

7 West Virginia WVGSA Grade 7 Math Practice Tests



ONLINE

7 PRINTED TESTS + 2 ONLINE TESTS

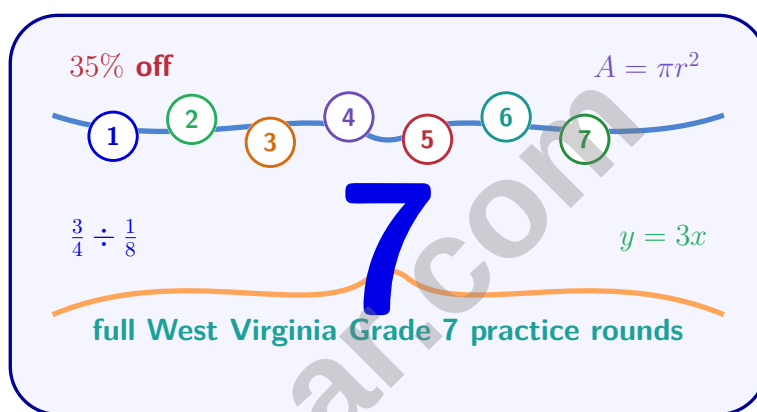


Standards Aligned Problem Solving
For Comprehensive Assessment Programs



8 West Virginia WVGSA Grade 7 Math Practice Tests

A polished preparation set for West Virginia Grade 7 equations, inequalities, circle measures, volume, statistics, and probability



Eight 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.

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Welcome, West Virginia Grade 7 Problem Solver!

Eight focused rounds for sharper WVGSA math thinking

This book gives you seven 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

An eight-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?

Eight WVGSA tests, 280 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 7–8	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.



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1) An online retailer sends an email to all customers asking them to rate their shopping experience. Only 300 of the 10,000 customers respond. What is true about this sample?

- ☐ A. It is a stratified sample ☐ C. It is the population
☐ B. It has no bias because the email was sent to all customers ☐ D. It has low response rate and voluntary response bias

2) What is $-1\frac{1}{2} \times 6$?

- ☐ A. -9 ☐ C. 8
☐ B. -8 ☐ D. 9

3) A real estate agent earns a 2.5% commission on home sales. She sells a house for \$400,000. How much is her commission?

- ☐ A. \$6,000 ☐ C. \$12,500
☐ B. \$40,000 ☐ D. \$10,000

4) A savings account grows from \$600 to \$684 in one year with annual compound interest. What is the interest rate?

- ☐ A. 10% ☐ C. 14%
☐ B. 12% ☐ D. 15%

5) A triangle is to be constructed with one angle of 30° , another angle of 50° , and one side of 10 cm. How many distinct triangles can be constructed?

- ☐ A. 0 ☐ C. 2
☐ B. 1 ☐ D. Infinitely many



6) An error analysis: A student wrote $|-9| = -9$. What is the correct value, and why is the student wrong?

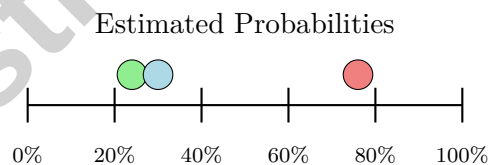
- ☐ A. Correct: $|-9| = -9$; student is right
- ☐ B. Correct: $|-9| = 18$; doubling the number
- ☐ C. Correct: $|-9| = 0$; distance from zero is zero
- ☐ D. Correct: $|-9| = 9$; absolute value is always non-negative

7) Simplify: $9c + 2d - c + 5d - 4c$

- ☐ A. $4c + 7d$
- ☐ B. $18cd$
- ☐ C. $-4c + 7d$
- ☐ D. $14c + 7d$

8) A diver begins at sea level (0 meters) and descends 25 meters. Then she ascends 8 meters. What is her final depth below sea level? Write your answer as an integer.

9)



Three simulation estimates are plotted on the number line: 0.24 (green), 0.38 (blue), and 0.76 (red). If the true theoretical probability is 0.25, which estimate has the smallest error?

- ☐ A. Green at 0.24
- ☐ B. Blue at 0.38
- ☐ C. Red at 0.76
- ☐ D. All three have equal error



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10) Evaluate $-13 + (-7)$.

☐ A. -20

☐ B. -6

☐ C. 6

☐ D. 20

11) Which expression represents “the sum of a number d and 3, all divided by 2”?

