

8

Pennsylvania

PSSA

GRADE 7

MATH

PRACTICE TESTS



Standards Aligned
Problem Solving

For Comprehensive
Assessment Programs



8 PRINTED TESTS



2 ONLINE TESTS



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



BUILD CONFIDENCE



STRENGTHEN SKILLS



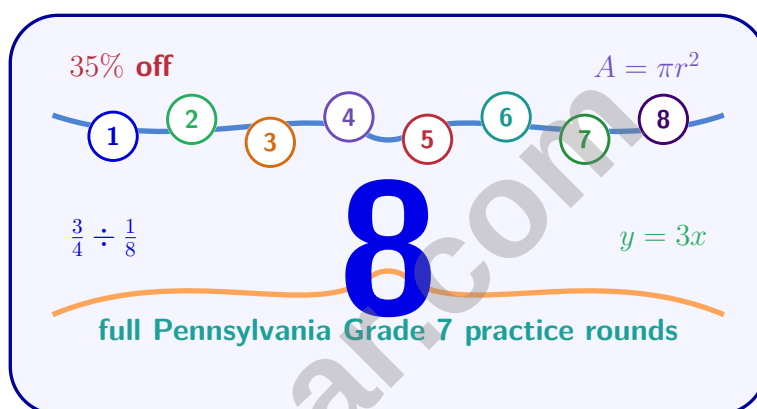
THINK SMARTER



BE TEST-READY

8 Pennsylvania PSSA Grade 7 Math Practice Tests

An organized route through Pennsylvania Grade 7 proportional reasoning, equations, inequalities, 3D geometry, statistics, and probability



Eight complete 40-question Grade 7 PSSA 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



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Welcome, Pennsylvania Grade 7 Problem Solver!

Eight focused rounds for sharper PSSA math thinking

This book gives you eight full Grade 7 PSSA 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 Pennsylvania 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.

Pennsylvania 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 PSSA tests, 320 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.

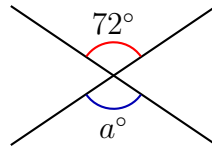
The tests are mixed on purpose. Grade 7 success means recognizing which idea is being tested even when the next question changes format.



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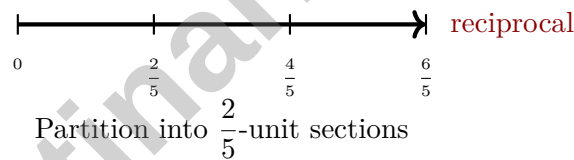
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1)

Two lines intersect forming vertical angles. One angle is 72° . What is the measure of the vertically opposite angle a ?

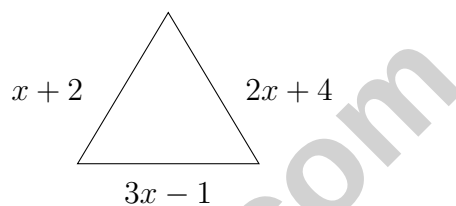
☐ A. 18° ☐ C. 108° ☐ B. 72° ☐ D. 180° 2) A student claims that $x = 5$ is a solution to $2x - 1 > 7$. Is the student correct?☐ A. Yes, because $2(5) - 1 = 9 > 7$ ☐ C. Yes, the solution is exactly 5☐ B. No, because $2(5) - 1 = 9 \not> 8$ ☐ D. No, because $5 > 7$ is false3) Reciprocal partitioning: To divide by $\frac{2}{5}$, multiply by _____.☐ A. $\frac{2}{5}$ ☐ C. $\frac{1}{5}$ ☐ B. $\frac{5}{2}$ ☐ D. 24) Is $0.333\dots$ (or $0.\overline{3}$) a terminating or repeating decimal?☐ A. Terminating☐ C. Both☐ B. Repeating☐ D. Neither

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- 5) If you earn \$18 per hour and work 35 hours per week, what is your weekly gross pay before taxes?

- 6) A triangle has sides measuring $(x + 2)$ m, $(3x - 1)$ m, and $(2x + 4)$ m. What is the perimeter?



