

6

PENNSYLVANIA

PSSA

GRADE

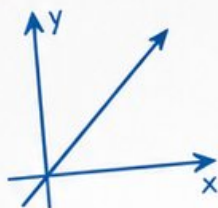
7

MATH

PRACTICE TESTS

Standards Aligned
Problem Solving For
Comprehensive
Assessment Programs

$$y = mx + b$$



$$2(x - 3) = 4x + 6$$



6 PRINTED TESTS



2 ONLINE TESTS



USE THESE TWO
**ADDITIONAL ONLINE
PRACTICE TESTS**
FOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.



Build
Confidence



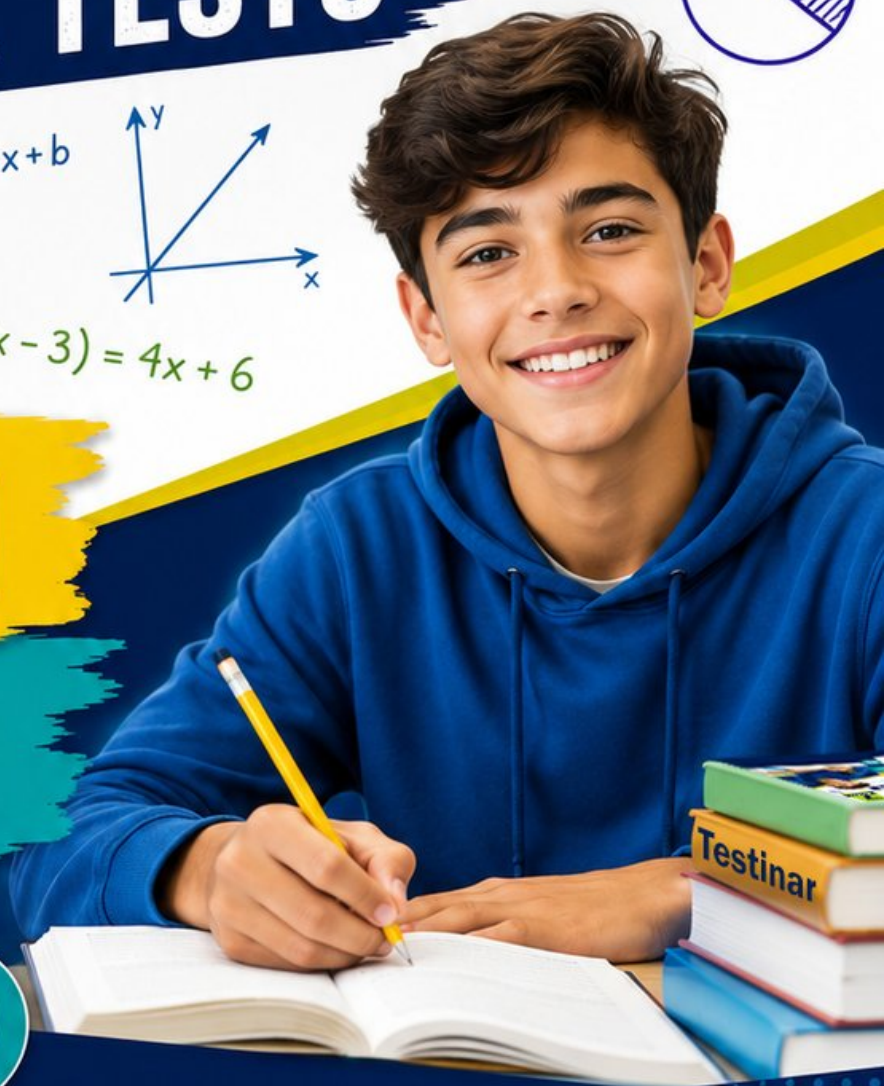
Strengthen
Math Skills



Detailed Answers
& Explanations



Improve Test
Performance



6 Pennsylvania PSSA Grade 7 Math Practice Tests

PSSA-Aligned Practice with Review, Keys, and Explanations



Six 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



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, Pennsylvania Grade 7 Problem Solver!

