

9

West Virginia

WVGSA

GRADE 7

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

Program



9 PRINTED TESTS



2 ONLINE TESTS



Use these two additional online practice tests
for **extra review** after the printed tests in this book.



BUILT FOR ACAP
Standards-Aligned



**STRENGTHEN
SKILLS**



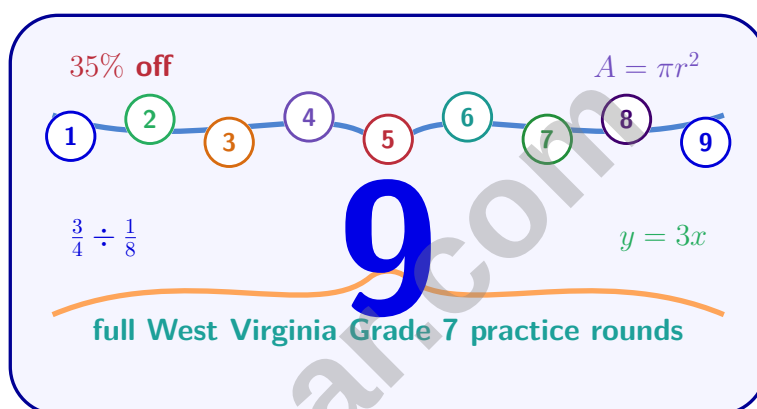
**SHARPEN
THINKING**



BE TEST-READY
Improve Performance

9 West Virginia WVGSA Grade 7 Math Practice Tests

Standards-Aligned West Virginia Practice for Proportional Reasoning, Expressions, Geometry, Statistics, and Probability



Nine complete 40-question Grade 7 WVGSA practice rounds with proportional relationships, percents, rational numbers, expressions, equations, geometry, statistics, probability, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari



Copyright ©

Testinar Inc



Published by Testinar Inc

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 ©

Welcome, West Virginia Grade 7 Problem Solver!

Nine focused rounds for sharper WVGSA math thinking

This book gives you nine full Grade 7 WVGSA math practice tests. Each round is built to help you notice structure, compare quantities, use proportional reasoning, handle rational numbers, and explain your thinking with care.

Your West Virginia Practice Promise

I will read every question carefully, choose a strategy that fits, write enough work to prove my answer, and use corrections as training for the next test.

Read

Model

Verify

How to Use This Book

A nine-session plan for confident Grade 7 review

1. **Warm up with the review pages.** Notice the big ideas before starting the tests.
2. **Complete one test at a time.** Treat each 40-question round like a real practice session.
3. **Show your reasoning.** Jot a proportion, equation, diagram, number line, or quick estimate when it helps.
4. **Correct actively.** Rework missed items before reading the explanation.
5. **Choose the next target.** After each test, name one skill and one habit to improve.

West Virginia review rhythm: Work a test, score it, study your misses, then come back ready for the next round with one clear goal.



What Is Inside?

Nine WVGSA tests, 360 questions, and a complete review path

Part	What You Will Practice
Tests 1–3	Proportional relationships, unit rates, percents, rational-number operations, and careful reading.
Tests 4–6	Expressions, equations, inequalities, scale drawings, geometry, and multi-step problem solving.
Tests 7–9	Statistics, probability, mixed review, stamina, and choosing efficient strategies.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Grade 7 success means recognizing which idea is being tested even when the next question changes format.



Scan me!
For more practice
& answers

Table of Contents

★ Practice Test 1	_____	14
★ Practice Test 2	_____	29
★ Practice Test 3	_____	43
★ Practice Test 4	_____	59
★ Practice Test 5	_____	73
★ Practice Test 6	_____	88
★ Practice Test 7	_____	102
★ Practice Test 8	_____	117
★ Practice Test 9	_____	131
Practice Test Answer Keys	_____	146
Practice Test Answers and Explanations	_____	152

- 1) A gym membership costs \$45 per month. If m is the number of months and c is the total cost, what is the constant of proportionality?

☐ A. \$22.50 ☐ C. \$90
☐ B. \$40 ☐ D. \$45

- 2) A restaurant offers 3 appetizers, 4 entrees, and 2 desserts. How many different meals (appetizer, entree, dessert) are possible?

