4 Pennsylvania PSSA PRACTICE TESTS

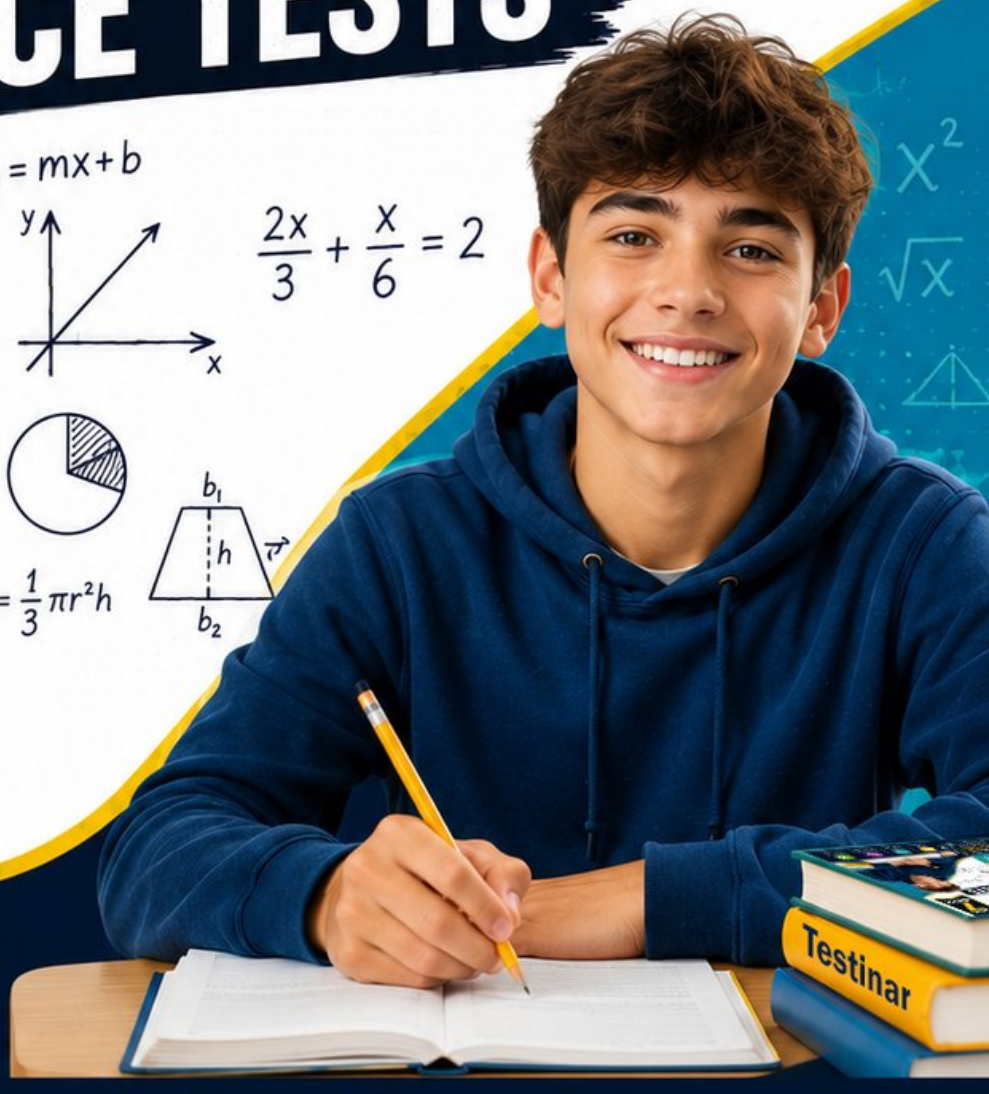
GRADE 7 MATH

Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs

$y = mx + b$

$\frac{2x}{3} + \frac{x}{6} = 2$

$V = \frac{1}{3}\pi r^2 h$



4 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 Math Skills
- Detailed Answers & Explanations
- Improve Test Performance

4 Pennsylvania PSSA Grade 7 Math Practice Tests

Pennsylvania Grade 7 Test Prep with Compact Review Support

Four 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!

