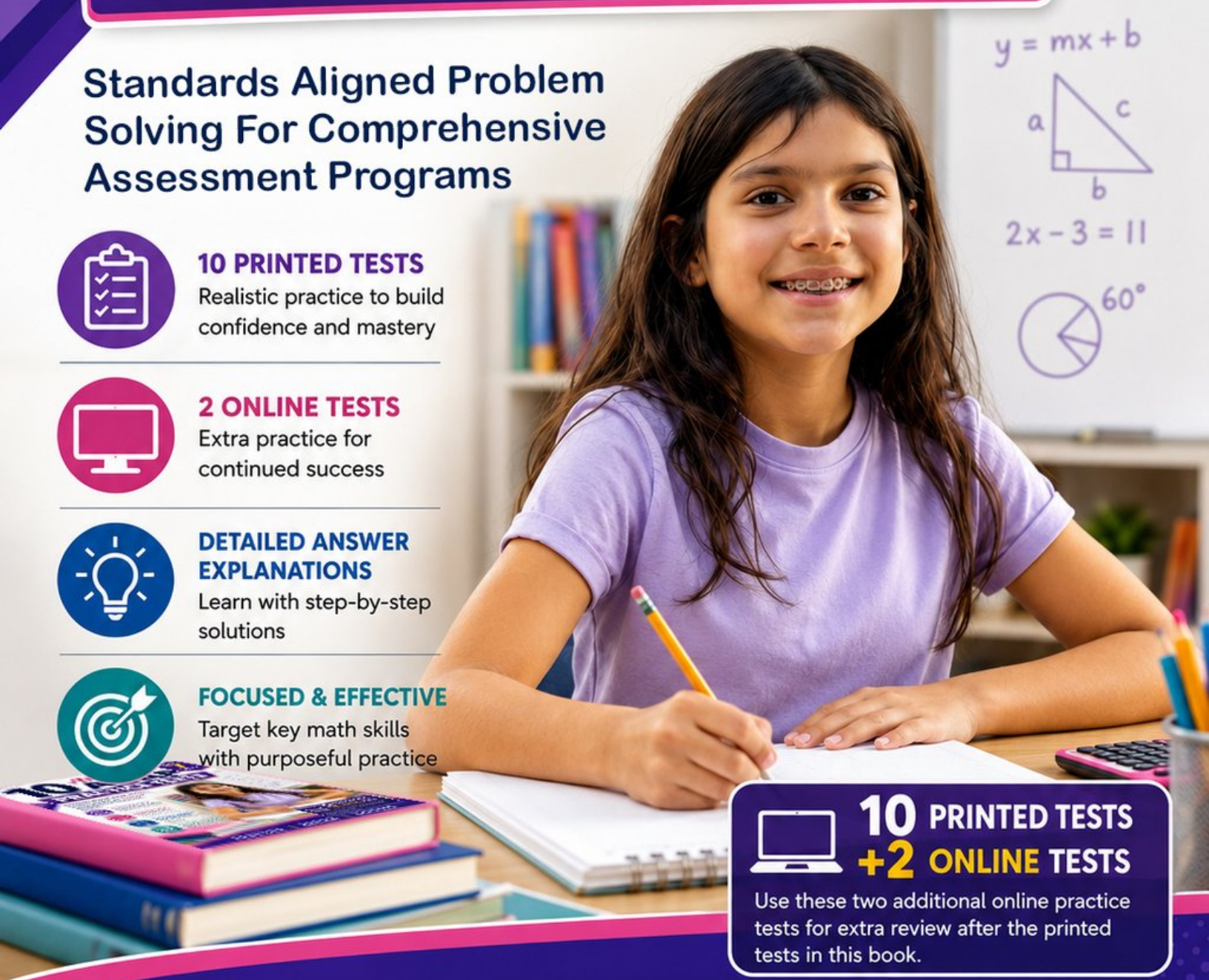
10 Pennsylvania PSSA PRACTICE TESTS

GRADE 7 MATH

Standards Aligned Problem Solving For Comprehensive Assessment Programs



10 PRINTED TESTS
Realistic practice to build confidence and mastery

2 ONLINE TESTS
Extra practice for continued success

DETAILED ANSWER EXPLANATIONS
Learn with step-by-step solutions

FOCUSED & EFFECTIVE
Target key math skills with purposeful practice

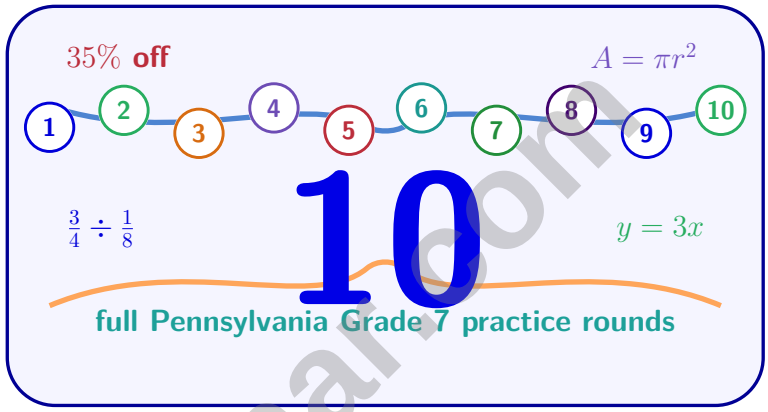
10 PRINTED TESTS +2 ONLINE TESTS

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

PRACTICE ★ REVIEW ★ SUCCEED

10 Pennsylvania PSSA Grade 7 Math Practice Tests

Pennsylvania Grade 7 PSSA Practice for structured readiness with rates, rational operations, expressions, equations, geometry, and data



Ten 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!

Ten focused rounds for sharper Pennsylvania PSSA math thinking

This book gives you ten 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 ten-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?

Ten Pennsylvania PSSA tests, 400 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 7–9	Statistics, probability, mixed review, stamina, and choosing efficient strategies.
Test 10	A final Pennsylvania round to show growth across the whole book.
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) A certificate of deposit starts with \$750 at 6% annual compound interest. Which expression represents the balance after t years?

☐ A. $750 + 0.06t$
☐ B. $750(0.06t)$
☐ C. $750 + (0.06)^t$
☐ D. $750(1.06)^t$

2) Solve for x: $5(2x - 1) = 45$

