

# 8

FULL-LENGTH

West Virginia

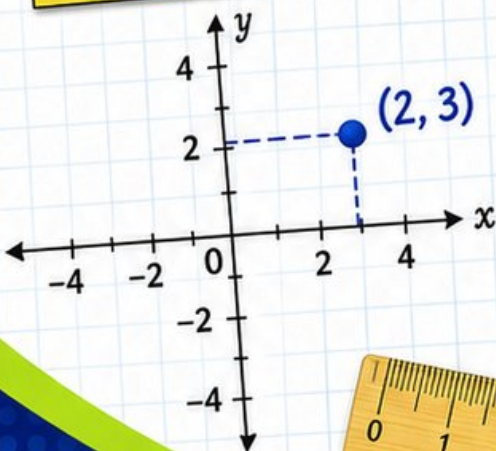
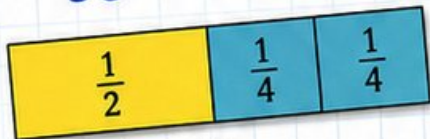
WVGSA

GRADE 5

MATH PRACTICE TESTS

Mixed Practice Questions with Answer Key  
for Students, Parents, and Teachers

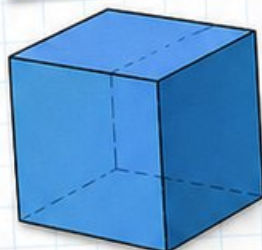
$$36 \div 4 = 9$$



$$2.4 \times 7 = 16.8$$

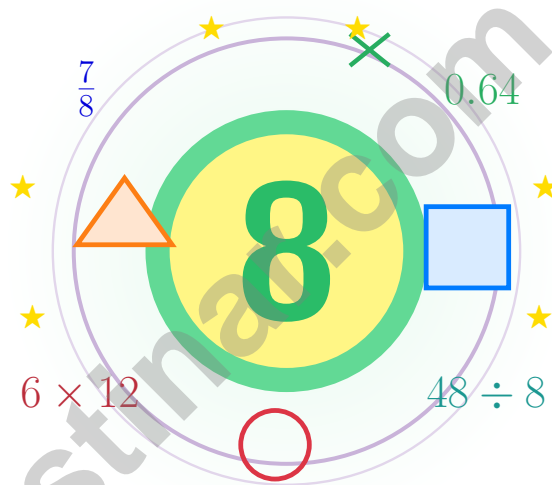
$$7 \times (12 - 5) = 49$$

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



# 8 West Virginia WVGSA Grade 5 Math Practice Tests

*A eight-step expedition for curious Grade 5 thinkers*



**Eight full tests, a focused quick review, and helpful support that turns Grade 5 practice in The Mountain 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 ©*

# Strap In, West Virginia – Eight-Test Journey

Eight full tests and a coach's voice on every page

## West Virginia Mathematicians, Read This First

This practice book is your steady companion for eight tests, not a place to be perfect. Math is a lot like the Appalachian ridges – they rise one careful slope at a time, and so does your thinking.

Use these eight 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.

### Look

Look at the problem like a detective looks at a clue.

### Test

Test your idea with one careful step at a time.

### Grow

Grow stronger by reviewing exactly what tripped you up.

**A strong habit for West Virginia 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



# From Cover to Final Test

A simple routine that turns practice into progress

## Step 1: Read

**Read the quick review pages first.**  
Spend a few minutes waking up your memory before the test begins.

## Step 2: Try

**Try one full test with full attention.**  
Work in a calm spot and focus on careful thinking before speed.

## Step 3: Reflect

**Reflect on which skills want more sunlight.**  
Circle missed questions and notice which topics keep showing up.

## Step 4: Lift

**Lift those skills before the next test.**  
Read the explanation, repair the work, and bring that lesson into the next test.



# Table of Contents

★ Practice Test 1	_____	21
★ Practice Test 2	_____	36
★ Practice Test 3	_____	52
★ Practice Test 4	_____	66
★ Practice Test 5	_____	82
★ Practice Test 6	_____	97
★ Practice Test 7	_____	111
★ Practice Test 8	_____	125
<b>Practice Test Answer Keys</b>	_____	<b>139</b>
<b>Practice Test Answers and Explanations</b>	_____	<b>144</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

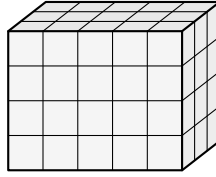
1 minute (min) = 60 seconds (sec)    1 week = 7 days

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

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



- 1) A rectangular prism has 5 unit cubes along its length, 3 along its width, and 4 along its height. Find the volume.

