

# 7

# Illinois

# IAR

## GRADE 5

# MATHEMATICS

## PRACTICE TESTS

✓  
PRACTICE  
PREPARE  
SUCCEED

★★★

Comprehensive Standards-Aligned  
Review for Strong Grade 5  
Math Performance



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

$$2.4 + 1.6 = 4.0$$

$$A = \frac{bh}{2}$$



**7 FULL-LENGTH  
PRACTICE TESTS**

Realistic style  
questions



**STANDARDS-  
ALIGNED**

Covers all Grade 5  
standards



**BUILD CONFIDENCE**

Target weak areas  
and improve  
performance



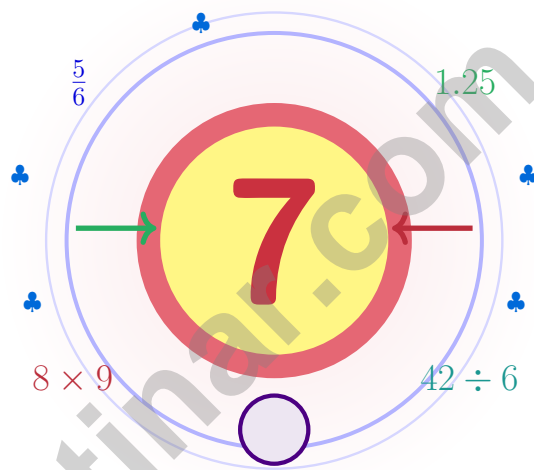
**ACHIEVE SUCCESS**

Develop skills,  
stay prepared,  
excel on test day

★ PRACTICE TODAY. PERFORM TOMORROW. **SUCCEED** FOREVER. ★

# 7 Illinois IAR Grade 5 Math Practice Tests

*This book is here to help you practice, reflect, and rise across seven tests*



Seven full tests, a concise review, and helpful support that turns Grade 5 practice in The Prairie State into steady, confident growth from page one to the final check.

**Jay Daie and Reza Nazari**



# Copyright ©

## Testinar Inc



Published by Testinar Inc

[Testinar.com](http://Testinar.com)

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the author, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law, including Section 107 or 108 of the 1976 United States Copyright Act.

This publication is independently produced and has no official connection to any state, district, or national testing program.

Test names and organizational names used herein are the property of their respective trademark holders.



*Copyright ©*

# Illinois, Your Seven-Test Trail Begins

Seven full tests woven into one calm, steady practice path

## Dear Illinois Math Trail Crew

This practice book is your steady companion for seven tests, not a place to be perfect. Math is like a tower in Chicago: every floor stands on the one below, so the careful first steps lift the whole building.

Use these seven 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 across seven rounds.

### Read

Read with care – math problems hide their gifts.

### Try

Try a strategy that fits the size of the numbers.

### Reflect

Reflect after each problem to lock the lesson in.

**A strong habit for Illinois mathematicians:** 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.

Testinar.com



Scan me



# Your Seven-Step Trail Plan

A simple routine that turns practice into progress

## Step 1: Notice

**Notice the structure: warm-up, test, review, repair.**

Spend a few minutes waking up your memory before the test begins.

## Step 2: Practice

**Practice one full test in quiet conditions.**

Work in a calm spot and focus on careful thinking before speed.

## Step 3: Honest Check

**Check honestly without rushing.**

Circle missed questions and notice which topics keep showing up.

## Step 4: Polish

**Polish the rough spots before the next test.**

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

## A Good 7-Week Illinois Rhythm

<b>Week 1</b>	Take Test 1 and sketch your starting blueprint.
<b>Week 2</b>	Take Test 2 and slow down on word problems.
<b>Week 3</b>	Take Test 3 and lift fraction and decimal work.
<b>Week 4</b>	Take Test 4 and pay close attention to labels and units.
<b>Week 5</b>	Take Test 5 and compare your habits with your first test.
<b>Week 6</b>	Take Test 6 and practice staying calm during tricky questions.
<b>Week 7</b>	Take Test 7 and finish the floor plan with calm, careful work.