Four focused rounds for sharper PSSA math thinking

This book gives you four 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.

How to Use This Book

A four-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?

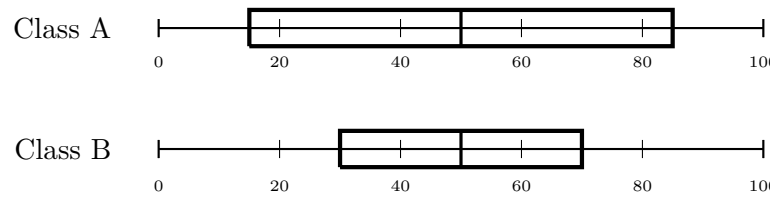
Four PSSA tests, 160 questions, and a focused review path

Part	What You Will Practice
Tests 1–2	Proportional relationships, unit rates, percents, rational-number operations, and careful reading.
Tests 3–4	Expressions, equations, inequalities, scale drawings, geometry, data, probability, and multi-step problem solving.
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.

Table of Contents

1) Two box plots show test scores from two classes:



Which is most true?

- ☐ A. Class A has a wider overall range
- ☐ B. Class B has a smaller box (IQR), indicating less variability in the middle 50%
- ☐ C. Both classes have identical medians shown by whiskers
- ☐ D. Class A is easier than Class B

2) What is the opposite of the opposite of -3?

3) A dot plot shows the number of hours 10 students studied for a math test. The data is: 1, 1, 1, 2, 2, 2, 2, 3, 4, 5. What is the median?

- ☐ A. 1 hour
- ☐ B. 2 hours
- ☐ C. 3 hours
- ☐ D. 5 hours

4) A spinner labeled 1–8 is spun. A student claims $P(\text{rolling an odd number}) = \frac{4}{8}$, then says this equals $\frac{1}{2}$. Is the second step correct?

- ☐ A. No; $\frac{4}{8}$ cannot be simplified.
- ☐ B. Yes; $\frac{4}{8} = \frac{1}{2}$.
- ☐ C. No; $\frac{4}{8} = \frac{2}{4}$.
- ☐ D. No; the count is wrong; it should be $\frac{5}{8}$.

5) Two letters are selected from {P, Q, R, S} with replacement. How many outcomes are in the sample space?

☐ A. 4
☐ B. 8
☐ C. 12
☐ D. 16

6) A box plot compares the test scores of two tutoring methods. Traditional Method: Median = 75, Range = 25. New Method: Median = 78, Range = 35. Which method is better?

☐ A. New Method (higher median, but less consistent)
☐ B. Traditional Method (consistent with reasonable performance)
☐ C. Both methods produce identical results
☐ D. New Method is clearly superior

7) A spinner has 5 equal sections numbered 1 through 5. You spin twice. What is the probability of NOT spinning a 1 on either spin?

☐ A. $\frac{2}{5}$
☐ B. $\frac{8}{25}$
☐ C. $\frac{16}{25}$
☐ D. $\frac{1}{25}$

8) A stem-and-leaf plot of student heights (in cm) shows:

Stem	Leaves
14	8, 9
15	0, 2, 4, 6, 8
16	1, 3, 5, 7, 9
17	0, 2, 4

What is the mean of the data? (Rounded to nearest whole number)

☐ A. 158
☐ B. 159
☐ C. 160
☐ D. 161

9) A researcher flipped three coins 160 times and recorded how many came up heads each time:

Heads Count	0	1	2	3
Frequency	22	56	62	20

What is the experimental probability of getting exactly 2 heads?

☐ A. $\frac{2}{3}$
☐ B. $\frac{62}{160}$
☐ C. 0.31
☐ D. 0.39

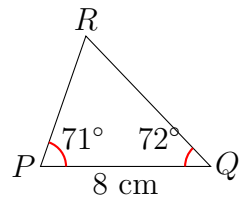
10) A parking lot is shaped like a large rectangle (20 yd × 15 yd) with two rectangular sections removed from opposite corners (each 4 yd × 3 yd). What is the remaining area?