☐ A. $\frac{d}{2} + 3$

☐ B. $\frac{d+3}{2}$

☐ C. $d + \frac{3}{2}$

☐ D. $2(d + 3)$

12) Factor out the GCF from $10xy + 15y + 5$:

☐ A. $5(2xy + 3y + 1)$

☐ B. $5y(2x + 3 + \frac{1}{y})$

☐ C. $10(xy + 1.5y + 0.5)$

☐ D. $y(10x + 15 + 5y)$

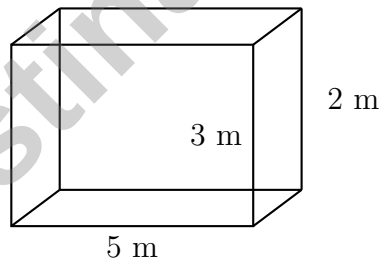
13) Maria earns \$12 per hour. How many hours must she work to earn at least \$144?

☐ A. $h < 12$

☐ B. $h \geq 12$

☐ C. $h \leq 144$

☐ D. $h > 12$



14)

A rectangular prism with dimensions $5 \text{ m} \times 3 \text{ m} \times 2 \text{ m}$ is shown above. Calculate its surface area.

☐ A. 30 m^2

☐ B. 62 m^2

☐ C. 84 m^2

☐ D. 120 m^2



- 1) A street sign is enlarged from a scale drawing. On the drawing, the sign measures 3 inches wide by 2 inches tall. The actual sign is 12 feet wide. If the sign's measurements scale proportionally, how tall is the actual sign?

☐ A. 6 feet ☐ C. 10 feet
☐ B. 8 feet ☐ D. 16 feet

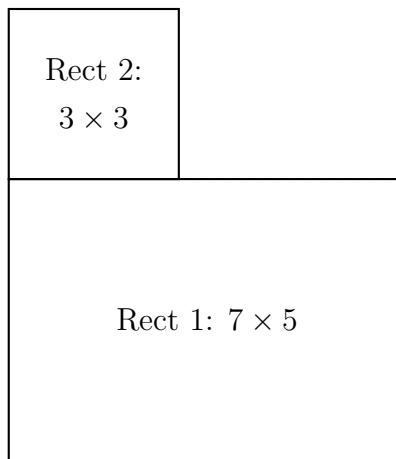
- 2) A concert ticket costs \$85. With a 15% service fee, the total is $85(1 + 0.15)$. What is the total cost?

☐ A. \$97.75 ☐ C. \$100
☐ B. \$70 ☐ D. \$12.75

- 3) A temperature drops 45°F over 9 hours. What is the average drop per hour?



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4)

An L-shaped room consists of a large rectangle (7 m $\times$ 5 m) and a small rectangle (3 m $\times$ 3 m) attached at a corner. Which equation correctly finds the total area?

☐ A. $7 \times 5 \times 3 \times 3$

☐ C. $7 \times 5 + 3 \times 3$

☐ B. $(7 + 5) + (3 + 3)$

☐ D. $7 + 3 \times 5 + 3$

5) A rectangular prism has dimensions 5 m, 4 m, and 8 m. What is its volume?

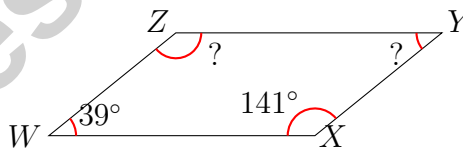
☐ A. 320 m^3

☐ C. 40 m^3

☐ B. 160 m^3

☐ D. 17 m^3

6)



What is the sum of the two missing angle measures?

☐ A. 90°

☐ C. 180°

☐ B. 141°

☐ D. 219°



1) Simplify: $\frac{n^9}{n^4}$

☐ A. n^5

☐ B. n^{13}

☐ C. n^{36}

☐ D. $\frac{n^4}{n^9}$

2) If 52% of a school's 650 students are girls, which is the most efficient method to find the number of girls?

☐ A. Divide 650 by 52

☐ C. Add $52 + 650$ and take $\frac{1}{2}$
☐ B. Use a proportion: $\frac{52}{100} = \frac{x}{650}$ and cross-multiply

☐ D. Convert 52% to a decimal and multiply: 0.52×650

3)

Expense Category	Amount
Rent	\$1 200
Groceries	\$400
Utilities	\$150
Entertainment	\$200
Total	\$1 950

If David's net income is \$2 500 per month, how much can he save?

