step 1: Warm Up

**Start with the quick review.**  
Spend a few minutes refreshing the ideas before you start a test.

### Step 2: Take the Test

**Take one full practice test.**  
Work in a quiet space and let accuracy matter more than speed.

### Step 3: Study the Pattern

**Check your work honestly.**  
Circle missed questions and notice patterns in the mistakes.

### Step 4: Learn, Then Retry

**Read the explanation and try again.**  
Learning happens after the test too. Fixing mistakes is one of the smartest parts of practice.



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# Test Overview

## What this practice book helps students do

These practice tests are designed to help Grade 5 students get comfortable with the kind of thinking used on the Illinois IAR. The goal is bigger than only getting answers right. Students are practicing how to read closely, choose a strategy, solve carefully, and explain their work when needed.

### Selected-Response Questions

Students solve the problem and choose the best answer. Estimating first and crossing out weak choices can save time and points.

### Constructed-Response Questions

Students show their thinking, steps, models, or explanations. Even when unsure, writing what they know can help organize the problem.

### Grade 5 Skills You Will Practice Often

- place value, comparing numbers, and rounding
- multi-digit addition, subtraction, multiplication, and division
- fractions, decimals, and mixed numbers
- perimeter, area, volume, and measurement conversions
- coordinate points, patterns, graphs, and tables
- geometry and multi-step word problems

**What strong work looks like:** the answer is correct, the steps are clear, the labels or units are included, and the final result makes sense.



# Table of Contents

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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

#### Customary

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

1 yard (yd) = 3 feet (ft)

1 yard (yd) = 36 inches (in.)

#### Metric

1 meter (m) = 100 centimeters (cm)

1 centimeter (cm) = 10 millimeters (mm)

1 kilometer (km) = 1,000 meters (m)

### CAPACITY

#### Customary

1 cup (c) = 8 fluid ounces (fl oz)

1 pint (pt) = 2 cups (c)

1 quart (qt) = 2 pints (pt)

1 gallon (gal) = 4 quarts (qt)

#### Metric

1 liter (L) = 1,000 milliliters (mL)

### WEIGHT AND MASS

#### Customary

1 pound (lb) = 16 ounces (oz)

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### TIME

1 minute (min) = 60 seconds (sec)    1 week = 7 days

1 hour (hr) = 60 minutes (min)    1 year = 12 months

1 day = 24 hours (hr)    1 year = 52 weeks



1) Error Check: A student says  $\frac{1}{5} \div 2 = \frac{1}{3}$ . What is the correct answer?

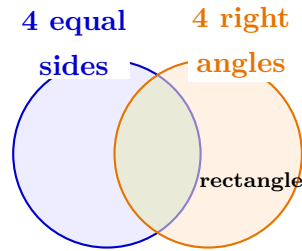
A.  $\frac{1}{3}$  (student is correct)

C.  $\frac{2}{5}$

B.  $\frac{1}{10}$

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

2) A Venn diagram has circles for “4 equal sides” and “4 right angles.” A rectangle that is not a square belongs where?



A. In “4 right angles” only

C. In the intersection

B. In “4 equal sides” only

D. Outside both circles

3) A baker has 4 pounds of dough. Each pan of cookies uses  $\frac{1}{4}$  pound of dough. How many pans can he make?

A. 16 pans

C. 8 pans

B. 12 pans

D. 20 pans





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1) A metric conversion: 1.5 meters = \_\_\_\_ centimeters. (There are 100 cm in 1 m, so multiply by 100.) Which is correct?

A.  $1.5 \times 10 = 15$  cm

B.  $1.5 \div 100 = 0.015$  cm

C.  $1.5 \times 1000 = 1500$  cm

D.  $1.5 \times 100 = 150$  cm

2)

$20 \times 10$	$5 \times 10$	$= 25 \times 13$
$20 \times 3$	$5 \times 3$	

This area model shows  $25 \times 13$  broken into four partial products. What is the total product?

A. 315

B. 325

C. 335

D. 345

3) What ordered pair is 6 units right and 4 units up from the origin?

*Record your answer in the space provided.*

4) Error analysis: Two students round 11.348 to the nearest tenth. Maya gets 11.3, Jamal gets 11.4. Who is correct?

A. Neither is correct

B. Jamal is correct

C. Both are correct

D. Maya is correct



## Grade 5 Mathematics Reference Materials

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## 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 Illinois scores.**

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## Practice Test Answers and Explanations

