



# 6

# West Virginia

# WVGSA



# GRADE 5 MATH

## PRACTICE TESTS

Complete Standards-Based Practice  
— for Grade 5 Math Success —



$$5^2 = 25$$



**6 FULL-LENGTH PRACTICE TESTS**  
Realistic style questions



**STANDARDS-BASED PRACTICE**  
Covers all Grade 5 Math standards

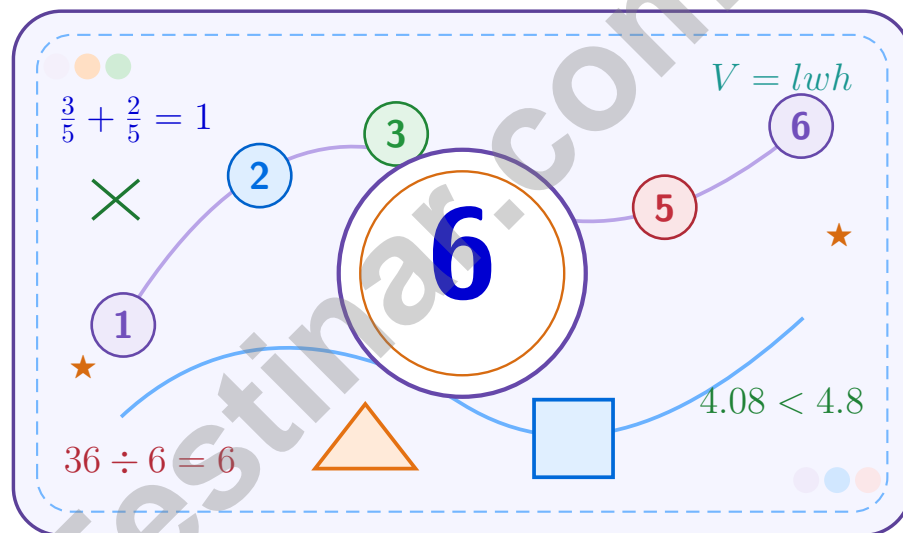


**BUILD CONFIDENCE. IMPROVE SCORES.**  
Target weak areas and achieve success

★ STRONG PRACTICE. BRIGHT FUTURE. ★

# 6 West Virginia WVGSA Grade 5 Math Practice Tests

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



Six full tests, a focused skill booster, 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 six 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 six tests into steady growth

## 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.

## A Six-Week Climb Map

Week	Mission Focus
<b>Week 1</b>	Take Test 1 and review any place-value or operation slips.
<b>Week 2</b>	Take Test 2 and focus on showing neat, easy-to-read work.
<b>Week 3</b>	Take Test 3 and give extra time to fractions or decimals if needed.
<b>Week 4</b>	Take Test 4 and slow down on word problems and units.
<b>Week 5</b>	Take Test 5 and compare your score and habits with earlier rounds.
<b>Week 6</b>	Take Test 6 and finish with calm, careful, confident work that uses everything you practiced before.



Scan me

# 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 West Virginia WVGSA. 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

1

Questions: 40 Duration: No time limit

Calculator Policy: Calculators are not allowed



## 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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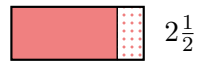
### TIME

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)

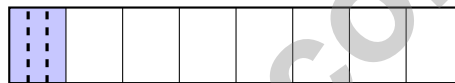
Bar model:  $3\frac{3}{4} + 2\frac{1}{2} = ?$

- A.  $6\frac{1}{4}$
- B.  $6\frac{1}{2}$

- C.  $6\frac{3}{4}$
- D. 7

2) The model shows  $\frac{1}{8}$  of a whole split into 3 equal parts. What fraction of the whole is each small part?

$\frac{1}{8}$  split into 3



1 whole split into 8 equal parts

- A.  $\frac{1}{8}$
- B.  $\frac{1}{3}$

- C.  $\frac{1}{11}$
- D.  $\frac{1}{24}$

3) Error analysis: Which student correctly computes  $4 \times \frac{2}{5}$ ?

Student	Work
A	$4 \times \frac{2}{5} = \frac{4+2}{5} = \frac{6}{5}$
B	$4 \times \frac{2}{5} = \frac{8}{5}$
C	$4 \times \frac{2}{5} = \frac{2}{20}$
D	$4 \times \frac{2}{5} = \frac{4}{2 \times 5} = \frac{4}{10}$

- A. A
- B. B

- C. C
- D. D



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1) Which expression does *not* simplify to a whole number?