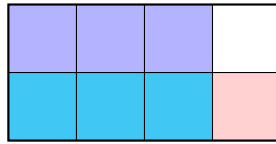


- A. 30 unit cubes
- B. 45 unit cubes
- C. 60 unit cubes
- D. 12 unit cubes
- 2) A rectangular prism measures 5 cm by 4 cm by 9 cm. What is its volume?
- A.  $160 \text{ cm}^3$
- B.  $180 \text{ cm}^3$
- C.  $200 \text{ cm}^3$
- D.  $220 \text{ cm}^3$
- 3) Which whole number divided by  $\frac{1}{3}$  gives 12?
- A. 3
- B. 4
- C. 6
- D. 8
- 4) A jug holds  $\frac{5}{6}$  gallon of juice. After pouring out  $\frac{1}{3}$  gallon, how much remains?

*Record your answer in the space provided.*

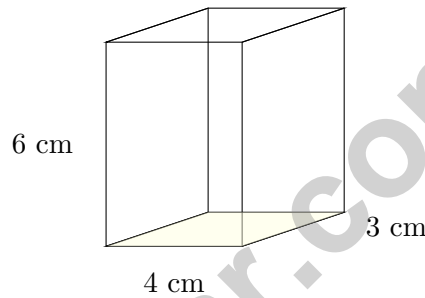


5) A garden is  $\frac{3}{4}$  mile long and  $\frac{1}{2}$  mile wide. What is the area of the garden?



- A.  $\frac{4}{6}$  square miles
- C.  $\frac{1}{2}$  square miles
- B.  $\frac{3}{8}$  square miles
- D.  $\frac{3}{4}$  square miles

Base =  $4 \times 3 = 12 \text{ cm}^2$



6)

Using  $V = B \times h$ , find the volume.

- A.  $36 \text{ cm}^3$
- C.  $24 \text{ cm}^3$
- B.  $72 \text{ cm}^3$
- D.  $18 \text{ cm}^3$



## 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) Evaluate:  $(4 \times 5) + (12 \div 3)$

A. 12

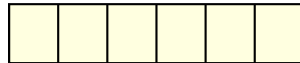
C. 24

B. 20

D. 32

2) A landscaper has 6 yards of edging. Each flower bed uses  $\frac{1}{4}$  yard of edging. How many flower beds can be edged?

6 yards; each bed uses  $\frac{1}{4}$  yd



A. 20 beds

C. 30 beds

B. 36 beds

D. 24 beds

3) Three shipments of books arrive at a library:

Shipment	Weight (kg)
Shipment 1	18.4
Shipment 2	22.6
Shipment 3	19.0

If the library can only handle 55 kg at a time, by how much does the total shipment weight exceed this limit?

A. 4.8 kg

C. 5.2 kg

B. 5.5 kg

D. 5 kg

4) A tank holds 9.5 gallons. After draining 4.07 gallons, how much remains?

A. 5.53 gal

C. 5.33 gal

B. 4.98 gal

D. 5.43 gal



## 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

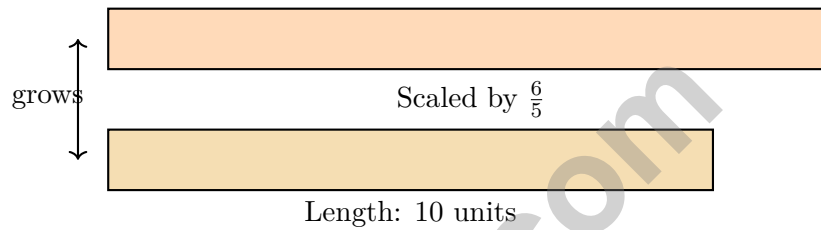


1) Which expression equals a quarter of  $(8 + 12)$ ?

- A.  $4 \times (8 + 12)$                        C.  $4 + (8 + 12)$   
 B.  $(8 + 12) - 4$                          D.  $(8 + 12) \div 4$

2) A rectangular prism has volume  $360 \text{ cm}^3$  and base area  $40 \text{ cm}^2$ . What is its height?

- A. 8 cm     C. 40 cm  
 B. 9 cm     D. 320 cm

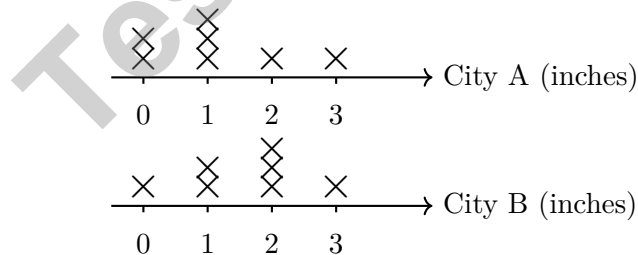


3)

A length of 10 units is scaled by  $\frac{6}{5}$ . What is the result?