### Practice Test 1 Answers and Explanations

- Choice B is correct.** **(5.NF.B.7c)** The student treated the problem like adding to the denominator. Dividing  $\frac{1}{5}$  into 2 equal parts means  $\frac{1}{5} \div 2 = \frac{1}{5} \times \frac{1}{2} = \frac{1}{10}$ .
- Choice A is correct.** **(5.G.B.4)** A rectangle has four right angles. If it is not a square, it does not have four equal sides.
- Choice A is correct.** **(5.NF.B.7c)**  $4 \div \frac{1}{4} = 4 \times 4 = 16$ . Nice work if you pictured four quarter-pound parts in each pound.
- Choice D is correct.** **(5.NF.B.7c)** 42 out of 100 squares =  $\frac{42}{100} = 0.42$ , read as “forty-two hundredths”.
- Choice D is correct.** **(5.G.A.1)** The first coordinate tells the distance right from the origin, and the second coordinate tells the distance up. The point is 6 units right and 3 units up, so the ordered pair is (6, 3).
- Choice B is correct.** **(5.NBT.A.2)** Compute each pair. A:  $3,000 \div 10 = 300$  and  $300 \div 10 = 30$  ( $300 \neq 30$ ). B:  $2,100 \div 100 = 21$  and  $210 \div 10 = 21$  — both equal 21 ✓. C:  $5,600 \div 1,000 = 5.6$  and  $56 \div 100 = 0.56$  ( $5.6 \neq 0.56$ ). D:  $1,500 \div 100 = 15$  and  $1,500 \div 1,000 = 1.5$  ( $15 \neq 1.5$ ).
- The correct answer is  $\frac{1}{3} \div 4 = n$ .** **(5.NF.B.7c)** The one-third yard is shared into 4 equal parts, so the response should include a division equation such as  $\frac{1}{3} \div 4 = n$ . The final value  $\frac{1}{12}$  may be included if the equation is shown.
- Choice D is correct.** **(5.NF.B.7c)** Base area:  $4 \times 3 = 12$  sq. units. Total volume:  $12 \times 5 = 60$  cubic units.
- Choice B is correct.** **(5.MD.C.4)** The bottom layer has 8 cubes, and the box is 4 layers tall. Multiply  $8 \times 4 = 32$  unit cubes.
- Choice C is correct.** **(5.MD.C.4)** The base area is 88 square centimeters. Since  $528 \div 88 = 6$ , the height is 6 cm.
- Choice D is correct.** **(5.MD.C.5)** A regular polygon has all sides of equal length and all angles of equal measure. The hexagon (D) is regular.
- Choice C is correct.** **(5.OA.A.2)** The phrase “the sum of 8 and 3” means group  $8 + 3$ . Then multiply by 4 and subtract the product  $2 \times 6$ .
- Choice C is correct.** **(5.OA.A.1)** The brackets show what must be subtracted from 100. First  $(6 + 4) = 10$ , then  $5 \times 10 = 50$ , so  $100 - 50 = 50$ .
- Choice A is correct.** **(5.OA.A.1)** Rewrite  $\frac{3}{4}$  as  $\frac{6}{8}$ . Since  $\frac{6}{8} + \frac{1}{8} = \frac{7}{8}$ , the missing addend is  $\frac{1}{8}$ .
- Choice C is correct.** **(5.NF.A.1)**  $\frac{3}{2} > 1$ , so the product is greater than 18.
- Choice C is correct.** **(5.NF.B.5a)**  $10^3 = 1000$ , so  $93 \times 1000 = 93 \times 10^3$ .
- Choice A is correct.** **(5.NBT.A.2)**  $\frac{1}{3} \times \frac{2}{3} = \frac{2}{9}$ . The overlap covers 2 squares out of 9 total.
- The correct answer is  $> 8$ ;  $9\frac{1}{3}$ .** **(5.NF.B.5a)** A complete response should explain that  $\frac{7}{6} > 1$ , so the product is greater than 8. Then compute  $\frac{7}{6} \times 8 = \frac{56}{6} = \frac{28}{3} = 9\frac{1}{3}$ .
- The correct answer is 0.9.** **(5.NF.B.5a)** Compare the tenths first: 0.9 has 9 tenths, 0.84 has 8 tenths, and 0.76 has 7 tenths. The greatest is 0.9.
- Choice D is correct.** **(5.NBT.A.3b)**  $0.75 \times 100 = 75$  dollars (move decimal 2 places right).
- Choice D is correct.** **(5.NBT.A.2)** Total weight:  $18.4 + 22.6 + 19.0 = 60$  kg. Excess:  $60 - 55 = 5$  kg.
- Choices A, B are correct.** **(5.G.A.2)** The x-coordinate is read first, so 2 matches hours. The y-coordinate is read second, so 40 matches pages.
- Choice A is correct.** **(5.NBT.B.7)**  $5.48 + 3.26$ : hundredths  $8 + 6 = 14$  (regroup); tenths  $4 + 2 + 1 = 7$ ; ones  $5 + 3 = 8$ . Sum is 8.74. Maya is correct.
- Choice B is correct.** **(5.G.B.4)** A rectangle is a quadrilateral (4 sides), a parallelogram (2 pairs of parallel sides), and a rectangle (all right angles). Trapezoid does not apply.
- The correct answer is 84 cubic feet.** **(5.MD.C.5c)** Subtract the known part from the total:  $210 - 126 = 84$  cubic feet. That is the missing part’s volume.
- Choice C is correct.** **(5.MD.C.5c)** Add:  $2\frac{7}{10} + 3\frac{6}{10} = 5\frac{13}{10} = 6\frac{3}{10}$ .
- Choice C is correct.** **(5.NF.A.1)** Line up decimal points and subtract place by place.  $8.37 - 5.84 = 2.53$  miles remaining. This confirms the answer.



