

5

Pennsylvania

PSSA

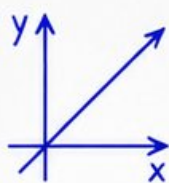
GRADE

7

MATH

PRACTICE TESTS

Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs



$$y = mx + b$$

$$\frac{2}{3} + \frac{1}{6} = \frac{5}{6}$$



$$V = \pi r^2 h$$

**5 PRINTED TESTS****2 ONLINE TESTS**

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



Build
Confidence



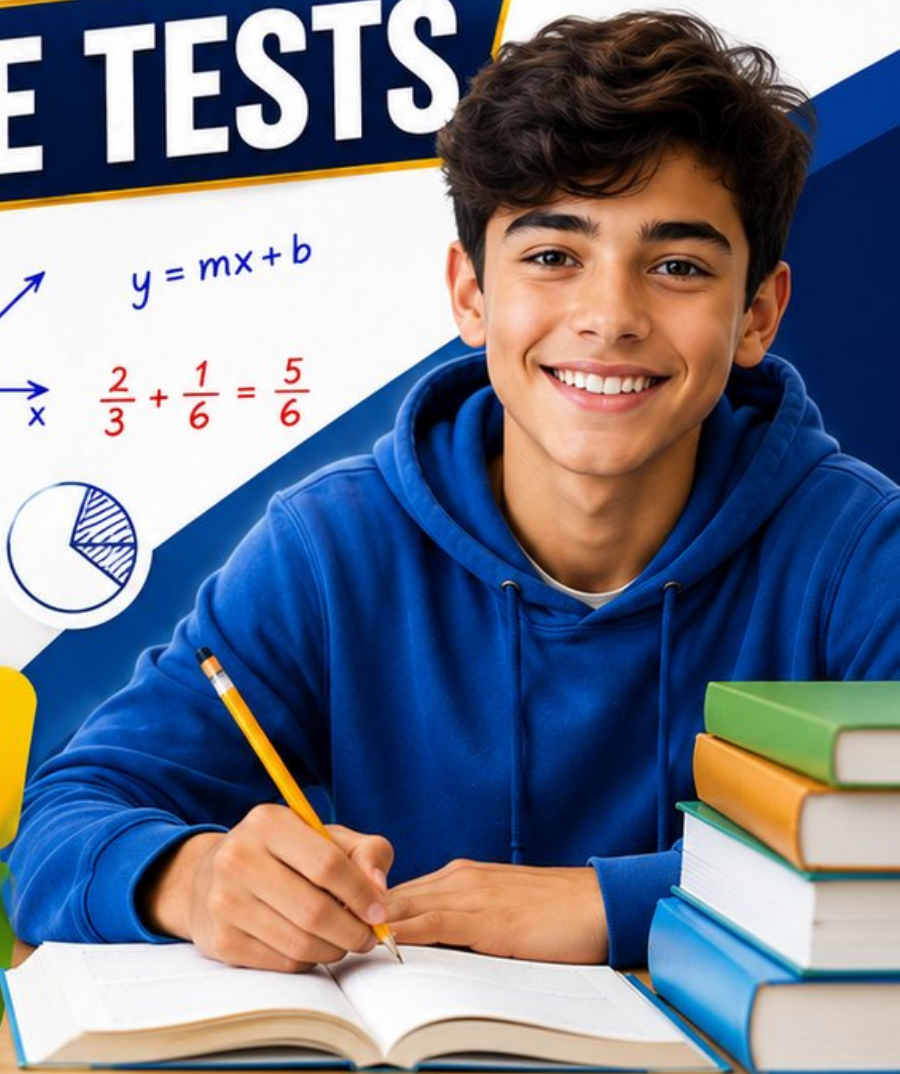
Strengthen
Math Skills



Detailed Answers
& Explanations



Improve Test
Performance



5 Pennsylvania PSSA Grade 7 Math Practice Tests

Grade 7 Test Practice with Clear Review and Answer Explanations



Five 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!

Five focused rounds for sharper PSSA math thinking

This book gives you five 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 five-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?

Five PSSA tests, 200 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 3–5	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.



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& answers

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1) Convert $\frac{11}{50}$ to a decimal.

☐ A. 0.11

☐ C. 0.50

☐ B. 0.22

☐ D. 0.55

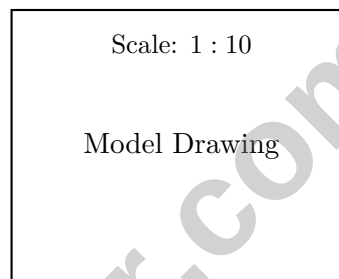
2) A robot starts at position 0 on a number line. It moves left 8 units, then right 3 units. What is its final position?