☐ A. 9 ☐ C. 24
☐ B. 12 ☐ D. 30

- 3) A punch recipe has a ratio of juice to water of 2 : 5. If you use 14 cups of juice, how many cups of water are needed?

- 4) A die was rolled and outcomes were tallied. The results showed odd numbers (1, 3, 5) appeared a combined 87 times out of 180 rolls. What is the experimental probability of rolling an odd number?

☐ A. 0.48 ☐ C. 0.52
☐ B. 0.50 ☐ D. 0.87

- 5) A restaurant charges a 2.5% service fee in addition to the bill. If a diner's meal costs \$80, what is the service fee?

☐ A. \$20.00 ☐ C. \$8.00
☐ B. \$2.50 ☐ D. \$2.00



6) Convert 5,000 cubic inches to cubic feet. (Hint: $1 \text{ ft} = 12 \text{ in}$, so $1 \text{ ft}^3 = 1,728 \text{ in}^3$)

☐ A. 2.89 ft^3

☐ C. 3.68 ft^3

☐ B. 3.25 ft^3

☐ D. $8,640 \text{ ft}^3$

7) A circle has a diameter of 13.4 mm. What is its radius?

☐ A. 6.7 mm

☐ C. 20.1 mm

☐ B. 13.4 mm

☐ D. 26.8 mm

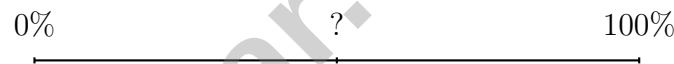
8) Which statement describes an event with probability 1?

☐ A. Drawing a red card from a shuffled deck

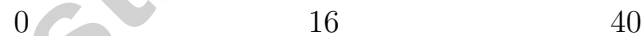
☐ C. Flipping a coin and getting heads

☐ B. Picking a number from 1 to 10 that is less than 11

☐ D. Rolling a number greater than 6 on a standard die



9)



According to the double number line, 16 corresponds to what percent of 40?

☐ A. 30%

☐ C. 40%

☐ B. 35%

☐ D. 45%



Scan me!
For more practice
& answers

10) Which statement is true?

☐ A. $-5 + 3 = 8$

☐ C. $4 + (-9) = 5$

☐ B. $-12 + 20 = -8$

☐ D. $-5 + 3 = -2$

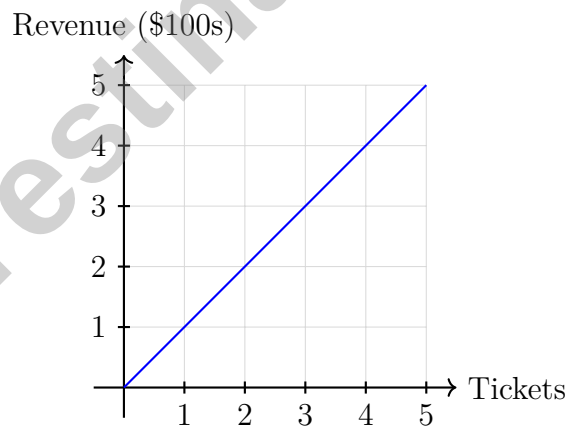
11) A large blueprint has scale 2 inches : 5 feet. What is the actual length if the blueprint shows 10 inches?

☐ A. 4 feet☐ C. 20 feet☐ B. 12.5 feet☐ D. 25 feet

12) A furniture store applies a 12% sales tax to all items. If a table costs \$250 before tax, what is the total cost?

☐ A. \$238☐ C. \$280☐ B. \$262☐ D. \$262.50

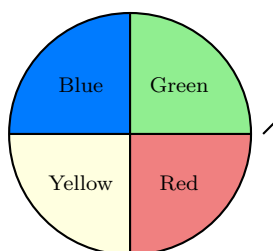
13) The graph below shows the relationship between number of tickets and total revenue. Which statement is true?