☐ A. $x = 6$
☐ B. $x = 4.5$
☐ C. $x = 5$
☐ D. $x = 7$

3) An electronics store marks up a TV by 25%. If the cost is c dollars, which expression shows the selling price?

☐ A. $c + 0.25c = 1.25c$
☐ B. $c - 0.25c$
☐ C. $0.25c$
☐ D. $c \div 1.25$

4) Two restaurants' customer satisfaction (1–10 scale):

Restaurant	Mean	IQR	Range
Casual Bistro	6.5	3	8
Fine Dining	8.2	2	7

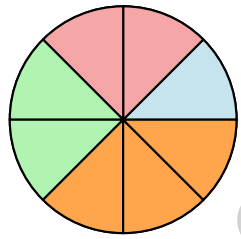
What does the data reveal?

☐ A. Fine Dining is universally superior in all ways
☐ B. Casual Bistro is more democratic, appealing to diverse preferences
☐ C. Fine Dining has higher typical satisfaction with more consistent high ratings
☐ D. Both restaurants satisfy customers identically

5) A back-to-back stem-and-leaf plot compares writing scores of two 7th-grade classes. Class 1 (left): Stem 7: Leaves 2, 5, 8, 9 | Stem 8: Leaves 1, 4, 7. Class 2 (right): Stem 7: Leaves 3, 4 | Stem 8: Leaves 0, 2, 5, 6, 8. Which statement is true?

☐ A. Class 1 has more students with scores in the 70s
☐ B. Class 2 has more students with scores in the 80s
☐ C. Both classes have the same number of students
☐ D. Class 1 has the highest single score

6)



A spinner has 8 equal sections: 1 blue, 2 red, 2 green, and 3 yellow. What is the probability of landing on yellow?

☐ A. $\frac{1}{8}$
☐ B. $\frac{2}{8}$
☐ C. $\frac{3}{8}$
☐ D. $\frac{1}{2}$

7) A clothing store sells shirts in 3 fits (Slim, Regular, Loose) and 5 sizes (XS, S, M, L, XL). If a customer randomly picks one fit and one size, what is the probability of selecting Regular and Large?

