

7 Pennsylvania PSSA Grade 7 Math Practice Tests



7 PRINTED TESTS + 2 ONLINE TESTS

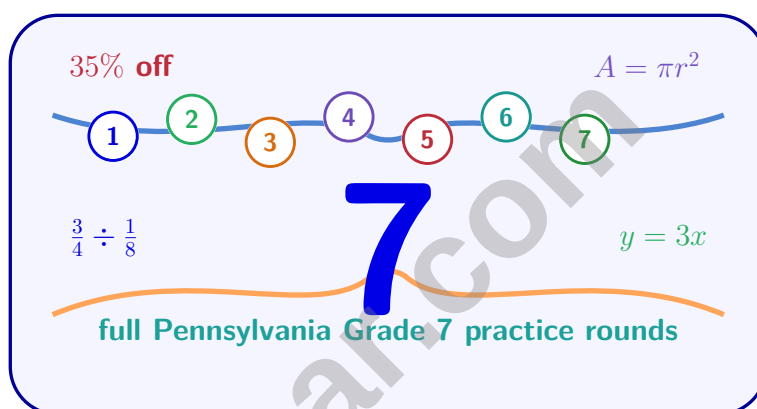


**Standards Aligned Problem Solving
For Comprehensive Assessment Programs**



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.

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Welcome, Pennsylvania Grade 7 Problem Solver!

Eight focused rounds for sharper PSSA math thinking

This book gives you seven 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, 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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& answers

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1) A clothing store buys jeans for \$55 and wants a 40% profit margin (markup). If they then apply an additional 8% sales tax, what do customers pay?

☐ A. \$88☐ C. \$83.07☐ B. \$77☐ D. \$83.16

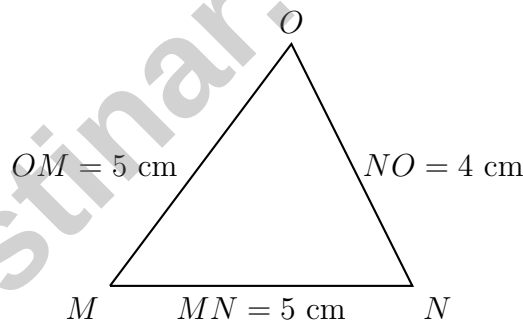
2) A square tile has an area of 169 square inches. What is the side length of the tile?

☐ A. 11 inches☐ C. 13 inches☐ B. 12 inches☐ D. 14 inches

3) An online store deducts a 3% processing fee from seller payments. If a seller receives payment for items totaling \$1,000, how much is deducted as a fee?

☐ A. \$15☐ C. \$30☐ B. \$25☐ D. \$100

4)



Triangle MNO has sides $MN = 5$ cm, $NO = 4$ cm, and $OM = 5$ cm. What type of triangle is MNO ?

☐ A. Scalene☐ C. Equilateral☐ B. Isosceles☐ D. Right triangle

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- 5) Which model correctly shows $5 + (-5) = 0$ using a chip diagram where red = positive and blue = negative?

Model A:



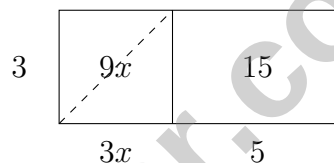
5 red + 2 blue

Model B:



5 red + 5 blue

- ☐ A. Model A
 ☐ C. Neither model
☐ B. Both models show the same thing
 ☐ D. Model B



6)

The area model above represents the factorization of $9x + 15$. What is the common factor shown as the height?

- ☐ A. 3
 ☐ C. 9
☐ B. 5
 ☐ D. 15
- 7) A simulation of drawing cards with replacement produces 60 trials. If outcome A appears 15 times and outcome B appears 45 times, what is the experimental error compared to the theoretical probability if outcome A has theoretical probability 0.20?

- ☐ A. 0.05
 ☐ C. 0.15
☐ B. 0.10
 ☐ D. 0.25



8) Which chip model represents $3 + (-5)$?