☐ A. 276 yd^2
☐ B. 288 yd^2
☐ C. 300 yd^2
☐ D. 312 yd^2

11) A triangular prism has a triangular base with area 42 mm^2 and volume 252 mm^3. What is the height of the prism?

☐ A. 12 mm
☐ B. 8 mm
☐ C. 6 mm
☐ D. 3 mm

12)



A triangle has angles of 71° and 72°, and the side between them is 8 cm. How many non-congruent triangles can be drawn?

☐ A. 1
☐ B. 2
☐ C. 3
☐ D. Infinitely many

1) A scale drawing has a scale of 1 cm : 2 m. If an actual room is 8 m wide, how wide is it in the drawing?

☐ A. 2 cm
☐ B. 4 cm
☐ C. 6 cm
☐ D. 8 cm

2) Which statement is true?

☐ A. $\sqrt{16} = 4$ and $4^2 = 16$
☐ B. $\sqrt{25} = -5$ and $5^2 = 25$
☐ C. $\sqrt{36} = 6$ and $6^2 = 37$
☐ D. $\sqrt{49} = 7$ and $7^2 = 49$

3) Which expression is equivalent to $0.95p$?

☐ A. $p - 0.95p$
☐ B. $p - 0.05p$
☐ C. $p + 0.05p$
☐ D. $0.95 + p$

4) A student simplifies $-2(3 + 4)$ and writes: $-2(3) + 2(4) = -6 + 8 = 2$. What is the correct answer?

☐ A. -14
☐ B. -2
☐ C. 2
☐ D. 14

5) Which scenario is NOT proportional?

☐ A. A vendor sells notebooks at \$2 each (cost vs. quantity)
☐ B. A car travels 60 miles per hour (distance vs. time)
☐ C. A phone plan costs \$0.10 per minute (cost vs. minutes)
☐ D. A student grows 0.5 inches per year starting from birth (height vs. age)

6) Which equation does NOT represent the additive inverse property?

☐ A. $-7 + 7 = 0$
☐ B. $35 + (-35) = 0$
☐ C. $-20 + 0 = -20$
☐ D. $100 + (-100) = 0$

7) Simplify: $10p - 5p + 3p - 2p$

☐ A. $6p$
☐ B. $20p$
☐ C. $16p$
☐ D. $4p$

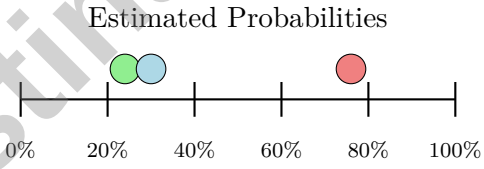
8) Solve: $-2(x + 1) < 10$

☐ A. $x > -6$
☐ B. $x < -6$
☐ C. $x < 6$
☐ D. $x > 6$

9) A rectangular prism has dimensions 6 cm × 4 cm × 3 cm. What is its surface area?

☐ A. 72 cm^2
☐ B. 108 cm^2
☐ C. 144 cm^2
☐ D. 216 cm^2

10)



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

1) A spinner was designed with sections of different sizes. After 400 spins, the yellow section appeared 120 times. If the spinner is spun 2000 times, about how many times would yellow be expected to appear?

☐ A. 120
☐ B. 400
☐ C. 600
☐ D. 800

2) Given raw data: $51, 54, 58, 61, 64, 68, 71, 75$. In a stem-and-leaf plot, what is the correct representation?

☐ A. Stem 5: $1, 4, 8$; Stem 6: $1, 4, 8$; Stem 7: $1, 5$
☐ B. Stem 5: $1, 4, 5, 8$; Stem 6: $1, 4$; Stem 7: $1, 5$
☐ C. Stem 5: $1, 4, 8$; Stem 6: $1, 4$; Stem 7: $1, 5, 8$
☐ D. Stem 5: $51, 54, 58$; Stem 6: $61, 64$; Stem 7: $71, 75$

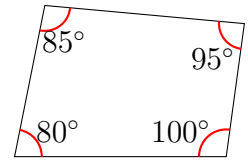
3) A park is shaped like a large rectangle (30 m $\times$ 20 m) with a triangular picnic area (20 m base, 5 m height) and a circular pond (radius 3 m) inside. What is the open grassy area? (Use $\pi \approx 3.14$.)