### From Your Math Family

#### Dear Member of the Math Family,

◇ Welcome to a special note from your math family. You finished 9 full practice tests, and that hard work matters more than any single score. We see you. We're proud of you. ◇

★ **What our math family knows:** math is a journey, not a one-time event. You've taken many steps already. The test is just one stop on a much longer path. Every skill you've built is yours forever. ★

#### What Your Math Family Sees

- **Effort:** STRONG! You showed up again and again.
- **Growth:** REAL! You can solve problems today you couldn't before.
- **Courage:** BRIGHT! You faced hard problems with brave thinking.
- **Future:** BIG! Your math journey is just beginning.

**Family tip:** on test day, picture us standing behind you, smiling and rooting for you. You're not alone. Your math family is with you. Now go show what you've learned.

If you'd like to share your experience or have questions, please email me at [reza@testinar.com](mailto:reza@testinar.com). I'd love to hear from you!

**Reza Nazari & Jay Daie**  
Your Math Family (Always With You)

# PRACTICE MORE. ACHIEVE MORE.

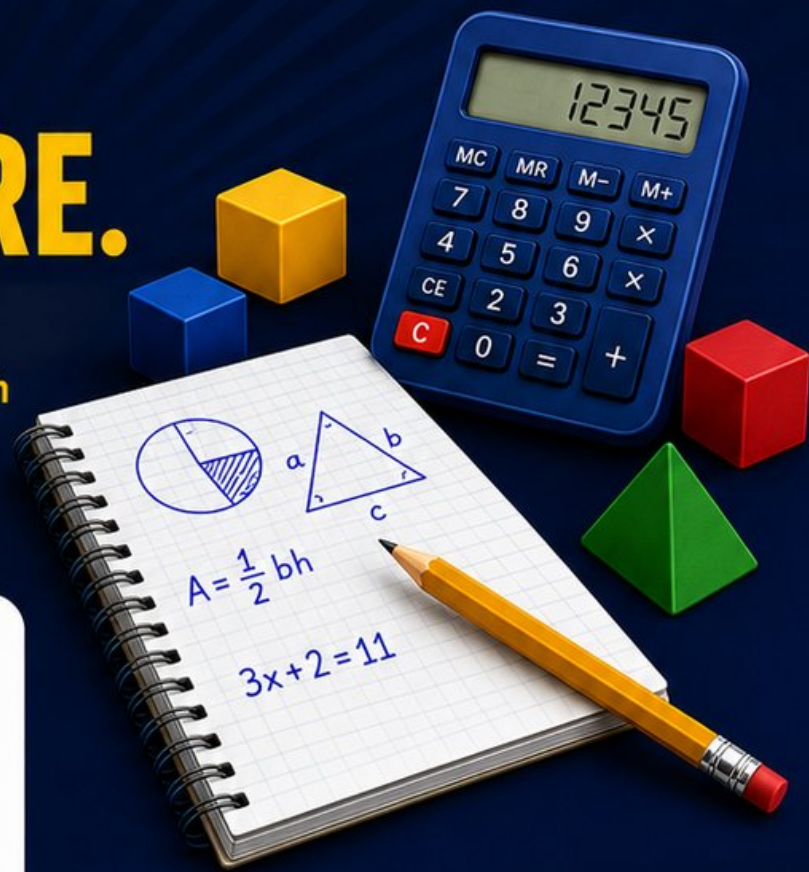
Give your child the edge they need to excel in **Grade 5 Math!** This book includes **9 full-length** practice tests designed to build confidence, sharpen skills, and improve test performance.

# 9

**FULL-LENGTH  
PRACTICE  
TESTS**

- ✓ Realistic.
- ✓ Rigorous.
- ✓ Results-Driven.

More practice today for a **stronger** tomorrow.



## THIS BOOK HELPS YOUR CHILD:



### Build Confidence

Familiar, focused practice reduces anxiety and boosts self-belief.



### Strengthen Skills

Reinforces key math concepts through high-quality, standards-aligned questions.



### Improve Test Readiness

Full-length tests help students understand test format, pacing, and question types.



### Track Progress

Identify strengths and target areas with purposeful practice.



### Achieve Success

Better preparation leads to higher scores and bright futures.

## COVERS ALL ESSENTIAL TOPICS

- ✓ Whole Numbers & Operations
- ✓ Fractions & Decimals
- ✓ Algebraic Thinking
- ✓ Geometry
- ✓ Measurement & Data
- ✓ Graphing & Data Analysis
- ✓ Number Patterns
- ✓ Word Problems
- ✓ Ratio & Proportion
- ✓ Perimeter, Area & Volume
- ✓ And More!



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