☐ A. \$350

☐ C. \$550

☐ B. \$400

☐ D. \$750

4) A sports league starts with 40 teams. After expansion, it has 50 teams. What is the percent increase in the number of teams?

☐ A. 10%

☐ C. 25%

☐ B. 20%

☐ D. 80%


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- 5) A simulation is designed to estimate the probability of getting exactly two tails in three coin flips. What is the theoretical probability that the simulation should approach?

☐ A. $\frac{1}{8}$ ☐ C. $\frac{3}{8}$
☐ B. $\frac{2}{8}$ ☐ D. $\frac{4}{8}$

- 6) What is the greatest common numerical factor of $14ab$ and $21a$?

- 7) Which situation best describes a *random sample*?

☐ A. Surveying the first 30 people at a public event ☐ C. Asking volunteers to participate in a study
☐ B. Drawing names from a hat containing all members' names ☐ D. Interviewing people at a shopping mall on a Saturday

- 8) A scale drawing has a scale of 1 cm : 0.5 m. What is the scale factor?

☐ A. 0.5 ☐ C. 50
☐ B. 2 ☐ D. 500

- 9) A map shows a rectangular park with scale 1 in : 500 ft. An error causes the scale to be doubled (widening the drawing). If the park measures 6 inches by 8 inches on the original map, what are the dimensions on the incorrectly scaled map?