A

B

3 pairs canceled

C

D

9) Simplify: $0.5x + 1.5x + 2y - y$

☐ A. $3.5xy$

☐ C. $1.5x + y$

☐ B. $2x + y$

☐ D. $3.5x + 2y$

10) Which inequality represents “a number decreased by 7 is less than or equal to 12”?

☐ A. $n - 7 \leq 12$

☐ C. $n + 7 \leq 12$

☐ B. $7 - n \leq 12$

☐ D. $n \leq 19$



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1) A circle has an area of 28.26 square inches. What is its diameter? Use $\pi \approx 3.14$.

☐ A. 3 inches

☐ C. 9 inches

☐ B. 6 inches

☐ D. 18 inches

Equivalence Table

Form 1	Form 2	Value
$x - 0.25x$	$0.75x$	\$60

2)

Using the equivalence table, if both forms equal \$60, what is x ?

☐ A. $x = 45$

☐ C. $x = 80$

☐ B. $x = 75$

☐ D. $x = 100$

3) The temperature in the morning was -8°C . It rose 15°C by afternoon. Then it dropped 5°C by evening. What was the evening temperature?

4) A platform is designed as two congruent trapezoids joined at their parallel sides. Each trapezoid has parallel sides of 6 m and 4 m with height 3 m. What is the total platform area?

☐ A. 15 m^2

☐ C. 45 m^2

☐ B. 30 m^2

☐ D. 60 m^2

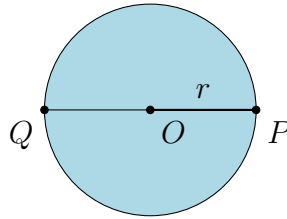


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- 5) A triangular prism has a triangular base with area 15 cm^2 and a height of 10 cm. What is its volume?

- ☐ A. 25 cm^3
☐ C. 150 cm^3
☐ B. 75 cm^3
☐ D. 300 cm^3

- 6) The diagram below shows a circle with center O .



Which line segment is the radius of the circle?

- ☐ A. OP
☐ C. PQ
☐ B. OQ
☐ D. QP

- 7) Which statement is **incorrect** about compound interest?

- ☐ A. Interest earned in year 2 is always greater than interest earned in year 1.
☐ B. The balance grows faster as time increases.
☐ C. The formula $A = P(1 + r)^t$ works for any number of years t .
☐ D. Interest earned in year 1 equals the principal times the rate.

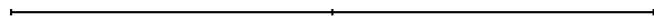
- 8) What is $-\frac{3}{4} \times (-\frac{8}{9})$?



- 1) A school wants to estimate the average amount of time students spend on homework per night. Which sample size is best?

- ☐ A. 10 students ☐ C. 100 students
☐ B. 25 students ☐ D. 1000 students

0% 50% 100%



2)

0 ? 200



The double number line shows percents and values. What is 50% of 200?

- ☐ A. 50 ☐ C. 100
☐ B. 75 ☐ D. 150
- 3) A baker uses 3 eggs for every 2 cups of flour. If the baker uses 9 eggs, how much flour is needed?

- ☐ A. 3 cups ☐ C. 9 cups
☐ B. 4 cups ☐ D. 6 cups

- 4) Solve for x : $6(x - 2) = 36$



5) A recipe needs 2 cups of flour. If you want to make 150% of the recipe, how much flour do you need?

☐ A. 1.5 cups

☐ C. 3 cups

☐ B. 2.5 cups

☐ D. 4 cups

6) An athlete's workout time decreased from 90 minutes to 72 minutes. What is the percent decrease?

☐ A. 18%

☐ C. 25%

☐ B. 80%

☐ D. 20%

7)

Simulated Roll	1	2	3	4
Frequency	48	52	45	55

A spinner with 4 equal sections is spun 200 times to estimate probabilities. Which two sections have relative frequencies closest to the theoretical probability of 0.25?