☐ A. -11

☐ C. 5

☐ B. -5

☐ D. 11



3) 5 units $\times$ 4 units

If this model has a scale of 1 : 10, which statement about the actual object is true?

☐ A. It is 15 units $\times$ 14 units.

☐ C. The scale factor is 5.

☐ B. It is 1.67 units $\times$ 1.33 units.

☐ D. It is 50 units $\times$ 40 units.

4) What is 50% of 180?

☐ A. 60

☐ C. 80

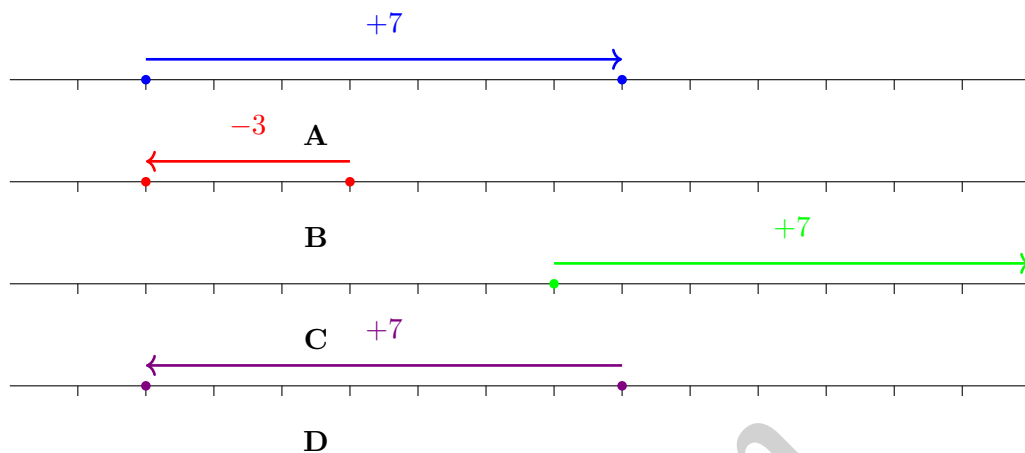
☐ B. 70

☐ D. 90



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5) Which number line correctly shows $-3 + 7$?



6) A company tracks employee satisfaction. Very satisfied is 38%, satisfied is 42%, neutral is 15%, and unsatisfied is 5%. If there are 200 employees, how many are very satisfied?

☐ A. 38

☐ C. 76

☐ B. 60

☐ D. 84

7) The graph shows a proportional relationship that passes through the origin and the point $(2, 14)$. What unit rate is represented by the graph?

☐ A. 2

☐ C. $\frac{1}{7}$

☐ B. 14

☐ D. 7



- 8) The table shows distance and time. What is the constant of proportionality in miles per hour?

Time (h)	Distance (mi)
2	120
3	180
5	300

- 9) A basketball player made 18 out of 24 free throws. Use a proportion to find the percent made, then identify which step comes next.

- ☐ A. Multiply 18×24 and divide by 100 ☐ D. Set up $\frac{18}{24} = \frac{p}{100}$ and solve using
☐ B. Set up $\frac{24}{18} = \frac{100}{p}$ and cross-multiply $p = \frac{18 \times 100}{24}$
☐ C. Calculate $18 + 24 = 42$ and divide
by 2

- 10) Two savings accounts earn interest at different rates. Account 1 earns 4% annual interest, and Account 2 earns 6% annual interest. If both start with \$1,500, which earns more interest?

- ☐ A. Account 1 (higher rate always wins) ☐ C. Both earn equally
☐ B. Cannot be determined without more time ☐ D. Account 2 (higher rate always wins)



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1) Simplify: $\frac{a^7}{a^3}$

☐ A. a^{10}

☐ B. a^4

☐ C. $\frac{a^3}{a^7}$

☐ D. a^{21}

2) Simplify $6p^2 + 2p - 3p^2 - 5p + 4p^2$, then evaluate when $p = 2$.

3) A coffee shop buys coffee beans for \$8 per pound and marks them up by \$4 per pound. What is the percent markup?

☐ A. 75%

☐ B. 100%

☐ C. 25%

☐ D. 50%

4) A juice stand sells drinks at a proportional rate. When 5 drinks are sold, the revenue is \$30. Write the equation for revenue r in terms of drinks d .

☐ A. $r = 5d$

☐ B. $r = \frac{d}{6}$

☐ C. $r = 30d$

☐ D. $r = 6d$

5) In a proportional relationship, when $x = 3$, $y = 12$. What is the constant of proportionality, and what is y when $x = 7$?