☐ A. Not proportional; points are not connected☐ C. Proportional; slope is negative☐ B. Not proportional; too steep☐ D. Proportional; line passes through origin

- 1) Which is true about a circle with radius r and diameter d ?
- ☐ A. $d = r$ ☐ C. $r = 2d$
☐ B. $d = 2r$ ☐ D. $d = \frac{r}{2}$
- 2) Which pair of points could NOT lie on a proportional graph through the origin?
- ☐ A. (0, 0) and (2, 10) ☐ C. (2, 4) and (4, 8)
☐ B. (1, 7) and (2, 14) ☐ D. (3, 6) and (5, 11)
- 3) A discount store marks all items at $\frac{3}{4}$ of the original price. If o is the original price and d is the discounted price, which equation is correct?
- ☐ A. $d = o + \frac{3}{4}$ ☐ C. $o = \frac{3}{4}d$
☐ B. $d = o - \frac{3}{4}$ ☐ D. $d = \frac{3}{4}o$
- 4) Internet Plan A offers $\frac{3}{4}$ gigabyte for \$15. Plan B offers $\frac{1}{2}$ gigabyte for \$10. Which plan is the better value?
- ☐ A. Plan A at \$20/GB ☐ C. Plan A at \$15/GB
☐ B. Plan B at \$20/GB ☐ D. They are equally good
- 5) A recipe uses 2 cups of sugar for each batch of cookies. What is the constant of proportionality (cups per batch)? If 15 batches are made, what is the total amount of sugar used?
- ☐ A. $k = 30$; total = 2 cups ☐ C. $k = 15$; total = 30 cups
☐ B. $k = 1$; total = 15 cups ☐ D. $k = 2$; total = 30 cups



Scan me!
For more practice
& answers



6)

The spinner above has 4 equal sections. In a simulation with 160 spins, the number of times each section appears is: Blue 52, Yellow 38, Red 41, Green 29. Which section has an estimated probability closest to its theoretical probability?

☐ A. Blue☐ C. Red☐ B. Yellow☐ D. Green7) Which expression represents “the difference of 10 and a number w ”?☐ A. $10w$ ☐ C. $10 - w$ ☐ B. $w - 10$ ☐ D. $10 + w$

8) A restaurant bill comes to \$72. The customer leaves a 20% tip. How much is the tip?

9) Factor: $-10x - 20$ ☐ A. $-10(x + 2)$ ☐ C. $-10(x - 2)$ ☐ B. $10(x - 2)$ ☐ D. $10(-x - 2)$ 

- 1) A stock broker earns a 0.5% commission on all stock trades. A client makes a trade worth \$8,000. What is the broker's commission?

- ☐ A. \$4
☐ B. \$4,000
☐ C. \$400
☐ D. \$40

- 2) Simplify $-5x + 3x + 2y - y$, then evaluate when $x = 1$ and $y = 1$.

- 3) Solve: $3x - 4 \leq 11$

- ☐ A. $x \geq 5$
☐ B. $x \leq 5$
☐ C. $x > 5$
☐ D. $x \leq 15$

- 4) Solve: $\frac{x-4}{2} = 5$

$$\frac{x-4}{2} = 5$$



Multiply by 2

$$x - 4 = 10$$



Add 4

$$x = 14$$

- ☐ A. $x = 6$
☐ B. $x = 10$
☐ C. $x = 14$
☐ D. $x = 18$



Scan me!
For more practice
& answers

5) Solve: $\frac{1}{2}x + 3 = 8$

☐ A. $x = 5$

☐ C. $x = 10$

☐ B. $x = 8$

☐ D. $x = 16$

Scale 1 cm : 2 m



6)

What is the perimeter of the actual rectangle?

☐ A. 16 m

☐ C. 64 m

☐ B. 32 m

☐ D. 128 m

7) A rectangular baseball diamond plot is measured as 40 meters by 40 meters. An engineer creates a scale drawing with scale 1 cm : 5 m. What are the dimensions of the drawing?

☐ A. 4 cm by 4 cm

☐ C. 40 cm by 40 cm

☐ B. 8 cm by 8 cm

☐ D. 80 cm by 80 cm

8) A trapezoid with one vertex at $D(-2, -4)$ is rotated 180° about the origin. What is the image of vertex D ?

☐ A. $(2, 4)$

☐ C. $(4, 2)$

☐ B. $(-2, 4)$

☐ D. $(-4, -2)$



West Virginia WVGSA Grade 7 Practice Test Answer Keys**How to use this section with a Grade 7 student:**

1. check the answer first and circle any item that needs another look
2. retry the problem with fresh work before reading the explanation
3. write one short lesson learned from each missed or guessed item

A strong review routine turns every correction into a sharper plan for the next West Virginia WVGSA practice test.