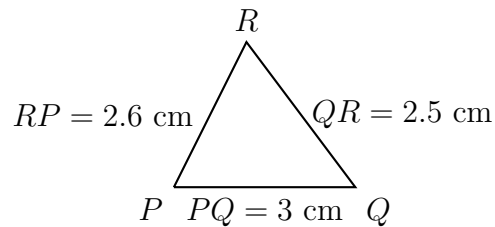
- ☐ A. $6x + 5$ ☐ C. $5x + 5$
☐ B. $6x - 5$ ☐ D. $6x + 3$
- 7) A baker's original recipe calls for $\frac{2}{3}$ cup of honey. First, she makes $\frac{3}{2}$ times the recipe. Then she uses $\frac{1}{4}$ of the total honey made for granola bars. How much honey (in cups) remains for the other desserts?



- 8) Which expression is equivalent to $\frac{k^7}{k^7}$?
- ☐ A. 0 ☐ C. 1
- ☐ B. k ☐ D. k^{14}
- 9) Solve: $5(2x - 3) = 35$
- ☐ A. $x = 2$ ☐ C. $x = 5$
- ☐ B. $x = 4$ ☐ D. $x = 7$
- 10) A scale drawing shows a rectangular room with dimensions 5 cm $\times$ 3 cm. The scale is 1 cm : 3 m. What is the area of the actual room in square meters?
- ☐ A. 15 m² ☐ C. 135 m²
- ☐ B. 45 m² ☐ D. 225 m²
- 11) A recipe calls for 2.5 cups of flour. If you make $\frac{3}{5}$ of the recipe, how much flour do you use?
- ☐ A. 1.5 cups ☐ C. 2.5 cups
- ☐ B. 1.25 cups ☐ D. 4.17 cups
- 12) A lawn-care service charges \$35 for the first yard and \$25 for each additional yard. If someone pays \$110, which equation finds y , the total number of yards mowed?
- ☐ A. $25y + 35 = 110$ ☐ C. $25(y - 1) + 35 = 110$
- ☐ B. $35y + 25 = 110$ ☐ D. $25y + 35y = 110$
- 13) Write 9.75×10^5 in standard form.



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1)

For triangle PQR with sides $PQ = 3$, $QR = 2.5$, $RP = 2.6$ cm, is the triangle acute, right, or obtuse? Check: $3^2 \stackrel{?}{<} 2.5^2 + 2.6^2$

☐ A. Acute: $9 < 13.01$
☐ C. Obtuse: $9 > 13.01$
☐ B. Right: $9 = 13.01$
☐ D. Cannot be determined
2) Simplify: $(h^2)^3 \cdot h^4$
☐ A. h^9
☐ C. h^{24}
☐ B. h^{10}
☐ D. h^8

3) A rectangular deck is drawn 5 cm by 9 cm on a blueprint at scale 1 cm : 1 m. The blueprint is redrawn at a scale of 1 cm : 0.5 m. What are the new dimensions?

☐ A. 2.5 cm by 4.5 cm

☐ C. 10 cm by 18 cm

☐ B. 5 cm by 9 cm

☐ D. 20 cm by 36 cm

4) Which equation matches the description: "A number is multiplied by 5, then 12 is subtracted, and the result is 28"?

☐ A. $5x - 12 = 28$
☐ C. $12 - 5x = 28$
☐ B. $5x + 12 = 28$
☐ D. $\frac{x}{5} - 12 = 28$


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5) 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

6) A line plot shows the number of hours a student practices violin each week over 10 weeks: 1, 2, 2, 2, 3, 3, 3, 3, 4, 5. Which measure best describes the typical practice time?

- ☐ A. The mean (average)
- ☐ B. The mode
- ☐ C. The median
- ☐ D. The range

7) A quarter circle has a radius of 12 feet. What is its area? (Use $\pi \approx 3.14$.)

8) A cylindrical paint can has a total surface area of 326.56 square centimeters and a radius of 4 centimeters. Find the height of the can. Use $\pi \approx 3.14$.



1)

Sample	Agree	Disagree	Total
Morning	45	15	60
Afternoon	54	18	72

In a survey about a proposal, which sample shows a higher proportion of agreement?

☐ A. Morning

☐ C. Both are equal

☐ B. Afternoon

☐ D. Cannot be determined

2) A poster is enlarged to 1.5 times its original size. If the original poster was 20 inches by 30 inches, what is the new area in square inches?

3) A bicycle costs \$140 before tax. If the sales tax is 9%, and then a 15% discount coupon is applied to the pre-tax price, what is the final cost?