☐ A. $\frac{1}{5}$
☐ B. $\frac{1}{15}$
☐ C. $\frac{1}{8}$
☐ D. $\frac{2}{15}$

8) A cube has a side length of 7 feet. What is its volume in cubic feet?

9) A cylindrical pipe has a volume of 565.2 cubic feet, a radius of 3 feet, and an unknown height. What is the height of the pipe? Use $\pi \approx 3.14$.

10) A bag of 20 tokens contains 8 red, 7 blue, and 5 green. Two tokens are drawn WITH replacement. Which statement correctly describes this scenario?

☐ A. The events are dependent because we remove tokens
☐ B. The second draw has probabilities different from the first
☐ C. The probability of each draw remains the same because of replacement
☐ D. Red is impossible on the second draw if red appeared first

11) A survey of 150 students asked which sport they play. The results:

Sport	Soccer	Basketball	Tennis
Students	48	57	45

Based on this data, what is the experimental probability that a randomly selected student plays basketball?

☐ A. $\frac{57}{105}$
☐ B. $\frac{48}{150}$
☐ C. $\frac{57}{150}$
☐ D. $\frac{45}{150}$

1) A science lab measures temperature change over time. The table below shows the data. Is this a proportional relationship, and if so, what is the constant of proportionality?

Time (min)	Temp Change (°C)
2	5
4	10
7	17.5

☐ A. Yes, $k = 7$
☐ B. Yes, $k = 5$
☐ C. No, the values don't form a constant ratio
☐ D. Yes, $k = 2.5$

2) A student mistakenly writes: "Stem 2 with leaves $3, 5, 7$ represents $3, 5, 7$." What is the error?

☐ A. The leaves are not in ascending order
☐ B. The student forgot to combine the stem with each leaf
☐ C. The stems and leaves are reversed
☐ D. There is no error; the representation is correct

3) Two prisms have the same height of 10 cm. The first has a rectangular base 4 cm by 3 cm. The second has a triangular base with area 6 cm^2. Which prism has a larger volume?

☐ A. The rectangular prism
☐ B. The triangular prism
☐ C. Both have the same volume
☐ D. Cannot be determined

4) An item is on sale for \$48 after a 20% discount. What was the original price?

5) Expand: $5(3y - 2)$

☐ A. $15y - 2$
☐ B. $8y - 7$
☐ C. $15y - 10$
☐ D. $3y - 10$

6)

Like Terms Table

x terms	**y** terms
$3x, 5x, -2x$	$4y, y, -3y$

Which expression is equivalent to the combined like terms shown in the table?

☐ A. $6x + 2y$
☐ B. $8x + 5y$
☐ C. $-10xy$
☐ D. $10x + 2y$

7) Factor: $-5a - 20b$

☐ A. $-5(a + 4b)$
☐ B. $5(a + 4b)$
☐ C. $-5(a - 4b)$
☐ D. $5(-a - 4b)$

8) A cube has edge length 7 ft. What is the surface area?

☐ A. 49 ft^2
☐ B. 98 ft^2
☐ C. 196 ft^2
☐ D. 294 ft^2

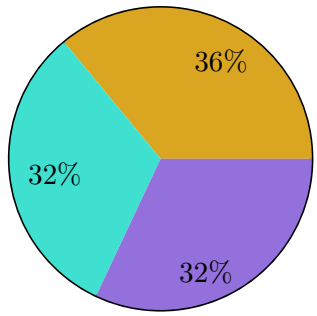
9) In a survey of 500 people, 75 prefer online shopping while the rest prefer in-store shopping. What percent prefer online shopping?

☐ A. 15%
☐ B. 25%
☐ C. 30%
☐ D. 75%

1) A soccer team won 75% of their 20 games. How many games did they win?

☐ A. 5
☐ B. 12
☐ C. 15
☐ D. 18

2)



The circle graph shows subscription type preferences. Gold is premium (36%), turquoise is standard (32%), and purple is basic (32%). If 2500 customers subscribe, how many have premium subscriptions?

☐ A. 700
☐ B. 800
☐ C. 900
☐ D. 1000

3) A school is trying to estimate the average number of pets owned per household in its attendance area. Which approach would give the most representative sample?