Testinar.com



Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice D is correct.** (7.RP.1-7.RP.3) In $c = 45m$, the constant of proportionality is $k = 45$ dollars per month.
- 2) **Choice C is correct.** (7.SP.5-7.SP.8) By the Fundamental Counting Principle: $3 \times 4 \times 2 = 24$.
- 3) **The correct answer is 35.** (7.RP.1-7.RP.3) Ratio 2 : 5: if juice = 14, then $\frac{2}{5} = \frac{14}{x}$. Cross multiply: $2x = 70$, so $x = 35$ cups water.
- 4) **Choice A is correct.** (7.SP.6) Experimental probability = $\frac{87}{180} \approx 0.483$, which rounds to approximately 0.48.
- 5) **Choice D is correct.** (7.RP.3) Service fee = $0.025 \times 80 = \$2.00$.
- 6) **Choice A is correct.** (7.G.4-7.G.6) $\frac{5,000 \text{ in}^3}{1,728 \text{ in}^3/\text{ft}^3} \approx 2.89 \text{ ft}^3$.
- 7) **Choice A is correct.** (7.G.4-7.G.6) $r = \frac{d}{2} = \frac{13.4}{2} = 6.7 \text{ mm}$.
- 8) **Choice B is correct.** (7.SP.5-7.SP.8) Every number from 1 to 10 is less than 11, so this event is certain (probability = 1).
- 9) **Choice C is correct.** (7.RP.3) $\frac{16}{40} = \frac{2}{5} = 0.40 = 40\%$.
- 10) **Choice D is correct.** (7.NS.1b) Check each: A: $-5 + 3 = -2$, not 8. B: $-5 + 3 = -2$ ✓. C: $4 + (-9) = -5$, not 5. D: $-12 + 20 = 8$, not -8.
- 11) **Choice D is correct.** (7.RP.1-7.RP.3) Scale is 2 : 5, so 1 : 2.5. Actual length: $10 \times 2.5 = 25$ feet.
- 12) **Choice C is correct.** (7.RP.3) Tax = $0.12 \times 250 = \$30$. Total = $250 + 30 = \$280$.
- 13) **Choice D is correct.** (7.RP.1-7.RP.3) The line passes through the origin (0,0) with slope $k = 1$. Since it passes through the origin, it is proportional.
- 14) **Choice D is correct.** (7.RP.1-7.RP.3) Proportional relationships have the form $y = kx$ with no constant term. The equation $C = 2.50n + 5.99$ has a nonzero initial value, \$5.99, so it does not pass through the origin and is not proportional.
- 15) **Choice D is correct.** (7.RP.3) Using the proportion $\frac{40}{100} = \frac{x}{125}$, cross-multiply: $x = 50$.
- 16) **Choice D is correct.** (7.RP.3) Employee contribution = $6\% \times \$4,000 = \240 . Company match = $50\% \times \$240 = 0.50 \times 240 = \120 .
- 17) **Choice A is correct.** (7.EE.1-7.EE.2) Perimeter = $2(x + 5) + 2(3x - 2) = 2x + 10 + 6x - 4 = 8x + 6$.
- 18) **The correct answer is 2800.** (7.SP.1-7.SP.4) $\frac{56}{160} = \frac{x}{8000}$. Reduce: $\frac{7}{20} = \frac{x}{8000} \Rightarrow x = 2800$.
- 19) **Choice C is correct.** (7.EE.4a) The one-time membership is \$50 plus \$25 each month, so $T = 50 + 25m$.
- 20) **The correct answer is A,C.** (7.G.4-7.G.6) Option A is correct (60 m^2). Option C is correct (18 m^2). The true total is $60 + 18 = 78 \text{ m}^2$, so D and
- 21) **Choice B is correct.** (7.EE.3-7.EE.4) Substitute $x = 4$: $6(4) + 2 = 24 + 2 = 26$ ✓. Subtract 2: $6x = 24$, divide by 6: $x = 4$.
- 22) **Choice C is correct.** (7.G.1-7.G.5) Map length: $450 \div 15 = 30 \text{ cm}$.
- 23) **Choice D is correct.** (7.RP.1-7.RP.3) Unit rate: $\frac{5/4}{1/8} = \frac{5}{4} \times 8 = \frac{40}{4} = 10$ miles per gallon.
- 24) **Choice C is correct.** (7.NS.1-7.NS.3) $\sqrt{289} = 17$ feet because $17 \times 17 = 289$.
- 25) **The correct answer is -325.** (7.NS.1-7.NS.3) $-450 + 125 = -325$ meters.
- 26) **Choice A is correct.** (7.EE.1-7.EE.2) The GCF of the coefficients 6 and 9 is 3. Factoring: $6x + 9y = 3(2x + 3y)$. This equivalent form uses the greatest common factor to show the structure: three groups of $(2x + 3y)$.
- 27) **Choice B is correct.** (7.G.4-7.G.6) Full circle: $A = 3.14 \times 10^2 = 314 \text{ ft}^2$. Quarter: $\frac{314}{4} = 78.5 \text{ ft}^2$.
- 28) **The correct answer is (2, -2).** (7.G.1-7.G.5) Reflection over the x -axis uses the rule $(x, y) \rightarrow (x, -y)$. Applying this to $C(2, 2)$: $C' = (2, -2)$.
- 29) **Choice C is correct.** (7.SP.1-7.SP.4) Percentage = $\frac{90}{360} \times 100\% = \frac{1}{4} \times 100\% = 25\%$.
- 30) **Choice C is correct.** (7.SP.5-7.SP.8) Prime numbers on a die: 2, 3, 5 (three primes). $P(\text{prime}) = \frac{3}{6} = \frac{1}{2}$.
- 31) **Choice A is correct.** (7.NS.2) $(-7) \times 5 = -35$, not 35. The student multiplied correctly but forgot that negative times positive is negative.



