

# 10

# New Hampshire NH SAS

GRADE  
**6**  
MATH

## PRACTICE TESTS

**Standards-Aligned Review**  
**Mixed Practice & Answer Key**



### 10 PRINTED TESTS

Realistic practice to build confidence and mastery



### 2 ONLINE TESTS

Extra practice for continued success



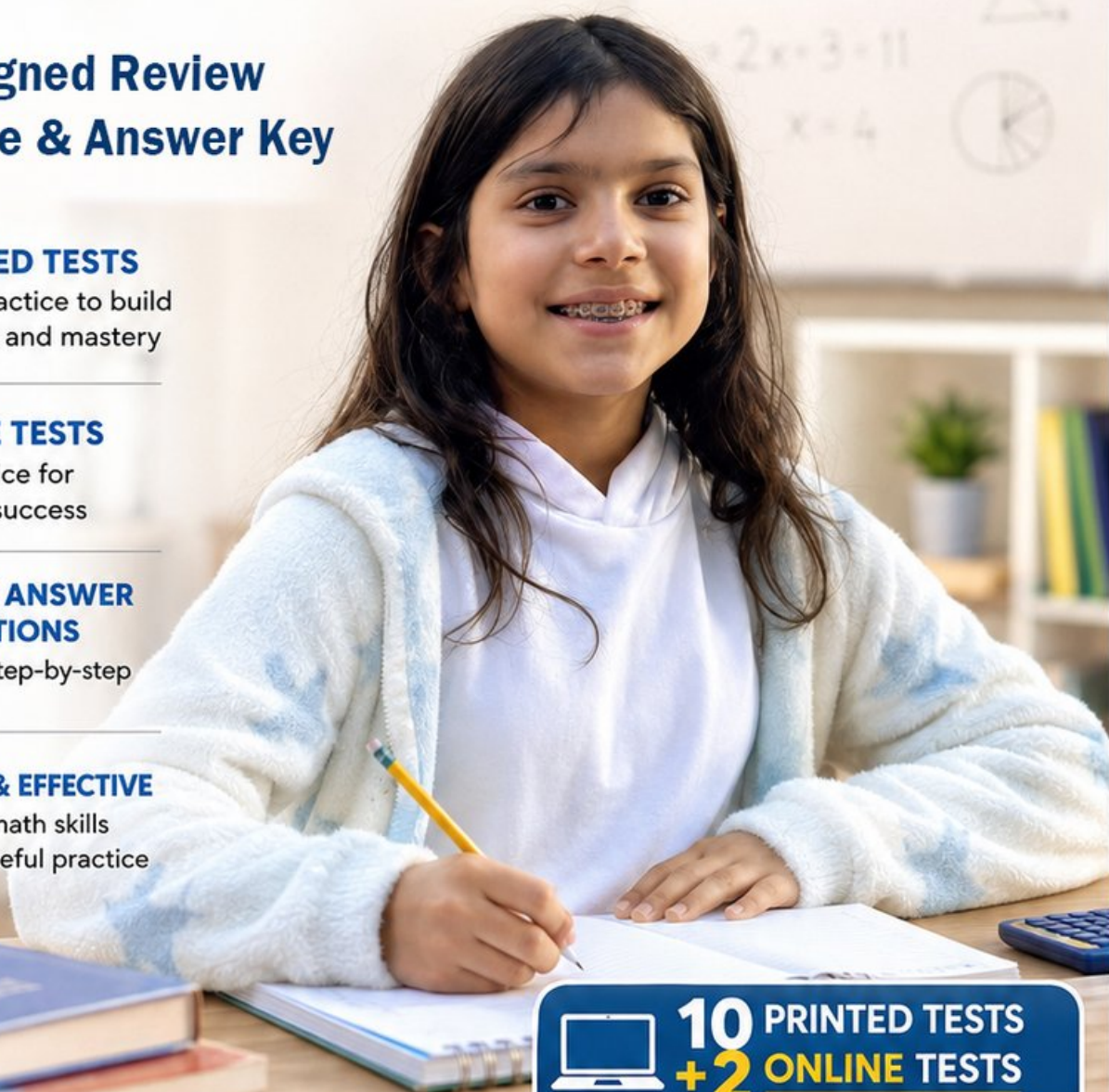
### DETAILED ANSWER EXPLANATIONS

Learn with step-by-step solutions



### FOCUSED & EFFECTIVE

Target key math skills with purposeful practice



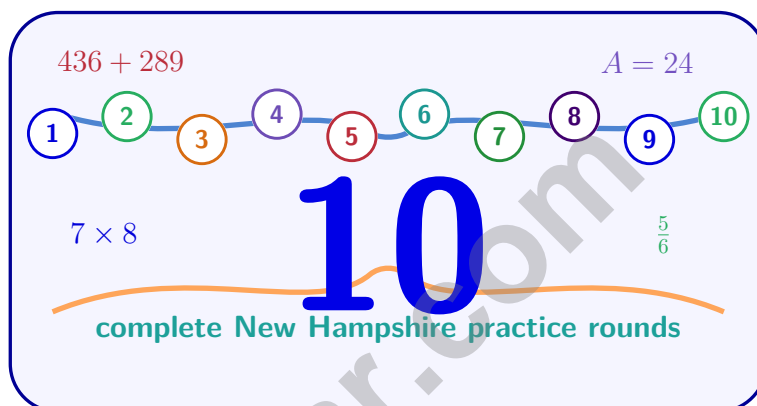
**10** PRINTED TESTS  
**+ 2** ONLINE TESTS

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

**PRACTICE • REVIEW • SUCCEED**

# 10 New Hampshire NH SAS Grade 6 Math Practice Tests

*Standards-Aligned Solid Granite Reasoning for New Hampshire Statewide Assessment System*



Ten complete 40-question Grade 6 practice rounds for NH SAS, with ratios, rational numbers, expressions, equations, geometry, statistics, answer keys, and clear explanations for every item.

**Jay Daie and Reza Nazari**



# Copyright ©

## Testinar Inc



Published by Testinar Inc

[Testinar.com](http://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, New Hampshire Math Explorer!

Ten steady rounds on a Granite State skills climb

This book gives you ten full Grade 6 practice tests for NH SAS. Each round uses granite peaks, wooded paths, and careful review steps as a fresh mental backdrop while you read closely, choose a smart strategy, show your work, and check whether your answer makes sense.