4) Point $M(4, 0)$ is rotated 90° clockwise about the origin. What is the image M' ?

☐ A. $(0, 4)$
☐ C. $(4, 0)$
☐ B. $(0, -4)$
☐ D. $(-4, 0)$


5) A spinner is divided into 6 equal sections labeled A, A, B, C, C, C . What is $P(C)$?

☐ A. $\frac{1}{2}$

☐ B. $\frac{1}{3}$

☐ C. $\frac{1}{6}$

☐ D. $\frac{2}{3}$

6) A dataset contains 24 values displayed in a stem-and-leaf plot. If the data is divided into lower and upper halves to find the interquartile range, how many values are in the upper half (excluding the median)?

☐ A. 10

☐ B. 11

☐ C. 12

☐ D. 13

7) Expand and simplify: $3(2x + 4) + 2(x - 3)$

☐ A. $8x + 6$

☐ B. $6x + 4$

☐ C. $8x + 18$

☐ D. $5x + 1$

8) Consider the problem $6 - (-3)$. Which statement best explains why the answer is positive and larger than 6?

☐ A. Subtracting always makes the number smaller☐ B. Subtracting a negative is like removing a debt, which increases the value☐ C. The rule says to add when you see a negative sign☐ D. Positive numbers are always larger than negative numbers

9) What is the correct factorization of $-6m + 18$?