Hi, Confident Learner!

◇ This high-stamina book gave you nine substantial Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. Grade 7 math can feel big because it brings together rational numbers, expressions, equations, geometry, probability, and data. ◇

★ **Remember this:** But big topics become manageable when you practice one skill at a time. That is what you have been doing with every test in this book. ★

Confidence Builders

- **Know the Goal:** Identify what the question asks.
- **Use Vocabulary:** Math words point to math actions.
- **Show Work:** Give yourself something to check.
- **Celebrate Effort:** Practice is proof that you are moving.

Grade 7 test-day tip: When reviewing, do not only mark wrong answers. Write one sentence about what you learned from each one.

If you want to share something or ask a question, please email me at jay@testinar.com.

Jay Daie

Your Confidence Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **9** full-length Math practice tests and **2** online tests to help Grade 7 students build confidence, strengthen skills, and excel on standardized assessments.

Each practice test is carefully crafted to reflect the latest standards and includes a variety of question types, realistic test conditions, and detailed answer explanations.

Perfect for classroom use, homework, test preparation, and extra practice at home.

THIS BOOK INCLUDES:

9 Full-Length Printed Tests

2 Online Practice Tests

 Detailed Answer Explanations



MORE PRACTICE. GREATER RESULTS.

Give your child the tools to build strong math skills, confidence, and a positive attitude toward learning.

WHAT YOU'LL GAIN



Stronger Math Skills

Build a solid foundation through targeted practice and review.



Better Problem Solving

Develop logical thinking and effective solution strategies.



Deeper Understanding

Reinforce key concepts with clear explanations and meaningful practice.



Test Confidence

Familiarize with test formats and improve accuracy and speed.



Achieve Success

Build confidence and perform your best on test day.

TOPICS COVERED

- ✓ Ratios & Proportions
- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Geometry
- ✓ Percents & Decimals
- ✓ Statistics & Probability
- ✓ Data Analysis
- ✓ Measurement & Conversions
- ✓ Algebraic Thinking
- ✓ And More!



2 ONLINE TESTS

Use these two additional online practice tests for extra review after the printed tests in this book.



2 EXTRA ONLINE TEST ACCESS CODE IS INSIDE THE BOOK!

Don't lose it—your extra practice and success start here!



VISIT [TESTINAR.COM/MATH7](https://www.testinar.com/math7)

FOR MORE PRACTICE TESTS AND LEARNING RESOURCES.



PRACTICE
REGULARLY



STAY
FOCUSED



SOLVE
CONFIDENTLY



SUCCEED
BRIGHTLY