☐ A. 521.74 m^2
☐ B. 550 m^2
☐ C. 571.74 m^2
☐ D. 600 m^2

4) A triangular prism has a volume of 240 cm^3 and a depth of 10 cm. What is the area of the triangular base?

☐ A. 12 cm^2
☐ B. 24 cm^2
☐ C. 36 cm^2
☐ D. 48 cm^2

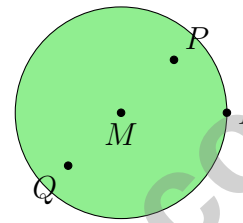
5)



Which statement is true about the angle measures shown?

☐ A. Their sum is 180°.
☐ B. Their sum is 360°.
☐ C. They are all equal.
☐ D. They cannot make a quadrilateral.

6) Which point is the center of the circle?



☐ A. N
☐ B. M
☐ C. P
☐ D. Q

7) Identify the unlike terms in this expression: $4a + 3b + 2a + 5c$

☐ A. $4a$ and $2a$
☐ B. $3b$ and $5c$
☐ C. $4a$ and $3b$
☐ D. $2a$ and $5c$

8) Which value of x satisfies $3x - 2 \leq 10$?

☐ A. $x = 5$
☐ B. $x = 4$
☐ C. $x = 8$
☐ D. $x = 10$

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.

Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

1) **Choice B is correct.** 7.SP.1-7.SP.4 Class A's box spans x-coordinates 1.5 to 8.5 (map to scores 30–85, IQR = 55), median 50. Class B's box spans 3 to 7 (map to scores 60–70, IQR = 10), median 50. Class B's smaller box means less spread in the middle 50% of scores, despite both having the same median.
2) **The correct answer is** -3 **.** 7.NS.1-7.NS.3 The opposite of -3 is 3, and the opposite of 3 is -3.
3) **Choice B is correct.** 7.SP.1-7.SP.4 With 10 data points, the median is the average of the 5th and 6th values. Ordered: 1, 1, 1, 2, 2, 2, 2, 3, 4, 5. The 5th and 6th values are both 2, so median = 2 hours.
4) **Choice B is correct.** 7.SP.5-7.SP.8 Odd numbers: 1, 3, 5, 7 (4 out of 8). $\frac{4}{8} = \frac{1}{2}$ is correct.
5) **Choice D is correct.** 7.SP.5-7.SP.8 First letter: 4 choices; second letter: 4 choices. Total: $4 \times 4 = 16$ outcomes.
6) **Choice A is correct.** 7.SP.3 The New Method has a higher median (78 vs. 75), suggesting better average performance. However, its larger range (35 vs. 25) indicates less consistency. Trade-off: higher average but more variability.
7) **Choice C is correct.** 7.SP.5-7.SP.8 $P(\text{not } 1) = \frac{4}{5}$ on each spin. Both spins: $\frac{4}{5} \cdot \frac{4}{5} = \frac{16}{25}$.
8) **Choice B is correct.** 7.SP.1-7.SP.4 Sum: $148 + 149 + 150 + 152 + 154 + 156 + 158 + 161 + 163 + 165 + 167 + 169 + 170 + 172 + 174 = 2388$. Mean $= 2388/15 = 159.2 \approx 159$.
9) **Choice B is correct.** 7.SP.6 Getting exactly 2 heads occurred 62 times in 160 trials. Experimental probability $= \frac{62}{160} = 0.3875 \approx 0.39$.
10) **Choice A is correct.** 7.G.4-7.G.6 Start with the large rectangle: $20 \times 15 = 300$ yd^2. Subtract the two removed corner sections: $2 \times (4 \times 3) = 24$ yd^2. Remaining area: $300 - 24 = 276$ yd^2.
11) **Choice C is correct.** 7.G.4-7.G.6 $h = \frac{V}{B} = \frac{252}{42} = 6$ mm.
12) **Choice A is correct.** 7.G.1-7.G.5 When two angles and the side between them are given, the triangle is uniquely determined. The third angle is $180° - 71° - 72° = 37°$.
13) **Choice C is correct.** 7.G.4-7.G.6 A diameter is a chord that passes through the center. All diameters are chords.
14) **Choice C is correct.** 7.SP.5-7.SP.8 $\frac{1}{4} = 0.25 = 25\%$.
15) **The correct answer is** -1 **.** 7.NS.2 Total change: $(-1.2) \times 5 = -6$ degrees. Final temperature: $5 + (-6) = -1°$C.
16) **Choice D is correct.** 7.G.1-7.G.5 The sum of the other two angles is $180° - 100° = 80°$. If both were at least 50°, their sum would exceed 100°. Therefore, at least one must be less than 50°.
17) **Choice D is correct.** 7.SP.1-7.SP.4 The dot plot shows 6 defects out of 20 items. Proportion: $\frac{6}{20} = \frac{x}{200} \Rightarrow \frac{3}{10} = \frac{x}{200} \Rightarrow x = 60$.
18) **The correct answer is A,D.** 7.RP.1-7.RP.3 A and D are unit rates because each gives a price per single unit of weight. Option B is a distance, and option C is a total count.
19) **Choice C is correct.** 7.NS.1-7.NS.3 $-4 - 2 = -4 + (-2) = -6$. Moving left 2 units from -4 gives -6.
20) **Choice C is correct.** 7.RP.1-7.RP.3 Multiply model height by scale factor: $3 \times 50 = 150$ feet.
21) **Choice C is correct.** 7.RP.3 If $45 = 0.50 \times n$, then $n = \frac{45}{0.50} = 90$.
22) **The correct answer is** 11 **.** 7.NS.1-7.NS.3 $11^2 = 121$ and $12^2 = 144$. Since 130 is very close to 121, $\sqrt{130} \approx 11.4$, which rounds to 11.
23) **Choice B is correct.** 7.SP.1-7.SP.4 36% of $\$50,000 = 0.36 \times 50,000 = \$18,000$.
24) **Choice C is correct.** 7.RP.1-7.RP.3 Proportional relationships have the form $y = kx$ (passing through the origin). Option C has a $+2$ term, so it does not pass through $(0, 0)$ and is not proportional.
25) **Choice D is correct.** 7.RP.3 Using the proportion $\frac{30}{100} = \frac{x}{60}$, cross-multiply: $x = 18$ students.
26) **Choice D is correct.** 7.RP.1-7.RP.3 Store A: $\frac{2}{1/2} = 2 \times 2 = 4$ dollars/lb. Store B: $\frac{3}{2/3} = 3 \times \frac{3}{2} = 4.5$ dollars/lb. Store A is cheaper.
27) **The correct answer is** 5 **.** 7.EE.1-7.EE.2 The greatest common factor of the coefficients 15, 25, and 10 is 5.
28) **Choice D is correct.** 7.RP.1-7.RP.3 The equation is Cost $= 15 + 0.10t$. The constant \$15 (fixed fee) means not proportional.

Hi, Stamina Builder!

◇ This carefully paced book gave you four steady Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. Completing practice tests builds more than math knowledge. It builds the focus needed to think clearly for a long stretch. ◇

⋆ **Remember this:** That stamina matters. On real test day, calm pacing can be just as important as remembering a formula. ⋆

Stamina Skills

- **Breathe:** Reset before a difficult page.
- **Pace:** Do not spend too long in one place.
- **Return:** Come back to skipped questions with fresh eyes.
- **Finish Strong:** Use the last minutes to check.

Grade 7 test-day tip: Practice a simple reset: pause, breathe, reread, then choose your next step.

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

Jay Daie

Your Test-Stamina Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes 4 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:

- 4 Full-Length Printed Tests
- 2 Online Practice Tests
- Detailed Answers & 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

Build Confidence
Practice regularly to feel prepared and test-ready.

Strengthen Math Skills
Develop key math concepts and problem solving abilities.

Improve Understanding
Learn with clear explanations and step-by-step solutions.

Test Confidence
Familiarize with test formats and improve accuracy and speed.

Boost Performance
Apply your knowledge and achieve your best score!

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

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