# Table of Contents

★ Practice Test 1	_____	22
★ Practice Test 2	_____	38
★ Practice Test 3	_____	53
★ Practice Test 4	_____	67
★ Practice Test 5	_____	82
★ Practice Test 6	_____	96
★ Practice Test 7	_____	111
<b>Practice Test Answer Keys</b>	_____	<b>126</b>
<b>Practice Test Answers and Explanations</b>	_____	<b>131</b>

## 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)

#### Metric

1 kilogram (kg) = 1,000 grams (g)

1 gram (g) = 1,000 milligrams (mg)

### TIME

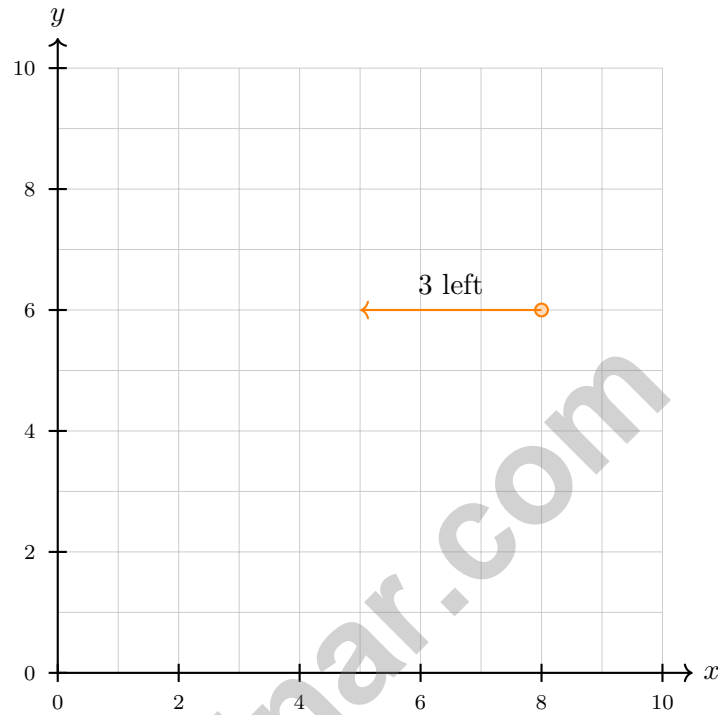
1 minute (min) = 60 seconds (sec)    1 week = 7 days

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

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



- 1) Which coordinates represent a point on the grid that is 3 units to the left of (8, 6) and on the same horizontal line?



- A. (5, 3)                       C. (5, 6)
- B. (3, 6)                       D. (6, 8)
- 2) Compare:  $5 \times 12$    $6 \times 10$
- A. >                               C. =
- B. <                               D. Cannot tell



3)

Factor	Scaling Effect	Example
$\frac{1}{2}$	Shrinks by half	$8 \times \frac{1}{2} = 4$
1	No change	$8 \times 1 = 8$
2	Doubles	$8 \times 2 = 16$

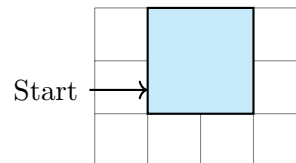
Based on the table, if you scale 12 by  $\frac{2}{3}$ , what do you predict about the product?

- A. Product is 6 (half of 12)                       C. Product is 12 (unchanged)  
 B. Product is 8 (two-thirds of 12)               D. Product is 24 (doubled)

4) What simplest fraction do both  $\frac{6}{9}$  and  $\frac{8}{12}$  equal?

*Record your answer in the space provided.*

5) A polygon is formed by connecting points on a grid. How many right angles does it have?



- A. 3     C. 5  
 B. 4     D. 6



## 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)

#### Metric

1 kilogram (kg) = 1,000 grams (g)

1 gram (g) = 1,000 milligrams (mg)

### TIME

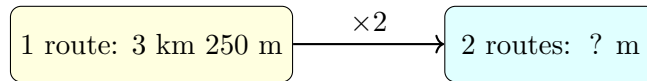
1 minute (min) = 60 seconds (sec)    1 week = 7 days

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

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



- 1) A delivery route is 3 kilometers 250 meters long. A driver completes the route twice. How many meters does the driver travel?