Six focused rounds for sharper PSSA math thinking

This book gives you six 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

A six-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?

Six PSSA tests, 240 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.
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	_____	13
★ Practice Test 2	_____	28
★ Practice Test 3	_____	42
★ Practice Test 4	_____	55
★ Practice Test 5	_____	69
★ Practice Test 6	_____	83
Practice Test Answer Keys	_____	97
Practice Test Answers and Explanations	_____	101

1) A die is rolled 150 times. The results are shown in the table below.

Outcome	1	2	3	4	5	6
Frequency	20	18	25	28	31	28

Which outcome has the highest estimated probability based on this simulation?

☐ A. 2

☐ C. 5

☐ B. 4

☐ D. 6

Simplify the expression below:

$$\frac{(j^3)^2}{j^5}$$

Which law applies FIRST?

2)

Power Rule

Product Rule

Simplify $\frac{(j^3)^2}{j^5}$:

☐ A. j^1 or j

☐ C. j^{11}

☐ B. j^7

☐ D. j^{30}

3) The graph of which equation is a straight line passing through the origin?

☐ A. $y = 2x - 3$

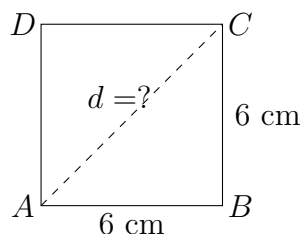
☐ C. $y = x + 1$

☐ B. $y = 0.5x + 2$

☐ D. $y = -5x$



Scan me!
For more practice
& answers



4)

A square has a side length of 6 cm. What is the length of its diagonal?

☐ A. 6 cm☐ C. 12 cm☐ B. $6\sqrt{2}$ cm☐ D. $\sqrt{36}$ cm

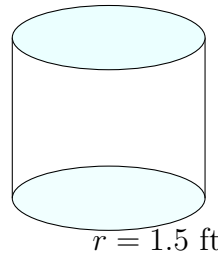
5) A large university has 12,000 students. A researcher wants to estimate the proportion of students who exercise regularly. She decides to survey a random sample. Which sample size is most likely to give a reliable estimate?

☐ A. 20 students☐ C. 300 students☐ B. 50 students☐ D. 2000 students

6) Two runners' mile times (in minutes) are listed. Runner A: 6, 6.2, 6.1, 6, 6.3. Runner B: 5.8, 7.2, 6, 6.1, 5.9. Who is more consistent?

☐ A. Runner A☐ C. Both are equally consistent☐ B. Runner B☐ D. Cannot determine

$$h = 11 \text{ ft}$$



7)

A cylindrical storage pipe has the dimensions shown. What is its volume? Use $\pi \approx 3.14$.

☐ A. 29.07 ft^3

☐ C. 77.715 ft^3

☐ B. 51.81 ft^3

☐ D. 103.62 ft^3

8) A dot plot shows quiz scores: 70 (one student), 75 (two students), 80 (four students), 85 (two students), 90 (one student). Which statement is correct?

☐ A. The median is 70

☐ C. The median is 85

☐ B. The median is 80

☐ D. The median is 90

Die Outcomes



9)

A biased die has 2 red faces and 4 blue faces. What is the probability of rolling blue on a single roll?

☐ A. $\frac{2}{6}$

☐ C. $\frac{4}{6}$

☐ B. $\frac{5}{6}$

☐ D. $\frac{1}{2}$



Scan me!
For more practice
& answers

1) Simplify: $-2 - (-8)$

☐ A. -10

☐ C. -6

☐ B. 10

☐ D. 6

2) A video game costs \$60. Due to high demand, the price increases to \$72. Later, the store runs a 10% off sale on the new price. What is the final price?

☐ A. \$60

☐ C. \$64.80

☐ B. \$62.40

☐ D. \$70

3) A coin is flipped twice to simulate a compound event. How many outcomes involve “at least one heads”?