**A**

$$[24 \div (3 + 1)]$$

**B**

$$(18 - 5) \div 6$$

**C**

$$[(12 + 4) \div 4]$$

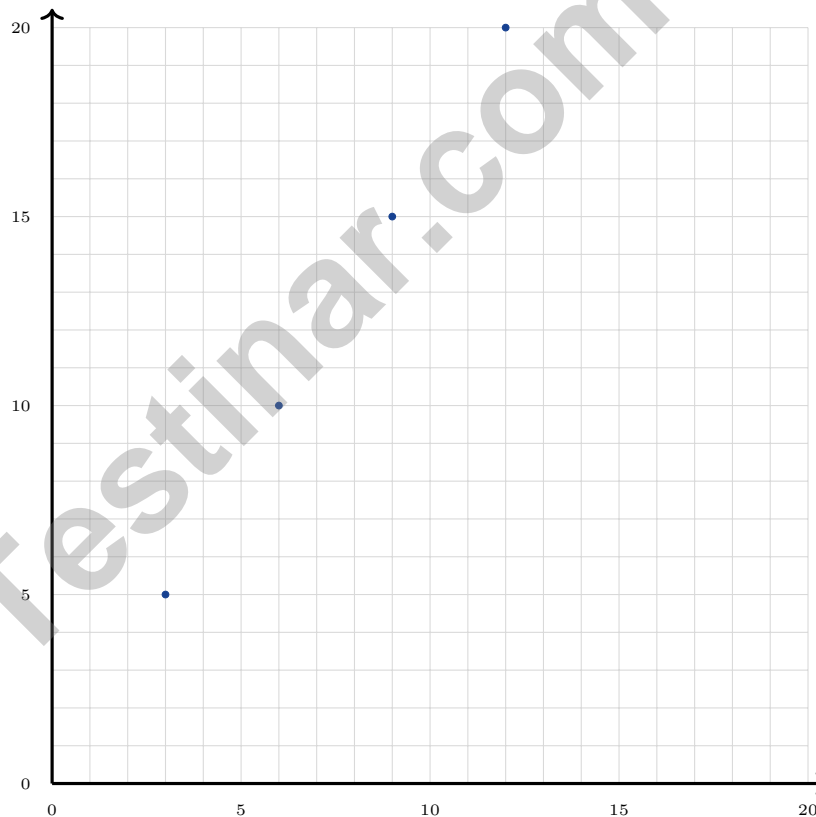
A.  $[24 \div (3 + 1)]$

C.  $[(12 + 4) \div 4]$

B.  $(18 - 5) \div 6$

 D. All simplify to whole numbers

2) Two machines produce widgets. Machine A (at rate 3 per hour) and Machine B (at rate 5 per hour) run for hours 1, 2, 3, 4. Plot (Machine A count, Machine B count) and identify which pair is for hour 3.



A. (6, 10)

C. (3, 5)

B. (9, 15)

D. (12, 20)



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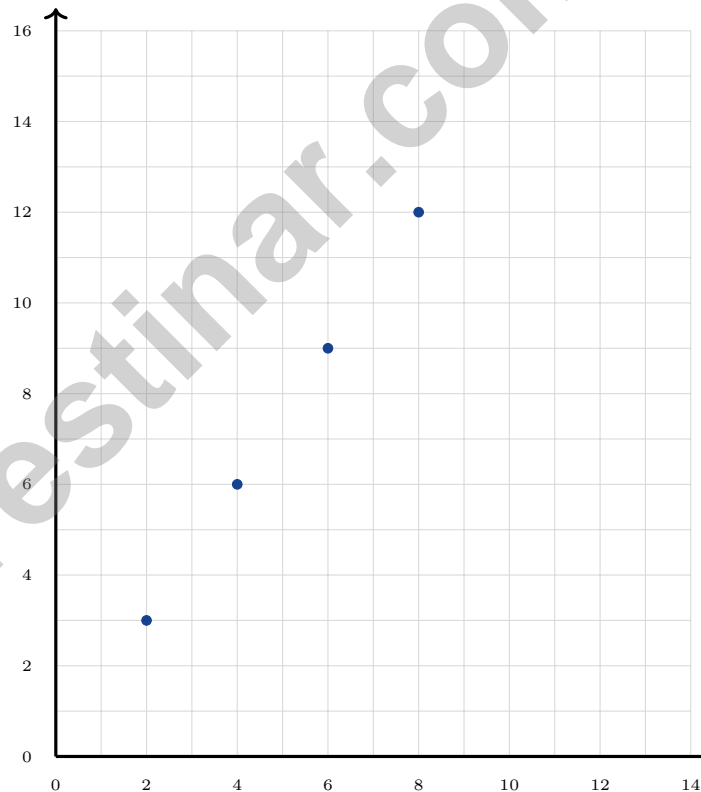


1) Look at the table. How many ounces are in 3 pounds?