☐ A. $k = 12$; $y = 84$

☐ B. $k = 3$; $y = 21$

☐ C. $k = 4$; $y = 36$

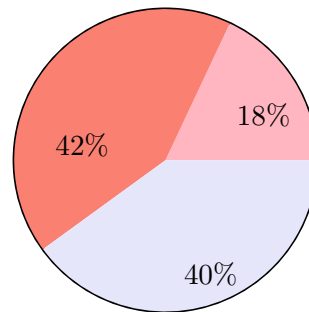
☐ D. $k = 4$; $y = 28$



- 6) Solve: $1.5x - 3 \leq 4.5$
- ☐ A. $x \leq 5$ ☐ C. $x < 5$
☐ B. $x \geq 5$ ☐ D. $x \leq 4.5$
- 7) A square pyramid has base side 9 m and slant height 12 m. What is the total surface area?
- ☐ A. 81 m^2 ☐ C. 297 m^2
☐ B. 216 m^2 ☐ D. 378 m^2
- 8) A spinner is spun twice, and the compound event is “the first spin is different from the second spin.” If the spinner has 3 equal sections, how many successful outcomes are there?
- ☐ A. 3 ☐ C. 9
☐ B. 6 ☐ D. 12
- 9) A student solves $4x - 6 = 10$ and writes: “Step 1: $4x = 16$. Step 2: $x = 4$.” Which best describes the work?
- ☐ A. All steps are correct ☐ C. Step 2 is wrong; should be $x = 16$
☐ B. Step 1 is wrong; should be $4x = 4$ ☐ D. Both steps have errors
- 10) A map has a scale of 3 cm : 10 km. A road that is 75 km long would measure how many centimeters on the map?
- ☐ A. 22.5 cm ☐ C. 30 cm
☐ B. 25 cm ☐ D. 250 cm



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1)

The circle graph displays student participation in after-school activities. Light pink is sports (18%), salmon is clubs (42%), and lavender is arts (40%). If 600 students attend the school, how many participate in clubs?

☐ A. 108☐ C. 240☐ B. 180☐ D. 2522) Simplify $(y^3)^2 \cdot y^1$. What is the exponent on y ?3) A recipe requires $\frac{2}{3}$ cup of sugar. If you make half the recipe, then add $\frac{1}{4}$ cup extra, how much sugar do you use?☐ A. $\frac{3}{7}$ cup☐ C. $1\frac{1}{12}$ cups☐ B. $\frac{7}{12}$ cup☐ D. $\frac{5}{12}$ cup

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4) Convert $\frac{1}{5}$ to a decimal.

☐ A. 0.15

☐ C. 0.5

☐ B. 0.2

☐ D. 0.51

5) Solve $\frac{2x+3}{2} < 8$. What is the boundary value?

6) Evaluate $5m - 2n$ when $m = -2$ and $n = 4$.

☐ A. -18

☐ C. 10

☐ B. -10

☐ D. 18

Original Price: p



Multiply by 0.75



Sale Price: \$48

7)

What was the original price?