☐ A. 1

☐ C. 3

☐ B. 2

☐ D. 4

4) A two-way table shows outcomes for tossing a coin and rolling a die showing 1, 2, or 3. What is the total number of outcomes?

	1	2	3
H	H1	H2	H3
T	T1	T2	T3

☐ A. 2 outcomes

☐ C. 5 outcomes

☐ B. 3 outcomes

☐ D. 6 outcomes

5) A quality control test found that out of 750 items produced, 12 were defective. What is the experimental probability that an item is defective?

☐ A. $\frac{12}{750}$

☐ C. 0.12

☐ B. $\frac{3}{125}$

☐ D. $\frac{1}{12}$



- 6) A tree diagram shows all outcomes for spinning a spinner with three colors and flipping a coin. How many total outcomes are displayed?
- ☐ A. 5 ☐ C. 8
☐ B. 6 ☐ D. 9
- 7) A student estimated the area of a field to be 550 square meters, but the actual area is 625 square meters. What is the percent error?
- ☐ A. 13.7% ☐ C. 75 square meters
☐ B. 88% ☐ D. 12%
- 8) Expand: $-6(2 - 3p)$
- ☐ A. $-12 + 18p$ ☐ C. $12 + 18p$
☐ B. $-12 - 18p$ ☐ D. $-12 - 3p$
- 9) Over how many years will \$1500 at 5.5% simple interest earn \$412.50 in interest?
- ☐ A. 2 years ☐ C. 4 years
☐ B. 3 years ☐ D. 5 years
- 10) Factor: $6ab - 9b + 3b$
- ☐ A. $3b(2a - 2)$ ☐ C. $b(6a - 9 + 3)$
☐ B. $3(2ab - 3b + b)$ ☐ D. $3b(2a)$
- 11) A circle graph displays energy usage in a household. Heating accounts for 45% of the energy. If the total monthly energy is 500 kWh, how much energy is used for heating?
- ☐ A. 45 kWh ☐ C. 225 kWh
☐ B. 125 kWh ☐ D. 455 kWh



Scan me!
For more practice
& answers

1) What is $2 \times (-3) \times (-2)$?

☐ A. -12

☐ C. 8

☐ B. -8

☐ D. 12

2) If a point $(3, 2)$ is translated by $(-3, -2)$, where does it land?

☐ A. $(0, 0)$

☐ C. $(-3, -2)$

☐ B. $(6, 4)$

☐ D. $(0, 4)$

3) A circle has an area of 154 square centimeters. What is its radius? Use $\pi \approx \frac{22}{7}$.

☐ A. 7 centimeters

☐ C. 14 centimeters

☐ B. 11 centimeters

☐ D. 49 centimeters

4) A cylinder has a radius of 2 cm and a height of 9 cm. What is the total surface area? Use $\pi \approx 3.14$.

☐ A. 88.36 cm^2

☐ C. 138.16 cm^2

☐ B. 112.6 cm^2

☐ D. 226.08 cm^2

5) A circle graph shows the genres of books in a library. If the Romance sector has a central angle of 90 degrees and the total is 360 degrees, what percentage of books are Romance?

☐ A. 10%

☐ C. 25%

☐ B. 15%

☐ D. 50%

6) A jar contains colored beads. If $P(\text{purple}) = \frac{6}{25}$ and there are 25 beads total, how many purple beads are there?

☐ A. 6

☐ C. 25

☐ B. 19

☐ D. 5



Scan me!
For more practice
& answers

- 7) Two triangles both have side lengths 5, 5, and 7. How many corresponding side lengths match?

- 8) A salesperson earns a 7% commission on all sales. This month, the salesperson sold \$4,000 worth of merchandise. What is the commission earned?

- 9) A student picks a shirt (Red, Blue, or Green) and shoes (Sneakers or Boots). How many outfits are possible?