- A. 3,500 meters                       C. 7,000 meters  
 B. 7,500 meters                       D. 6,500 meters
- 2) Which student found the correct answer to  $5,200 \div 100$ ?

Student	Answer
Marcus	520
Jenna	52
Kevin	5.2
Aisha	5,200

- A. Marcus                       C. Kevin  
 B. Jenna                       D. Aisha
- 3) Find:  $0.4 \times 0.6$ .

*Record your answer in the space provided.*



## 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)

#### Metric

1 kilogram (kg) = 1,000 grams (g)

1 gram (g) = 1,000 milligrams (mg)

### 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) Which whole number divided by  $\frac{1}{3}$  gives 12?

A. 3

C. 6

B. 4

D. 8

2) Add with regrouping in tenths:  $3.65 + 2.47 = ?$

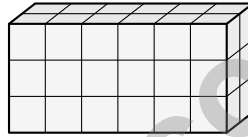
A. 6.02

C. 6.22

B. 6.32

D. 6.12

3) A rectangular prism with dimensions 6 by 2 by 3 is sitting on a shelf. How many unit cubes does it contain?



A. 36 unit cubes

C. 11 unit cubes

B. 30 unit cubes

D. 18 unit cubes

4) A farmer needs 4.5 meters of fencing for each animal pen. If the farmer has 10 pens to build, how much fencing is needed?

A. 42 meters

C. 45 meters

B. 43.5 meters

D. 46.5 meters

5) Make a line plot for these measurements:  $\frac{1}{8}, \frac{1}{4}, \frac{1}{4}, \frac{3}{8}, \frac{3}{8}, \frac{3}{8}, \frac{1}{2}$ . Which value will have the most X's?

*Record your answer in the space provided.*



## 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)

#### Metric

1 kilogram (kg) = 1,000 grams (g)

1 gram (g) = 1,000 milligrams (mg)

### 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) A store has 72 apples.  $\frac{1}{8}$  of them are green and  $\frac{1}{3}$  are red. The rest are yellow. How many apples are yellow?
- A. 9 apples  C. 39 apples  
 B. 24 apples  D. 40 apples
- 2) What is the missing factor?  $\frac{3}{5} \times ? = \frac{3}{10}$
- A.  $\frac{1}{5}$   C.  $\frac{6}{5}$   
 B.  $\frac{2}{5}$   D.  $\frac{1}{2}$
- 3) What is  $6 \div \frac{1}{3}$ ?
- A. 18  C. 12  
 B. 2  D. 6
- 4) Multiply and simplify:  $8 \times \frac{1}{4}$
- A.  $\frac{8}{5}$   C.  $\frac{1}{32}$   
 B. 2  D. 4
- 5) Order these from least to greatest:  $\frac{1}{2} \times 10$ ,  $1 \times 10$ ,  $\frac{3}{2} \times 10$ .
- A.  $\frac{1}{2} \times 10 < 1 \times 10 < \frac{3}{2} \times 10$   C.  $1 \times 10 < \frac{1}{2} \times 10 < \frac{3}{2} \times 10$   
 B.  $\frac{3}{2} \times 10 < 1 \times 10 < \frac{1}{2} \times 10$   D. All three are equal
- 6) A recipe makes 4 cookies and calls for  $\frac{3}{4}$  cup of butter. How much butter is needed to make  $2\frac{2}{3}$  times the recipe?
- A. 3 cups  C.  $2\frac{1}{4}$  cups  
 B. 1 cup  D. 2 cups