Pounds	Ounces
1	16
2	32
3	?

- A. 36 ounces                       C. 48 ounces  
 B. 40 ounces                       D. 50 ounces

2) Omar plots (2, 3), (4, 6), (6, 9), (8, 12). Looking at his pattern, what should be the next point?



- A. (12, 16)                       C. (10, 14)  
 B. (9, 13)                       D. (10, 15)



## 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 A is correct.** (M.5.11) Convert to fourths:  $3\frac{3}{4} + 2\frac{2}{4} = 5\frac{5}{4} = 6\frac{1}{4}$ .
- 2) **Choice D is correct.** (M.5.16) Start with one unit fraction,  $\frac{1}{8}$ , and share it into 3 equal parts. Each part is  $\frac{1}{8} \div 3 = \frac{1}{24}$  of the whole.
- 3) **Choice B is correct.** (M.5.14) Student B correctly uses the rule: multiply the whole number by the numerator.  $4 \times \frac{2}{5} = \frac{4 \times 2}{5} = \frac{8}{5}$ .
- 4) **Choice D is correct.** (M.5.21) Volume = base area  $\times$  height =  $56 \times 7 = 392 \text{ cm}^3$ .
- 5) **Choice D is correct.** (M.5.5)  $8.5 \times 10^3 = 8.5 \times 1000 = 8500$ , so the missing number is 8.5.
- 6) **Choice C is correct.** (M.5.24) The base  $\overline{AB}$  lies on  $y = 3$ . Point  $C$  is at  $y = 7$ , so it is  $7 - 3 = 4$  units above the base.
- 7) **Choice A is correct.** (M.5.13)  $\frac{1}{12} \div 2 = \frac{1}{12} \times \frac{1}{2} = \frac{1}{24}$ .
- 8) **Choice C is correct.** (M.5.10) Line up decimal points and subtract place by place.  $10.00 - 4.38 = 5.62$ . This confirms the answer.
- 9) **Choice A is correct.** (M.5.3) Check the rows:  $1 \times 3 - 1 = 2$ ,  $2 \times 3 - 1 = 5$ , and  $3 \times 3 - 1 = 8$ . The same rule works for the table.
- 10) **Choice A is correct.** (M.5.22) The base area is  $8 \times 6 = 48$  square centimeters. Since  $240 \div 48 = 5$ , the height is 5 cm.
- 11) **Choice B is correct.** (M.5.5) Dividing by 100 makes the number one-hundredth as large. Move the decimal two places left:  $48 \rightarrow 0.48$ .
- 12) **Choice A is correct.** (M.5.16)  $\frac{3}{7} \times \frac{2}{9} = \frac{6}{63} = \frac{2}{21}$  (divide by 3).
- 13) **Choice C is correct.** (M.5.18) Total trained:  $8.5 + 9.2 + 7.8 = 25.5$  km. Remaining:  $30 - 25.5 = 4.5$  km.
- 14) **Choice D is correct.** (M.5.23) Points on the same horizontal grid line have the same second coordinate, but their first coordinates can be different. Points A, B, C are all 5 units above the x-axis and have first coordinates 2, 5, and 8.
- 15) **Choice B is correct.** (M.5.2)  $6 + 2 \times 3 - 1 = 6 + 6 - 1 = 11$  (not 16). Adding  $(6 + 2)$  changes order of ops.  $(2 \times 3)$  doesn't change result.
- 16) **Choice C is correct.** (M.5.26) The circle for squares is completely inside the circle for rectangles, so every square shown is also a rectangle.
- 17) **Choice A is correct.** (M.5.24) Subtract 2 from each input to get the output:  $2 - 2 = 0$ ,  $3 - 2 = 1$ ,  $4 - 2 = 2$ , and  $5 - 2 = 3$ .
- 18) **Choices A, B are correct.** (M.5.22) C is addition; D equals  $\frac{3}{4}$ , not  $\frac{3}{8}$ .
- 19) **Choice D is correct.** (M.5.15)  $6 \times \frac{1}{2} = 3$  cups. Since  $\frac{1}{2} < 1$ , you use less sugar.
- 20) **The correct answer is 0.9.** (M.5.10) 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.
- 21) **Choice C is correct.** (M.5.1) The parentheses give  $7 \times 4 = 28$ , and the division gives  $18 \div 3 = 6$ . Now finish left to right:  $56 - 28 + 6 = 34$ .
- 22) **Choice D is correct.** (M.5.5) Dividing by 100 moves the decimal 2 places left:  $0.3 \rightarrow 0.03 \rightarrow 0.003$ .
- 23) **Choice A is correct.** (M.5.19) Add the fractional measurements shown:  $3(\frac{1}{2}) + 2(1) + 3(1\frac{1}{2}) + 2 + 2\frac{1}{2} = 12\frac{1}{2}$  hours.
- 24) **The correct answer is 20 mi.** (M.5.24) The x-coordinate is 4, so it shows 4 hours. The y-coordinate is 20, so it shows 20 miles. Are there equivalent interpretations that correctly match 4 with hours and 20 with miles.
- 25) **The correct answer is 9348.** (M.5.8)  $246 \times 8 = 1,968$  and  $246 \times 30 = 7,380$ . Sum:  $1,968 + 7,380 = 9,348$ .
- 26) **Choice A is correct.** (M.5.4)  $0.6 \times 10 = 6$ . The digit 6 was in the tenths place and moves to the ones place.
- 27) **Choice D is correct.** (M.5.20) Doubling one dimension makes twice as many equal layers or rows. Since the other dimensions stay the same, the total number of cubic units doubles.
- 28) **Choice C is correct.** (M.5.16) Green:  $\frac{1}{8} \times 72 = 9$ . Red:  $\frac{1}{3} \times 72 = 24$ . Total green and red:  $9 + 24 = 33$ . Yellow:  $72 - 33 = 39$  apples.
- 29) **Choice D is correct.** (M.5.20) Find each part first: Prism A is  $8 \times 2 \times 6 = 96$  cubic centimeters, and Prism B is  $3 \times 3 \times 2 = 18$  cubic centimeters. Because the parts do not overlap, add them:  $96 + 18 = 114$  cubic centimeters.