- ☐ A. 5 ☐ C. 8
☐ B. 6 ☐ D. 9

- 10) Simplify: $-3(x + 2) - 2x$.

- ☐ A. $-3x - 6 - 2x = -5x - 6$ ☐ C. $x - 6$
☐ B. $-5x - 2$ ☐ D. $-5x + 6$

- 11) A histogram shows the price ranges for two car models. Model S: prices concentrated around \$25,000. Model T: prices spread from \$18,000 to \$32,000 with peak at \$24,000. Which model is easier to budget for?

- ☐ A. Model S (consistent pricing around \$25,000) ☐ C. Both models have identical pricing
☐ B. Model T (wider range means more options) ☐ D. Model T (cheaper at lower end)



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.



Scan me!
For more practice
& answers

Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** (7.SP.5-7.SP.8) Outcome 5 has the highest frequency (31 out of 150), so $P(5) \approx \frac{31}{150} \approx 0.207$.
- 2) **Choice A is correct.** (7.EE.1-7.EE.2) Apply power rule first: $(j^3)^2 = j^6$. Then quotient rule: $\frac{j^6}{j^5} = j^{6-5} = j^1 = j$.
- 3) **Choice D is correct.** (7.RP.1-7.RP.3) Proportional equations pass through origin: substitute $x = 0$, get $y = 0$. Only $y = -5x$ gives $(0, 0)$.
- 4) **Choice B is correct.** (7.G.1-7.G.5) Diagonal of a square with side s is $s\sqrt{2} = 6\sqrt{2}$ cm.
- 5) **Choice C is correct.** (7.SP.1-7.SP.4) A sample of 300 from 12,000 is approximately 2.5% of the population and is large enough to provide reliable results. Samples of 20 and 50 are too small and may not represent the full diversity of students. A sample of 2000 would give similar reliability but is unnecessary.
- 6) **Choice A is correct.** (7.SP.1-7.SP.4) Runner A's times range from 6.0 to 6.3 (spread = 0.3). Runner B's range from 5.8 to 7.2 (spread = 1.4). Runner A is more consistent.
- 7) **Choice C is correct.** (7.G.4-7.G.6) $V = \pi r^2 h \approx 3.14 \times 2.25 \times 11 \approx 77.715 \text{ ft}^3$.
- 8) **Choice B is correct.** (7.SP.1-7.SP.4) With 10 students total, the median is between the 5th and 6th values: positions 1 (70), 2-3 (75), 4-7 (80). The 5th and 6th values are both 80, so median = 80.
- 9) **Choice C is correct.** (7.SP.5-7.SP.8) Blue faces: 4 out of 6. $P(\text{blue}) = \frac{4}{6} = \frac{2}{3}$.
- 10) **Choice C is correct.** (7.SP.5-7.SP.8) The spinner has 3 outcomes and the coin has 2 outcomes. Using the counting principle: $3 \times 2 = 6$ total outcomes.
- 11) **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 $C(2, 2)$: $C' = (2, -2)$.
- 12) **Choice A is correct.** (7.SP.3) Histogram centers show typical values. Class 2023 (3.2-3.8) is shifted right of Class 2024 (3.0-3.6), indicating higher typical GPA despite overlap.
- 13) **The correct answer is 40.** (7.G.1-7.G.5) Perimeter scales linearly by the scale factor. Larger perimeter = $16 \times 2.5 = 40$ inches.
- 14) **Choice D is correct.** (7.SP.6) Experimental probability of car use = $\frac{145}{300} \approx 0.483$. Expected in 2400 students: $0.483 \times 2400 \approx 1160$.
- 15) **Choice C is correct.** (7.SP.5-7.SP.8) Without replacement: $P(\text{red first}) = \frac{8}{20}$. After removing it, 19 remain. $P(\text{black second}) = \frac{12}{19}$. Product: $\frac{8}{20} \cdot \frac{12}{19} = \frac{96}{380} = \frac{24}{95}$.
- 16) **The correct answer is 44.** (7.G.4-7.G.6) $C = 2\pi r = 2 \times \frac{22}{7} \times 7 = 2 \times 22 = 44$ cm.
- 17) **Choice B is correct.** (7.SP.5-7.SP.8) Experimental probability = $\frac{\text{times event occurred}}{\text{total trials}} = \frac{10}{60}$.
- 18) **Choice B is correct.** (7.SP.1-7.SP.4) East: $\frac{56}{200} = 0.28$ or 28%; West: $\frac{36}{150} = 0.24$ or 24%; North: $\frac{70}{250} = 0.28$ or 28%. West is lowest.
- 19) **Choice D is correct.** (7.RP.3) Percent error = $\frac{|2.2-2.5|}{2.5} \times 100\% = \frac{0.3}{2.5} \times 100\% = 12\%$.
- 20) **Choice A is correct.** (7.EE.1-7.EE.2) Distribute $\frac{1}{2}$: $\frac{1}{2}(4x) + \frac{1}{2}(6) = 2x + 3$.
- 21) **The correct answer is B,C.** (7.G.1-7.G.5) B and C are equivalent and correct: two angles are equal (50° each), so by the Isosceles Triangle Theorem, the sides opposite those angles must be equal. A is wrong (equilateral requires all angles 60°). D is wrong (two angles are the same).
- 22) **Choice D is correct.** (7.RP.3) $450 = 3000 \times r \times 3 \Rightarrow 450 = 9000r \Rightarrow r = 0.05 = 5\%$.
- 23) **Choice A is correct.** (7.NS.1-7.NS.3) Subtracting a negative becomes addition: $-2 - (-6) = -2 + 6 = 4$.
- 24) **Choice C is correct.** (7.EE.1-7.EE.2) Check: A is complete (GCF of 32 and 48 is 16). B is complete (GCF of 21 and 14 is 7). D is complete (GCF of 6 and 9 is 3). C uses GCF of 3, but can factor further: GCF of 18 and 12 is actually 6, so the complete factorization is $6(3a + 2b)$.
- 25) **Choice D is correct.** (7.RP.1-7.RP.3) Linear scale of $\frac{1}{10}$ means area scales by $(\frac{1}{10})^2 = \frac{1}{100}$. Model area = $400 \div 100 = 4 \text{ m}^2$.
- 26) **Choice C is correct.** (7.RP.3) 20% of 250 is $0.20 \times 250 = 50$.