## 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.**

Testinar.com



Scan me

## Practice Test Answers and Explanations

### Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** (5.G.A.2) 3 units to the left means subtract 3 from the  $x$ -coordinate:  $8 - 3 = 5$ . Same horizontal line means the  $y$ -coordinate stays 6, giving (5, 6).
- 2) **Choice C is correct.** (5.OA.A.2) The expression  $5 \times 12$  can be regrouped as  $5 \times (2 \times 6)$ , which is  $(5 \times 2) \times 6 = 10 \times 6$ . That is the same as  $6 \times 10$ .
- 3) **Choice B is correct.** (5.NF.B.5a)  $12 \times \frac{2}{3} = 8$ . The scaling factor  $\frac{2}{3}$  is less than 1, so the product is smaller than the original. Two-thirds of 12 is 8.
- 4) **The correct answer is  $\frac{2}{3}$ .** (5.NF.A.2) Reduce each fraction by dividing the numerator and denominator by the same number.  $\frac{6}{9}$  and  $\frac{8}{12}$  both simplify to  $\frac{2}{3}$ .
- 5) **Choice B is correct.** (5.G.B.3) The polygon shown is a rectangle. It has 4 corners, and each corner is a right angle.
- 6) **Choice A is correct.** (5.NF.A.2)  $\frac{1}{2} + \frac{1}{3} + \frac{1}{6}$ : common denominator 6.  $\frac{3}{6} + \frac{2}{6} + \frac{1}{6} = \frac{6}{6} = 1$  cup.
- 7) **Choice A is correct.** (5.NF.B.4b) Area =  $\frac{3}{4} \times \frac{2}{5} = \frac{6}{20}$  square meters, and  $\frac{6}{20} = \frac{3}{10}$  square meters.
- 8) **Choice C is correct.** (5.NF.B.7c) Start with one unit fraction,  $\frac{1}{3}$ , and share it into 3 equal parts. Each part is  $\frac{1}{3} \div 3 = \frac{1}{9}$  of the whole.
- 9) **Choice C is correct.** (5.OA.A.1) Multiply and divide from left to right:  $5 \times 10 = 50$ ,  $50 \div 2 = 25$ , and  $25 + 3 = 28$ .
- 10) **Choice D is correct.** (5.NF.A.2) LCD = 18.  $\frac{5}{9} = \frac{10}{18}$ ;  $\frac{1}{6} = \frac{3}{18}$ ;  $\frac{10}{18} - \frac{3}{18} = \frac{7}{18}$ .
- 11) **Choice B is correct.** (5.NBT.B.7) Hundredths:  $5 + 9 = 14$ , so write 4 and regroup 1 tenth. Tenths:  $4 + 3 + 1 = 8$ . Ones:  $3 + 1 = 4$ . The sum is 4.84.
- 12) **Choice C is correct.** (5.NF.A.2)  $\frac{2}{3} = \frac{2 \times 4}{3 \times 4} = \frac{8}{12}$  and  $\frac{1}{4} = \frac{1 \times 3}{4 \times 3} = \frac{3}{12}$ . Both are correct.
- 13) **The correct answer is 13.** (5.G.B.4) The rectangles are also parallelograms, so add both regions:  $8 + 5 = 13$ .
- 14) **Choice A is correct.** (5.NBT.A.2) The product is correct:  $25 \times 100 = 2500$ . A more precise way to say the rule is that multiplying by 100 shifts the digits two places left in the place-value chart.
- 15) **Choice C is correct.** (5.MD.C.5a) Volume =  $11 \times 9 \times 7 = 693$  cubic meters.
- 16) **Choice C is correct.** (5.NF.B.6)  $\frac{3}{5} \times 120 = \frac{3 \times 120}{5} = \frac{360}{5} = 72$  pounds.
- 17) **Choice A is correct.** (5.OA.B.3) Divide by 2 each step:  $12.5 \div 2 = 6.25$ .
- 18) **Choice D is correct.** (5.OA.A.2) The tree shows 15 and 3 being added inside  $(15 + 3)$ . The multiplication is by 2, so there is no product of 15 and 3 in this expression.
- 19) **Choice A is correct.** (5.NF.B.7c) One whole foot has 3 one-third-foot pieces, so  $1 \div \frac{1}{3} = 3$  pieces.
- 20) **Choices A, B are correct.** (5.NBT.A.4) 4.678 rounds to 4.7 to the nearest tenth and 4.68 to the nearest hundredth. C should round up to 5, and D rounds down incorrectly.
- 21) **Choice B is correct.** (5.OA.A.1) Move outward through the grouping symbols:  $5 - 2 = 3$ , then  $[4 \times 3] = 12$ , then  $\{3 + 12\} = 15$ . Finally,  $2 \times 15 = 30$ .
- 22) **Choice A is correct.** (5.NBT.B.7) Line up decimal points and subtract place by place.  $72.45 - 58.13 = 14.32$  degrees Fahrenheit. This confirms the answer.
- 23) **Choice D is correct.** (5.NBT.A.2)  $8.5 \times 10^3 = 8.5 \times 1000 = 8500$ , so the missing number is 8.5.
- 24) **The correct answer is 32448.** (5.NBT.B.5)  $507 \times 4 = 2,028$  and  $507 \times 60 = 30,420$ . Sum:  $2,028 + 30,420 = 32,448$ .
- 25) **Choice C is correct.** (5.MD.C.4) Front layer: 8 cubes. Depth of 3:  $8 \times 3 = 24$  unit cubes total.
- 26) **Choice D is correct.** (5.MD.C.5) Subtract the sales and returns from the total cost:  $4,850 - 3,200 - 450 = 1,200$ . So \$1,200 is still not covered.
- 27) **Choice A is correct.** (5.NBT.A.3a) 4.53 is read as “four and fifty-three hundredths”. The digit 5 is in the tenths place (0.5).
- 28) **Choice B is correct.** (5.NF.A.2)  $1\frac{3}{8} \approx 1$  and  $2\frac{7}{10} \approx 3$ . So  $1\frac{3}{8} + 2\frac{7}{10} \approx 1 + 3 = 4$  cups.
- 29) **Choice D is correct.** (5.NF.B.5a) The products are 18, 24, and 30 respectively. The factor size ( $\frac{3}{4} < 1 < \frac{5}{4}$ ) determines the product order.