☐ A. Sections 1 and 2

☐ C. Sections 1 and 3

☐ B. Sections 2 and 4

☐ D. Sections 3 and 4

8) A cube has surface area 216 cm^2 . What is the edge length?

☐ A. 4 cm

☐ C. 36 cm

☐ B. 6 cm

☐ D. 1296 cm

9) A rectangular living room has actual dimensions 6 m by 8 m. One scale drawing shows it as 3 cm by 4 cm. What is the scale of this drawing?

☐ A. 1 cm : 2 m

☐ C. 1 cm : 4 m

☐ B. 1 cm : 3 m

☐ D. 3 cm : 8 m



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Pennsylvania System of School 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 Pennsylvania System of School Assessment practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice D is correct.** (7.RP.3) Markup: $55 \times 1.40 = \$77$. Tax on \$77: $0.08 \times 77 = \$6.16$. Total: $77 + 6.16 = \$83.16$.
- 2) **Choice C is correct.** (7.NS.1-7.NS.3) Since area = s^2 and $169 = 13^2$, the side length is $\sqrt{169} = 13$ inches.
- 3) **Choice C is correct.** (7.RP.3) Processing fee = $0.03 \times 1000 = \$30$.
- 4) **Choice B is correct.** (7.G.1-7.G.5) Two sides have the same length: $OM = MN = 5$ cm. An isosceles triangle has at least two congruent sides. Checking: $4^2 + 5^2 = 41 \neq 25$, so it is not a right triangle.
- 5) **Choice D is correct.** (7.NS.1-7.NS.3) For $5 + (-5) = 0$, we need exactly 5 positive (red) chips and 5 negative (blue) chips, where each pair cancels out. Model A has 5 red but only 2 blue (incorrect). Model B has 5 red and 5 blue (correct).
- 6) **Choice A is correct.** (7.EE.1-7.EE.2) The rectangle has length $3x + 5$ and area $9x + 15$. Height must be 3, which is the GCF.
- 7) **Choice A is correct.** (7.SP.5-7.SP.8) Estimated probability for A: $\frac{15}{60} = 0.25$. Theoretical: 0.20. Error = $|0.25 - 0.20| = 0.05$.
- 8) **Choice D is correct.** (7.NS.1b) We have 3 positive and 5 negative chips. The 3 positive chips pair with 3 of the negative chips and cancel. This leaves $5 - 3 = 2$ negative chips (representing -2). Thus $3 + (-5) = -2$.
- 9) **Choice B is correct.** (7.EE.1) Combine x terms: $(0.5 + 1.5)x = 2x$. Combine y terms: $(2 - 1)y = y$. Result: $2x + y$.
- 10) **Choice A is correct.** (7.EE.4b) "A number decreased by 7" is $n - 7$; "is less than or equal to 12" is ≤ 12 . (Note: D is the simplified solution but A is the direct translation.)
- 11) **Choice C is correct.** (7.G.4-7.G.6) Two triangular bases: $2 \times \frac{1}{2}(3)(4) = 12 \text{ ft}^2$. Three rectangular sides: $3 \times 3 = 9$, $4 \times 3 = 12$, $5 \times 3 = 15 \text{ ft}^2$. Total: $12 + (9 + 12 + 15) = 12 + 36 = 48 \text{ ft}^2$.
- 12) **Choice B is correct.** (7.NS.1-7.NS.3) Find a common denominator: $-\frac{3}{4} + \frac{2}{4} = -\frac{1}{4}$.
- 13) **Choice C is correct.** (7.NS.2d) The denominator $100 = 10^2 = 2^2 \times 5^2$ has only factors of 2 and 5, so it terminates. The others have factors like 7, 3, or 21.
- 14) **Choice C is correct.** (7.EE.1-7.EE.2) Substitute: $3(4) - 2(-3) = 12 + 6 = 18$.
- 15) **Choice B is correct.** (7.EE.3-7.EE.4) Equation: $t - 8 = -2$. Add 8: $t = 6^\circ\text{C}$. Check: $6 - 8 = -2$ ✓. Reasonable: starting at 6°C , dropping 8° reaches below zero.
- 16) **Choice A is correct.** (7.G.1-7.G.5) A scale of 2 : 5 means the drawing is 2 units for every 5 units of the actual object, so the drawing is smaller.