☐ A. 3 in by 4 in ☐ C. 12 in by 16 in
☐ B. 6 in by 8 in ☐ D. 24 in by 32 in



West Virginia General Summative Assessment 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 General Summative Assessment practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice D is correct.** **(7.SP.1-7.SP.4)** Only 3% of customers responded. Those who chose to respond likely have strong opinions, creating bias. This is not representative of all 10,000 customers.
- 2) **Choice A is correct.** **(7.NS.2)** $-1\frac{1}{2} = -\frac{3}{2}$. So $-\frac{3}{2} \times 6 = \frac{-18}{2} = -9$.
- 3) **Choice D is correct.** **(7.RP.3)** Commission = commission rate $\times$ sales = $0.025 \times 400,000 = \$10,000$.
- 4) **Choice C is correct.** **(7.RP.3)** $600(1 + r) = 684 \Rightarrow 1 + r = 1.14 \Rightarrow r = 0.14 = 14\%$.
- 5) **Choice B is correct.** **(7.G.1-7.G.5)** The third angle is $180^\circ - 30^\circ - 50^\circ = 100^\circ$. With two known angles and one known side, we have ASA (Angle-Side-Angle) or AAS (Angle-Angle-Side), both of which determine a unique triangle.
- 6) **Choice D is correct.** **(7.NS.1-7.NS.3)** Absolute value represents distance from zero, which is never negative. Since -9 is 9 units from zero, $|-9| = 9$. The student confused the opposite with absolute value.
- 7) **Choice A is correct.** **(7.EE.1)** c terms: $(9 - 1 - 4)c = 4c$. d terms: $(2 + 5)d = 7d$. Result: $4c + 7d$.
- 8) **The correct answer is -17 .** **(7.NS.1-7.NS.3)** After descending: $0 - 25 = -25$. After ascending 8 meters: $-25 - (-8) = -25 + 8 = -17$. She is 17 meters below sea level.
- 9) **Choice A is correct.** **(7.SP.5-7.SP.8)** Error for green: $|0.24 - 0.25| = 0.01$. Error for blue: $|0.38 - 0.25| = 0.13$. Error for red: $|0.76 - 0.25| = 0.51$. Green has the smallest error.
- 10) **Choice A is correct.** **(7.NS.1b)** Both numbers are negative. Add their absolute values: $|-13| + |-7| = 13 + 7 = 20$. Since both are negative, the sum is -20 .
- 11) **Choice B is correct.** **(7.EE.1-7.EE.2)** Sum of d and 3 is $(d + 3)$. Divided by 2 is $\frac{d+3}{2}$.
- 12) **Choice A is correct.** **(7.EE.1-7.EE.2)** GCF of 10, 15, and 5 is 5. Factor: $10xy + 15y + 5 = 5(2xy + 3y + 1)$.
- 13) **Choice B is correct.** **(7.EE.4b)** "At least \$144" means $\geq$. Set up: $12h \geq 144$. Divide by 12: $h \geq 12$.
- 14) **Choice B is correct.** **(7.G.4-7.G.6)** $SA = 2(5 \cdot 3 + 5 \cdot 2 + 3 \cdot 2) = 2(15 + 10 + 6) = 2(31) = 62 \text{ m}^2$.
- 15) **The correct answer is 11.** **(7.RP.1-7.RP.3)** $y = 2.2 \times 5 = 11$.
- 16) **Choice D is correct.** **(7.RP.3)** $20\% \times \$500 = 0.20 \times 500 = \100 is correct. Options A, C, and D represent common errors (wrong percent, tax confusion, and flipping categories).
- 17) **Choice B is correct.** **(7.NS.1-7.NS.3)** $m = (-7) \times (-4) = 28$.
- 18) **The correct answer is A,C.** **(7.RP.1-7.RP.3)** True: A ($4 \times 6 = 24$ feet) and C ($2 \times 6 = 12$ feet; $2.5 \times 6 = 15$ feet). False: B (area scales by $6^2 = 36$, not 6); D (area: $900 \div 36 = 25$ sq in, not 36); E (areas are reduced by $\frac{1}{36}$ on the plan, not $\frac{1}{6}$).
- 19) **Choice B is correct.** **(7.NS.2d)** Divide $11 \div 50 = 0.22$. Since $50 = 2 \times 5^2$, the result is terminating.
- 20) **Choice A is correct.** **(7.NS.1-7.NS.3)** Multiply: $\frac{3}{4} \times \frac{1}{2} = \frac{3}{8}$ cup.
- 21) **Choice B is correct.** **(7.NS.1-7.NS.3)** Balance = $250.80 - 45.50 - 32.75 + 60.00 = 232.55$ dollars.
- 22) **Choice A is correct.** **(7.EE.4a)** Bar model shows base \$80 plus additional uniforms at \$15 each. Equation: $15u + 80 = 230$.
- 23) **Choice C is correct.** **(7.EE.3-7.EE.4)** Divide by 5: $2x - 3 = 7$. Add 3: $2x = 10$. Divide by 2: $x = 5$.
- 24) **The correct answer is 15%.** **(7.RP.3)** The discount amount is $60 - 51 = 9$ dollars. Percent discount: $\frac{9}{60} = 0.15 = 15\%$.
- 25) **Choice D is correct.** **(7.G.1-7.G.5)** Multiply by scale factor: $15 \text{ cm} \times 2 \text{ m/cm} = 30 \text{ m}$.
- 26) **Choice B is correct.** **(7.SP.5-7.SP.8)** Non-blue marbles = $3 + 5 = 8$. $P(\text{not blue}) = \frac{8}{10} = \frac{4}{5}$.
- 27) **Choice C is correct.** **(7.SP.5-7.SP.8)** With 3 colors and replacement: $3 \times 3 = 9$ outcomes. Probability of Blue twice (BB) is $\frac{1}{9}$, not $\frac{2}{9}$. Statements A, B, and D are all true.
- 28) **Choice B is correct.** **(7.NS.1-7.NS.3)** $15^2 = 225$ and $16^2 = 256$. Since 240 is closer to 225 than to 256, $\sqrt{240} \approx 15.5$, closest to 15.
- 29) **Choice B is correct.** **(7.EE.1-7.EE.2)** Apply product rule inside parentheses: $o^5 \cdot o^3 = o^8$. Then power rule: $(o^8)^2 = o^{8 \times 2} = o^{16}$.
- 30) **Choice C is correct.** **(7.EE.4a)** Distribute: $5x - 10 = 35$. Add 10: $5x = 45$. Divide by 5: $x = 9$. (Distractor A: solving $x - 2 = 5$ instead; Distractor D: arithmetic error when isolating x .)



You Know More Than You Think

Hi, Skilled Learner!

◇ After working through Grade 7 practice, you now have more tools than you may realize: models, formulas, graphs, equations, and reasoning habits. ◇

★ **Remember this:** The next step is learning when to use each tool. That comes from practice, review, and the courage to try a method even when you are unsure. This version gave you 7 opportunities to rehearse test-day habits. ★

Tools You Can Use

- **Models:** Make relationships visible.
- **Equations:** Represent unknowns clearly.
- **Graphs:** Show change and location.
- **Formulas:** Organize measurement problems.

Grade 7 test-day tip: Before solving, name the tool you plan to use. That small choice makes your work more intentional.

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

Jay Daie

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