Scan me!
For more practice
& answers

Hi, Persistent Problem Solver!

◇ Some Grade 7 questions ask you to hold several ideas in your mind at once. That can feel hard, and that is exactly why practice matters. ◇

★ **Remember this:** You showed persistence by continuing through the set. That habit is powerful because difficult problems often open after one more good attempt. You practiced across 6 full Grade 7 practice tests, and that repeated effort matters. ★

Persistence Tools

- **Try a Smaller Case:** Use an easier number to see the pattern.
- **Draw It:** Make the situation visible.
- **Restate It:** Say the question in your own words.
- **Check One Step:** Fix the first unclear place.

Grade 7 test-day tip: When stuck, do not restart everything. Find the first step you trust, then rebuild from there.

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

Jay Daie

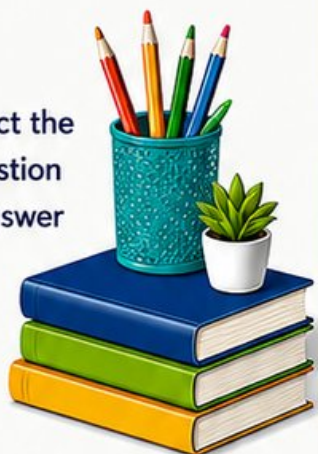
Your Persistence Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **6** 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:

6 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!

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



PRACTICE
REGULARLY



STAY
FOCUSED



SOLVE
CONFIDENTLY



SUCCEED
BRIGHTLY