☐ A. Survey the 50 families with the largest houses
☐ B. Ask volunteers from the PTA to participate
☐ C. Randomly select a sample from a list of all households
☐ D. Survey families who shop at the local pet store

4) A student writes: $0.000789 = 7.89 \times 10^{-3}$. Is this correct?

☐ A. Yes, it is correct.
☐ B. No; the exponent should be -4.
☐ C. No; the coefficient should be 78.9.
☐ D. No; the answer should be 7.89×10^{4}.

5) A bag contains 4 red marbles, 6 blue marbles, and 5 yellow marbles. If a marble is drawn at random, find $P(\text{red or yellow})$ as a decimal.

6) Simplify: $(-6j + 12) + (4j - 8)$

☐ A. $-2j + 4$
☐ B. $-2j - 4$
☐ C. $2j + 4$
☐ D. $10j + 4$

7) A student simplifies $\frac{y^8}{y^3}$ and gets y^{11}. What rule did they use incorrectly?

☐ A. They used the product rule instead of the quotient rule.
☐ B. They multiplied exponents instead of subtracting them.
☐ C. They forgot to simplify the coefficient.
☐ D. They changed the base incorrectly.

8) A delivery service charges an initial fee of \$8 plus \$3 per package. If the total charge is \$26, which equation represents this, where p is the number of packages?