- A. 8 units     C. 20 units  
 B. 12 units     D. 10 units

4) Two line plots show rainfall (in inches) in two cities over several days:



What is the difference between total rainfall in both cities?

- A. 1 inch     C. 3 inches  
 B. 2 inches     D. 4 inches



## 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





## 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



## Practice Test Answers and Explanations

### Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** (M.5.21) A 5 by 3 layer has 15 cubes. With 4 layers,  $15 \times 4 = 60$  unit cubes.
- 2) **Choice B is correct.** (M.5.21)  $5 \times 4 \times 9 = 20 \times 9 = 180 \text{ cm}^3$ .
- 3) **Choice B is correct.** (M.5.13) Since  $4 \div \frac{1}{3} = 4 \times 3 = 12$ , the whole number is 4.
- 4) **The correct answer is  $\frac{1}{2}$ .** (M.5.12)  $\frac{1}{3} = \frac{2}{6}$ . Remaining:  $\frac{5}{6} - \frac{2}{6} = \frac{3}{6} = \frac{1}{2}$ .
- 5) **Choice B is correct.** (M.5.12) Area =  $\frac{3}{4} \times \frac{1}{2} = \frac{3}{8}$  square miles.
- 6) **Choice B is correct.** (M.5.21)  $V = B \times h = 12 \times 6 = 72 \text{ cm}^3$ .
- 7) **Choice D is correct.** (M.5.23) Point D is 5 units right and 4 units up from the origin, so it is located at (5, 4).
- 8) **Choice C is correct.** (M.5.4) In 15.375, the decimal digits are: 3 (tenths), 7 (hundredths), 5 (thousandths). The digit in the hundredths place is 7.
- 9) **Choice D is correct.** (M.5.7) The tenths digit is 2. The hundredths digit is 8. Since  $8 \geq 5$ , round tenths up:  $2 \rightarrow 3$ , giving 31.3.
- 10) **Choice B is correct.** (M.5.5)  $46 \times 10^2 = 46 \times 100 = 4600$ , so  $n = 46$ .
- 11) **Choice D is correct.** (M.5.5) Area of a rectangle is length times width. Here the length is  $(4 + 3)$  and the width is 5, so the area expression is  $(4 + 3) \times 5$ .
- 12) **Choice B is correct.** (M.5.8) Sum the partial products:  $400 + 140 + 100 + 35 = 675$ .
- 13) **Choice C is correct.** (M.5.5) A and B both equal 7.5. Choice C equals 0.75, and D equals 0.0075.
- 14) **Choice B is correct.** (M.5.24) Use the rule on each input.  $1 + 10 = 11$ ,  $2 + 10 = 12$ , and  $3 + 10 = 13$ , so the outputs are 11, 12, 13.
- 15) **Choice B is correct.** (M.5.25) A rhombus is a quadrilateral with all four sides equal. This figure has that attribute and does not show four right angles, so the most specific name is rhombus.
- 16) **Choice D is correct.** (M.5.5) Multiplying by 10 moves the decimal 1 place right:  $0.36 \times 10 = 3.6$ .
- 17) **Choice A is correct.** (M.5.5) Count X marks below  $\frac{3}{4}$ : at  $\frac{1}{4}$  (1) and  $\frac{1}{2}$  (3). Total:  $1 + 3 = 4$ .
- 18) **Choices A, B are correct.** (M.5.2) Both A and B describe 4 copies of the grouped sum  $(15 + 8)$ . C adds 4 instead of multiplying by 4, and D groups the wrong numbers.
- 19) **Choice B is correct.** (M.5.22) Scale factor:  $80 \div 20 = 4$ . Sugar needed:  $1.25 \times 4 = 5.00$  kilograms.
- 20) **Choice D is correct.** (M.5.12)  $\frac{3 \times 4}{7 \times 4} = \frac{12}{28}$ .
- 21) **The correct answer is  $3\frac{1}{3}$ .** (M.5.14) Five copies of  $\frac{2}{3}$  give  $\frac{10}{3}$ . Three thirds make each whole, so  $\frac{10}{3} = 3\frac{1}{3}$ .
- 22) **The correct answer is  $\frac{5}{9}$ .** (M.5.14) Multiplying by 1 does not change the value, so  $1 \times \frac{5}{9} = \frac{5}{9}$ .
- 23) **Choice D is correct.** (M.5.15)  $10^2 = 100$ , so  $39 \times 100 = 3900$ . The exponent is 2.
- 24) **Choice A is correct.** (M.5.5) The numbers are skip-counting by 4: 4, 8, 12, 16, ...
- 25) **Choice D is correct.** (M.5.3) The blank must make the product end with exactly 2 zeros.  $3 \times 200 = 600$ , and 600 has exactly 2 zeros.
- 26) **Choice D is correct.** (M.5.16)  $\frac{1}{5} \times \frac{2}{7} = \frac{1 \times 2}{5 \times 7} = \frac{2}{35}$ .
- 27) **Choice B is correct.** (M.5.10) Estimate:  $2.89 \approx 3$  and  $3.15 \approx 3$ , so  $3 + 3 = 6$ . Exact:  $2.89 + 3.15 = 6.04$  (hundredths:  $9 + 5 = 14$ , regroup; tenths:  $8 + 1 + 1 = 10$ , regroup; ones:  $2 + 3 + 1 = 6$ ).
- 28) **Choice C is correct.** (M.5.20) Find each part first: Prism A is  $6 \times 2 \times 3 = 36$  cubic feet, and Prism B is  $3 \times 5 \times 5 = 75$  cubic feet. Because the parts do not overlap, add them:  $36 + 75 = 111$  cubic feet.
- 29) **Choice B is correct.** (M.5.12) Multiples of 3: 3, 6, 9, 12, ... Multiples of 4: 4, 8, 12, ... The least common multiple is 12, which is a common denominator.
- 30) **Choice C is correct.** (M.5.5) Dividing by 10:  $74.5 \div 10 = 7.45$  pounds per bag.
- 31) **The correct answer is  $\frac{1}{5}$ .** (M.5.11)  $\frac{1}{2} = \frac{5}{10}$ . Difference:  $\frac{2}{10} = \frac{1}{5}$ .
- 32) **Choice A is correct.** (M.5.11) LCM(7,5) = 35.  $\frac{3}{7} = \frac{15}{35}$  and  $\frac{2}{5} = \frac{14}{35}$ .  $\frac{15}{35} + \frac{14}{35} = \frac{29}{35}$ .