**Laboratory Research Summary**

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**Greetings, Research Scientist!**

★ Exceptional research completed! You've conducted six comprehensive mathematical experiments, collecting data, analyzing results, and drawing accurate conclusions like a professional scientist! Each test represented a controlled experiment where you tested your hypotheses, recorded observations, and refined your methodologies. Your scientific approach to problem-solving has developed remarkably! ★

◇ **Here's what accomplished scientists understand:** research requires careful observation, precise measurement, and systematic analysis. They document their procedures so they can replicate successful experiments. You've developed those same scientific practices through these six tests! You've documented (mentally) which strategies work best, and now you can replicate that success on test day! ◇

**Research Laboratory Findings**

- **Hypothesis Testing:** You systematically evaluate which approaches work best!
- **Data Analysis:** You examine information carefully before drawing conclusions!
- **Experimental Control:** You maintain focus and accuracy throughout testing!
- **Research Complete:** Your findings confirm readiness for test day experimentation!

**Remember this scientific principle:** careful scientists verify their results before publishing findings. On test day, apply that same careful verification to your work. Double-check your calculations, confirm your answers make sense, and submit your best work. You've practiced the scientific method six times; trust your research skills!

Want to publish your mathematical research findings or discuss an interesting problem-solving hypothesis? Submit your papers to [reza@testinar.com](mailto:reza@testinar.com). The journal awaits your contributions!

**Reza Nazari & Jay Daie**

Your Math Coaches for Careful Reading

# 6 FULL-LENGTH TESTS. ENDLESS POTENTIAL.

PRACTICE TODAY. SUCCEED TOMORROW.

Give your child the tools they need to build strong math skills and test-taking confidence! This book includes **6 full-length practice tests** along with standards-based practice, mixed review, word problems, and a complete answer key.

★★★  
PRACTICE  
WITH PURPOSE.  
ACHIEVE WITH  
CONFIDENCE.

## WHAT'S INSIDE:



### 6 FULL-LENGTH PRACTICE TESTS

Realistic tests designed to reflect the actual test format and help build confidence.



### STANDARDS-BASED PRACTICE

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



### MIXED REVIEW

Reinforces key concepts with a variety of question types and review exercises.



### WORD PROBLEMS

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



### COMPLETE ANSWER KEY

Step-by-step explanations for every question to support learning and growth.



### IMPROVE. PRACTICE. ACHIEVE.

Consistent practice leads to stronger skills, higher scores, and greater success.



## WHY PRACTICE MAKES A DIFFERENCE



### BUILD CONFIDENCE

Feel prepared and ready for any challenge.



### IMPROVE ACCURACY

Strengthen skills and reduce careless mistakes.



### THINK STRATEGICALLY

Develop problem-solving skills and deepen understanding.



### MANAGE TIME

Practice under timed conditions to build stamina.



### STAY MOTIVATED

Track progress and celebrate every win.



### ACHIEVE SUCCESS

Reach goals and unlock your full potential!



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for more Grade 5 math resources and practice materials!



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