☐ A. $8p + 3 = 26$
☐ B. $3p + 8 = 26$
☐ C. $3(p + 8) = 26$
☐ D. $8 + 26 = 3p$

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 D is correct.** 7.RP.3 The compound interest formula is $A = P(1 + r)^t$. Here, $P = 750$ (principal) and $r = 0.06$ (rate as decimal). So $A = 750(1 + 0.06)^t = 750(1.06)^t$.
2) **Choice C is correct.** 7.EE.4a Distribute: $10x - 5 = 45$. Add 5: $10x = 50$. Divide by 10: $x = 5$.
3) **Choice A is correct.** 7.EE.1-7.EE.2 A 25% markup is $c + 0.25c = c(1 + 0.25) = 1.25c$.
4) **Choice C is correct.** 7.SP.1-7.SP.4 Fine Dining: mean 8.2 (higher center), IQR 2 (tighter middle 50%). Casual Bistro: mean 6.5 (lower), IQR 3 (wider spread). Fine Dining consistently delivers high satisfaction; Casual Bistro has more variable, lower average satisfaction.
5) **Choice B is correct.** 7.SP.1-7.SP.4 Class 1 has 4 leaves in the 70s and 3 in the 80s. Class 2 has 2 leaves in the 70s and 5 in the 80s. Class 2's 80s interval has 5 students vs. Class 1's 3 students.
6) **Choice C is correct.** 7.SP.5-7.SP.8 Yellow sections: 3 out of 8. $P(\text{yellow}) = \frac{3}{8}$.
7) **Choice B is correct.** 7.SP.5-7.SP.8 Total outcomes: $3 \times 5 = 15$. Favorable (Regular and Large): 1 outcome. Probability: $\frac{1}{15}$.
8) **The correct answer is** 343 **.** 7.G.4-7.G.6 $V = s^3 = 7^3 = 343$ ft^3.
9) **The correct answer is** 20 **.** 7.G.4-7.G.6 $V = \pi r^2 h \Rightarrow 565.2 = 3.14 \times 9 \times h \Rightarrow 565.2 = 28.26h \Rightarrow h = 20$ feet.
10) **Choice C is correct.** 7.SP.5-7.SP.8 With replacement, the bag is restored to its original state. Each draw has identical probabilities: $P(\text{red}) = \frac{8}{20}$, $P(\text{blue}) = \frac{7}{20}$, $P(\text{green}) = \frac{5}{20}$.
11) **Choice C is correct.** 7.SP.6 Basketball was chosen by 57 out of 150 students. Experimental probability $= \frac{57}{150}$.
12) **Choice A is correct.** 7.SP.5-7.SP.8 Lower probabilities represent less likely events. Ordering: $0.2 < 0.5 < 0.9 < 1$.
13) **Choice A is correct.** 7.RP.3 Percent error $= \frac{|2200-2000|}{2000} \times 100\% = \frac{200}{2000} \times 100\% = 10\%$.
14) **Choice B is correct.** 7.EE.1-7.EE.2 Distribute 8: $8(1.5y) - 8(2) = 12y - 16$.
15) **Choice D is correct.** 7.RP.3 First scenario: $I = 2000 \times 0.04 \times 2 = \$160$. Second: $I = 1000 \times 0.06 \times 2 = \$120$. First produces \$160, which is \$40 more than the second.
16) **Choice D is correct.** 7.NS.1-7.NS.3 $-11 - (-5) = -11 + 5 = -6$.
17) **Choice D is correct.** 7.RP.3 Discount $= \frac{1}{4} \times 28 = \$7$. Sale price $= 28 - 7 = \$21$.
18) **Choice A is correct.** 7.NS.1b Both numbers are negative; add absolute values: $|-28| + |-15| = 28 + 15 = 43$, and keep the negative sign: -43.
19) **The correct answer is** 120 **.** 7.SP.1-7.SP.4 The sample size is the number of individuals surveyed. In this case, 120 adults were randomly selected and surveyed, so the sample size is 120.
20) **Choice A is correct.** 7.EE.1 All terms have the same variables and exponents. Combine: $(6 + 3 - 2)x^2y = 7x^2y$.
21) **Choice A is correct.** 7.EE.1-7.EE.2 GCF of 15 and 35 is 5. Factor: $15x + 35 = 5(3x + 7)$.
22) **The correct answer is A,D.** 7.G.4-7.G.6 Choice A gives the correct formula. Choice D is verified: $3.14 \times 5^2 = 78.5$ cm^2. B confuses formula with circumference. C forgets that area scales with the square of the radius. E mistakes semicircle (half) for one-third.
23) **Choice C is correct.** 7.SP.1-7.SP.4 Rent and Savings are both 30%, the largest percentage. Food is 25% and utilities is 15%.
24) **Choice D is correct.** 7.RP.1-7.RP.3 Linear scale is 1 : 50. Volume scales by $(1/50)^3 = 1/125,000$. Model volume $= 5,000,000 \div 125,000 = 40$ cm^3.
25) **Choice A is correct.** 7.EE.4b Subtract 5: $-3x \geq -15$. Divide by -3 and flip: $x \leq 5$.
26) **Choice D is correct.** 7.RP.1-7.RP.3 The unit-rate point $(1, 0.8)$ shows that $k = 0.8$, so the equation is $y = 0.8x$.
27) **The correct answer is Department P .** 7.SP.3 A smaller range indicates salary consistency and predictability; candidates can rely on a specific salary range. A larger range creates uncertainty. The distribution shape (spread) affects how clearly you can communicate typical outcomes.
28) **Choice D is correct.** 7.RP.3 Month 1 to 2: (\$110 − \$100) ÷ \$100 = 0.10 = 10% growth. Month 2 to 3: (\$121 − \$110) ÷ \$110 ≈ 0.10 = 10% growth. This illustrates the difference between simple interest (fixed dollar amount like \$10 each month) and compound growth (percentage-based: 10% of the balance each month).

Author's Note

A Math Hero Moment

Hi, Math Hero!

◇ This full-length book gave you ten complete Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. You showed up for Grade 7 practice again and again. That is what real growth looks like: steady effort, honest review, and a willingness to try. ◇

⋆ **Remember this:** A math hero is not someone who never misses a question. A math hero learns from the miss and comes back stronger. ⋆

Hero Habits

- **Courage:** You try problems that are not automatic.
- **Honesty:** You review what needs work.
- **Patience:** You let skills grow over time.
- **Pride:** You recognize the effort you gave.

Grade 7 test-day tip: Save one solved problem you are proud of. Looking back at progress helps motivation stay strong.

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

Jay Daie

Your Math Hero Guide

PRACTICE TODAY.
SUCCEED TOMORROW!

This book includes 10 full-length Math practice tests and 2 extra 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:

- **10** 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
- Fractions & Decimals
- Percents
- Statistics & Probability
- Data Analysis
- Measurement & Conversions
- And More!

2 EXTRA 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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FOR MORE PRACTICE TESTS AND LEARNING RESOURCES.

PRACTICE REGULARLY | STAY FOCUSED | SOLVE CONFIDENTLY | SUCCEED BRIGHTLY

PRACTICE ★ REVIEW ★ SUCCEED