☐ A. $6(-m + 3)$

☐ B. $-6(m - 3)$

☐ C. $-6(m + 3)$

☐ D. $6(m - 3)$



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Pennsylvania PSSA 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 Pennsylvania PSSA practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** (7.G.1-7.G.5) Vertical angles are equal, so the opposite angle is also 72° .
- 2) **Choice A is correct.** (7.EE.4b) Check: $2(5) - 1 = 10 - 1 = 9$, and $9 > 7$ is true. So $x = 5$ is indeed a solution.
- 3) **Choice B is correct.** (7.NS.1-7.NS.3) The reciprocal of $\frac{2}{5}$ is $\frac{5}{2}$. Division by a fraction equals multiplication by its reciprocal.
- 4) **Choice B is correct.** (7.NS.2d) The decimal $0.\overline{3}$ repeats the digit 3 infinitely and never terminates. It equals $\frac{1}{3}$.
- 5) **The correct answer is \$630.** (7.RP.3) Weekly pay: $18 \times 35 = \$630$.
- 6) **Choice A is correct.** (7.EE.1-7.EE.2) Add all sides: $(x+2) + (3x-1) + (2x+4) = (x+3x+2x) + (2-1+4) = 6x+5$.
- 7) **The correct answer is $\frac{3}{4}$.** (7.NS.1-7.NS.3) Honey for scaled recipe = $\frac{2}{3} \times \frac{3}{2} = 1$ cup. Honey used for granola bars = $\frac{1}{4} \times 1 = \frac{1}{4}$ cup. Remaining: $1 - \frac{1}{4} = \frac{3}{4}$ cup.
- 8) **Choice C is correct.** (7.EE.1-7.EE.2) Using quotient rule: $\frac{k^7}{k^7} = k^{7-7} = k^0 = 1$. Any number divided by itself equals 1.
- 9) **Choice C is correct.** (7.EE.3-7.EE.4) Divide by 5: $2x - 3 = 7$. Add 3: $2x = 10$. Divide by 2: $x = 5$.
- 10) **Choice C is correct.** (7.G.1-7.G.5) Actual dimensions: $15 \text{ m} \times 9 \text{ m}$. The scale factor is 3 (linear), so area scale is $3^2 = 9$. Drawing area: $5 \times 3 = 15 \text{ cm}^2$. Actual area: $15 \times 9 = 135 \text{ m}^2$.
- 11) **Choice A is correct.** (7.NS.1-7.NS.3) $2.5 \times \frac{3}{5} = \frac{2.5 \times 3}{5} = \frac{7.5}{5} = 1.5$ cups.
- 12) **Choice C is correct.** (7.EE.4a) First yard is \$35, then \$25 per additional yard. For y total yards: $35 + 25(y-1) = 110$.
- 13) **The correct answer is 975,000.** (7.NS.1-7.NS.3) Move the decimal 5 places to the right: $9.75 \rightarrow 975,000$.
- 14) **Choice B is correct.** (7.EE.3-7.EE.4) Subtract 1: $2.5x = 5$. Divide by 2.5: $x = 2$.
- 15) **Choice C is correct.** (7.EE.4a) Distribute: $3x - 6 = x + 2$. Subtract x : $2x - 6 = 2$. Add 6: $2x = 8$. Divide by 2: $x = 4$.
- 16) **Choice C is correct.** (7.SP.5-7.SP.8) W has 3 sections and X has 4 sections, so $P(W \text{ or } X) = \frac{3+4}{10} = \frac{7}{10}$.
- 17) **Choice B is correct.** (7.NS.1-7.NS.3) The student made an error. The correct answer is $\sqrt{144} = 12$ because $12 \times 12 = 144$, not $11 \times 11 = 121$.
- 18) **Choice A is correct.** (7.EE.1-7.EE.2) $50 - 0.05(50) = 50(1 - 0.05) = 50(0.95)$. The factor 0.95 captures the scale: keeping 95% of the original.
- 19) **Choice D is correct.** (7.RP.3) Sales tax = $0.09 \times 150 = \$13.50$. Final cost = $150 + 13.50 = \$163.50$.
- 20) **The correct answer is A,D.** (7.RP.3) 1st try: $\frac{|35-40|}{40} \times 100\% = 12.5\%$ (A is true). 2nd try: $\frac{|38-40|}{40} \times 100\% = 5\%$ (B is false). C is false (2nd is more accurate). D is true (both $< 15\%$). 5 times 2nd, not exactly double).
- 21) **Choice B is correct.** (7.G.4-7.G.6) Rectangle: $4 \times 6 = 24 \text{ ft}^2$. Semicircle (radius 2): $\frac{1}{2} \times 3.14 \times 4 = 6.28 \text{ ft}^2$. Total: $24 + 6.28 = 30.28 \text{ ft}^2$.
- 22) **Choice D is correct.** (7.RP.1-7.RP.3) Cost = $\frac{3}{4} \times 4 = 3$ dollars.
- 23) **Choice A is correct.** (7.G.4-7.G.6) $V = s^3 = 5^3 = 125 \text{ in}^3$.
- 24) **Choice C is correct.** (7.G.1-7.G.5) In any triangle, the smallest angle is always opposite the shortest side, and the largest angle is opposite the longest side.
- 25) **Choice B is correct.** (7.G.4-7.G.6) A chord of length r is shorter than the diameter $d = 2r$. Such a chord exists and is a valid chord in the circle.
- 26) **Choice C is correct.** (7.G.1-7.G.5) Check the longest side: $9^2 = 81$ vs. $6^2 + 5^2 = 36 + 25 = 61$. Since $81 > 61$, the square of the longest side exceeds the sum of squares of the other two. The angle opposite the longest side is obtuse.
- 27) **Choice C is correct.** (7.SP.1-7.SP.4) $\frac{84}{200} = \frac{x}{50000}$. Reduce: $\frac{21}{50} = \frac{x}{50000} \Rightarrow x = 21000$.
- 28) **The correct answer is 14.** (7.EE.1-7.EE.2) The expression simplifies to $5a + 4$. With $a = 2$, the value is $10 + 4 = 14$.
- 29) **Choice A is correct.** (7.NS.1-7.NS.3) If east is positive, then west is negative. Walking 12 meters west is represented by -12 .
- 30) **Choice C is correct.** (7.RP.3) If $18 = 0.20 \times n$, then $n = \frac{18}{0.20} = 90$.



Hi, Calm Solver!

◇ This wide-ranging book gave you eight serious Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. A calm mind can see choices more clearly. That matters in Grade 7, where one problem may have several possible entry points. ◇

★ **Remember this:** You practiced building calm by doing full tests. Each completed page is rehearsal for staying steady when the real test feels serious. ★

Calm-Test Moves

- **Pause:** Give your brain one quiet second.
- **Choose:** Pick the first useful step.
- **Continue:** Do not demand perfection immediately.
- **Check:** Use review time wisely.

Grade 7 test-day tip: If you feel rushed, slow your reading for one sentence. Clear reading saves time.

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

Jay Daie

Your Calm-Test Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **8** 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:

8 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!



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