### Workshop Notes for an Inventor

#### Dear Math Inventor,

◇ 8 practice tests. 8 chances to invent new ways of thinking. You tried strategies, broke them, fixed them, and built them stronger. That's what inventors do. That's what you do. ◇

★ **What inventors know:** the first idea isn't always the best one. Sometimes you have to try, fail, learn, and try again. You've practiced that exact loop on every test. That practice is why your problem-solving brain is so flexible now. ★

#### Inventor's Workshop Inventory

- **Sketch Pad:** FULL of ideas! You can imagine multiple ways to solve.
- **Toolbox:** STOCKED! You have many strategies to draw on.
- **Workbench:** ORGANIZED! Your work is clear and step-by-step.
- **Invention Mindset:** STRONG! You're not afraid to try something new.

**Inventor's tip:** on test day, if your first idea doesn't work, switch tools. Try a different strategy. Inventors don't get stuck on one tool—they pick the right one for the job. Same on a math test.

If you want to share a proud moment or ask a question, please email me at [jay@testinar.com](mailto:jay@testinar.com). I'd love to hear from you!

**Jay Daie**

Your Math Inventor (Build Big Things)

$45 \div 5 = ?$

# PRACTICE TODAY.

$\frac{3}{5} + \frac{1}{10} = ?$



## ACHIEVE TOMORROW!



$3^2 + 4^2 = 25$

This book includes **8** full-length **Grade 5** math practice tests to help students master essential skills, build confidence, and achieve success. Each test is carefully designed to reflect real math standards and cover a variety of question types with detailed answer explanations.

$7x - 4 = 17$

$1\frac{1}{2} + 2\frac{1}{3} = ?$

## 8 FULL-LENGTH MATH PRACTICE TESTS



### REALISTIC PRACTICE

Tests mirror Grade 5 math standards and real assessment formats.



### ANSWER KEY INCLUDED

Detailed answer explanations help students understand and learn.



### BUILD CONFIDENCE & SKILLS

Strengthens problem-solving abilities and reinforces key math concepts.



### IMPROVE & TRACK PROGRESS

Identify strengths and focus on areas that need improvement.



### ACHIEVE SUCCESS

Boosts test readiness and helps students achieve their best results.

### COVERS ALL KEY GRADE 5 MATH TOPICS

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

...and More!



VISIT [testinar.com/math5](https://testinar.com/math5)

for more Grade 5 math resources and practice materials!



TRUSTED BY PARENTS



CREATED BY EDUCATORS



ALIGNED TO STANDARDS

Great for Students, Parents, and Teachers!

Practice with purpose. Succeed with confidence!