**Dear Math Student,**

★ One of the best things about finishing seven tests is that you saw your mistakes clearly—and that is good news. Mistakes are not failures; they are information that helps you improve. ★

◇ **A professional habit:** when something goes wrong, you don't quit. You ask, "What happened?" and you fix it. That's how strong learners grow. ◇

**Quick Mistake Check**

- **Read error:** did I miss a word like "most" or "least"?
- **Math error:** did I add/subtract/multiply incorrectly?
- **Setup error:** did I choose the wrong operation?
- **Fix and learn:** write one short note so you remember next time.

**You earned this:** seven tests later, you're smarter, stronger, and more confident.

Reach me at [reza@testinar.com](mailto:reza@testinar.com) if you want to share your progress.

**Reza Nazari & Jay Daie**

Your Math Coaches (Learn and Grow)

# PRACTICE TODAY. PERFORM TOMORROW.

Success in math starts with practice! This book provides the **practice, confidence, and skills** your child needs to excel on the Grade 5 Math test and beyond.

## KEY BENEFITS:



### TARGETED PRACTICE

Focus on the most important Grade 5 math skills.



### STANDARD-ALIGNED

All tests align with state standards for Grade 5.



### BUILD CONFIDENCE

Strengthen skills, reduce test anxiety, and boost confidence.



### IMPROVE PERFORMANCE

Timed practice helps improve speed and accuracy.



### ACHIEVE SUCCESS

Develop strong test-taking skills and achieve your best score!

## PERFECT FOR:

✓ Classroom Practice

✓ Homework Help

✓ Test Preparation

✓ Summer Learning

✓ On-the-Go Practice

✓  
PRACTICE  
PREPARE  
SUCCEED



## STRONG SKILLS. BRIGHT FUTURE.

Give your child the tools they need to succeed in math and in life!



Visit [testinar.com/math5](https://testinar.com/math5) for more Grade 5 math resources and practice materials!



TRUSTED  
BY PARENTS

Quality resources you can trust.



DESIGNED  
FOR SUCCESS

Proven practice for real results.



SUPPORT  
YOUR CHILD

Every step of the way.