- 17) **Choice B is correct.** (7.G.1-7.G.5) Width is 18 m; divide by scale: $18 \text{ m} \div 3 \text{ m/cm} = 6 \text{ cm}$.
- 18) **Choice C is correct.** (7.G.1-7.G.5) The scale factor is $\frac{100 \text{ miles}}{2 \text{ inches}} = 50 \text{ miles/inch}$. So 5 inches $\times 50 = 250$ miles.
- 19) **Choice D is correct.** (7.G.4-7.G.6) One lap = $C = 2\pi r = 2 \times 3.14 \times 50 = 314 \text{ m}$. Three laps = $3 \times 314 = 942 \text{ m}$.
- 20) **Choice B is correct.** (7.SP.1-7.SP.4) The population is the entire group being studied, which is the complete database of 50,000 customers. The sample is the 200 randomly selected customers.
- 21) **The correct answer is A,C.** (7.RP.3) Choice A: $50\% = \frac{1}{2}$. Choice B: $75\% = \frac{3}{4}$, not $\frac{2}{3}$. Choice C: $\frac{3}{4} = 0.75 = 75\%$. Choice D is false because $\frac{1}{5} = 20\%$, not 25%.
- 22) **Choice B is correct.** (7.SP.1-7.SP.4) Reliability is about consistency of retest results. Test B's MAD = 0.3 (very tight clustering of differences) shows more reliable, consistent results compared to Test A's MAD = 1.2 (wider spread of differences).
- 23) **Choice B is correct.** (7.NS.1-7.NS.3) Change in elevation: $0 - (-480) = 480 \text{ m}$. Rate: $480 \div 16 = 30 \text{ m/hr upward}$.
- 24) **Choice A is correct.** (7.NS.1-7.NS.3) Total loss: $-45.75 \times 6 = -274.50$ dollars.
- 25) **Choice A is correct.** (7.NS.1-7.NS.3) Option A differs by only $0.1 \times 10^{-2} = 0.001$. Other pairs differ by much larger amounts.
- 26) **Choice D is correct.** (7.EE.4a) Subscription is \$35 plus \$4.99 per meal. Equation: $4.99m + 35 = 84.85$.
- 27) **The correct answer is 70 .** (7.RP.1-7.RP.3) The unit rate is $140 \div 2 = 70$ miles per hour. This is the car's constant speed.
- 28) **Choice B is correct.** (7.EE.3-7.EE.4) Set up: $12h + 25 = 121 \Rightarrow 12h = 96 \Rightarrow h = 8$.



Hi, Math Communicator!

◇ Grade 7 math is not only about getting a number. It is about explaining relationships and making your reasoning visible. ◇

★ **Remember this:** When you show steps, label diagrams, and write clear answers, you are joining the conversation that math is trying to have. You practiced across 7 full Grade 7 practice tests, and that repeated effort matters. ★

Communication Skills

- **Use Words:** Explain what the answer means.
- **Use Symbols:** Keep equations accurate.
- **Use Diagrams:** Show relationships visually.
- **Use Units:** Connect math to context.

Grade 7 test-day tip: For open-ended questions, answer in a complete thought: value, unit, and reason.

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

Jay Daie

Your Math Communication Coach

Practice Today. Succeed Tomorrow!

This book includes **7** full-length Math practice tests and **2** online tests to help Grade 7 students build confidence, strengthen skills, and excel on standardized assessments.

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Deeper Understanding

Reinforce key concepts with clear explanations and meaningful practice.



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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!



PRACTICE
REGULARLY



STAY
FOCUSED



SOLVE
CONFIDENTLY



SUCCEED
BRIGHTLY



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