☐ A. \$36

☐ C. \$60

☐ B. \$48

☐ D. \$64



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.NS.2d)** Divide $11 \div 50 = 0.22$. Since $50 = 2 \times 5^2$, the result is terminating.
- 2) **Choice B is correct.** **(7.NS.1-7.NS.3)** Moving left 8 units: $0 - 8 = -8$. Moving right 3 units: $-8 - (-3) = -8 + 3 = -5$. Or: $-8 + 3 = -5$.
- 3) **Choice D is correct.** **(7.RP.1-7.RP.3)** A scale of 1 : 10 means each model unit represents 10 actual units. The actual dimensions are $5 \times 10 = 50$ units and $4 \times 10 = 40$ units.
- 4) **Choice D is correct.** **(7.RP.3)** 50% of 180 is $0.50 \times 180 = 90$.
- 5) **Choice A is correct.** **(7.NS.1b)** Start at -3 and move 7 units to the right to reach 4. Options B, C, and D either move in the wrong direction or start at the wrong point.
- 6) **Choice C is correct.** **(7.SP.1-7.SP.4)** 38% of 200 = $0.38 \times 200 = 76$ employees.
- 7) **Choice D is correct.** **(7.RP.1-7.RP.3)** The unit rate is the value of y when $x = 1$. Since $14 \div 2 = 7$, the constant of proportionality is 7.
- 8) **The correct answer is 60.** **(7.RP.1-7.RP.3)** Each ratio gives the same unit rate: $120 \div 2 = 60$, $180 \div 3 = 60$, and $300 \div 5 = 60$.
- 9) **Choice D is correct.** **(7.RP.3)** The correct proportion is part over whole equals percent over 100: $\frac{18}{24} = \frac{p}{100}$. Cross-multiply: $p = 75\%$.
- 10) **Choice D is correct.** **(7.RP.3)** Account 1: $\$1,500 \times 0.04 = \60 . Account 2: $\$1,500 \times 0.06 = \90 . A higher interest rate (6% vs. 4%) always yields more interest on the same principal over the same time period, illustrating the investment trade-off: higher rates = higher returns.
- 11) **Choice C is correct.** **(7.NS.1-7.NS.3)** Net change: $2.5 + (-1.3) = 1.2$ kg net gain.
- 12) **Choice A is correct.** **(7.EE.1-7.EE.2)** The base fare is \$3, and each mile costs \$2, so total is $2m + 3$.
- 13) **Choice D is correct.** **(7.RP.1-7.RP.3)** Unit rate = $\frac{3/4}{1/2} = \frac{3}{4} \times 2 = \frac{3}{2}$ gallons per minute.
- 14) **Choice D is correct.** **(7.RP.1-7.RP.3)** Slope: $(9 - 3)/(3 - 1) = 6/2 = 3$. Line is $y = 3x$, which passes through $(0, 0)$ (proportional).
- 15) **Choice B is correct.** **(7.NS.1-7.NS.3)** Using the chart: negative $\div$ positive = negative. So $(-15) \div 3 = -5$.
- 16) **Choice B is correct.** **(7.NS.1-7.NS.3)** Debt: $-150 \div 5 = -30$ dollars per person.
- 17) **Choice B is correct.** **(7.NS.1-7.NS.3)** New rate = $200 + 15 - 8 + 12 = 219$ items/hour.
- 18) **Choice A is correct.** **(7.NS.1-7.NS.3)** $9.08 \times 10^5 = 9.08 \times 100,000 = 908,000$.
- 19) **Choice B is correct.** **(7.SP.5-7.SP.8)** Two of the five equal sections are labeled 1, so $P(1) = \frac{2}{5} = 0.4$.
- 20) **Choice B is correct.** **(7.NS.1-7.NS.3)** Perimeter = $4s = 32$, so $s = 8$ cm. Area = $s^2 = 8^2 = 64$ cm².
- 21) **The correct answer is A,D.** **(7.RP.1-7.RP.3)** Options A and D are the two correct answers. A is true because $y = kx = 2x$ is the equation for any proportional relationship with $k = 2$. D is true because substituting $x = 2$ into $y = 2x$ gives $y = 4$. All other options are false.
- 22) **Choice B is correct.** **(7.EE.1-7.EE.2)** Three containers of x liters each can be written as $x + x + x$ or $3 \times x = 3x$. This multiplication form is the most efficient equivalent expression for repeated addition.
- 23) **Choice D is correct.** **(7.RP.3)** Facility fee = $0.07 \times 85 = \$5.95$. Total = $85 + 5.95 = \$90.95$.
- 24) **Choice A is correct.** **(7.NS.2)** $-1\frac{1}{2} = -\frac{3}{2}$. So $-\frac{3}{2} \times 6 = \frac{-18}{2} = -9$.
- 25) **Choice A is correct.** **(7.SP.1-7.SP.4)** The largest stem is 7 with the largest leaf 6, giving 76.
- 26) **Choice D is correct.** **(7.RP.1-7.RP.3)** Markup: $50\% \times 8 = 4$. Selling price: $8 + 4 = 12$.
- 27) **Choice D is correct.** **(7.RP.3)** Total: $\$3,600 + \$1,200 = \$4,800$. Vacation percent: $\frac{1200}{4800} = 0.25 = 25\%$.
- 28) **Choice A is correct.** **(7.G.4-7.G.6)** Large rectangle: $20 \times 15 = 300$ m². Three removed sections: $3 \times (3 \times 2) = 18$ m². Remaining: $300 - 18 = 282$ m².
- 29) **Choice D is correct.** **(7.RP.3)** $5000(1 + r)^2 = 5512.50 \Rightarrow (1 + r)^2 = 1.1025 \Rightarrow 1 + r = 1.05 \Rightarrow r = 5\%$.
- 30) **Choice C is correct.** **(7.G.4-7.G.6)** Volume of first prism = $2 \times 3 \times 4 = 24$ ft³. Volume of second = $4 \times 6 \times 8 = 192$ ft³. Ratio = $\frac{192}{24} = 8$.



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Testinar.com

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 5 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 **5** 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.



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2 Online Practice Tests

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Improve Understanding

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Boost Performance

Apply your knowledge and achieve your best score!

TOPICS COVERED

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- ✓ 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!

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