## Your New Hampshire Practice Promise

Build the solution on one solid fact at a time. I will slow down for the question, circle what matters, solve one step at a time, and use mistakes as clues for getting stronger.

Read

Plan

Check

## How to Use This Book

A ten-session routine for solid granite reasoning

1. **Preview the skills.** Read the quick review pages before the first test.
2. **Take one test at a time.** Work in a quiet place and answer all 40 questions.
3. **Mark your confidence.** Put a small star beside problems you solved with a strong plan.
4. **Check, then retry.** For missed questions, try the problem again before reading the explanation.
5. **Track your next move.** Use the growth log to name one habit and one skill for the next test.

**New Hampshire review rhythm:** Test one day, correct carefully the next day, then return for the next round when your corrections feel clear.



## What Is Inside?

Ten NH SAS tests, 400 questions, and a full review path

Part	What You Will Practice
Tests 1–3	Warm-up rounds for ratios, rational numbers, operations, and careful reading.
Tests 4–6	Skill-building rounds with expressions, equations, geometry, data, and problem models.
Tests 7–9	Stamina rounds for mixed review, neat work, and flexible strategy choices.
Test 10	Final New Hampshire 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. Solid granite reasoning means recognizing the skill even when the next question changes topic.



Scan me!  
For more practice  
& answers

# Table of Contents

★ Practice Test 1	_____	14
★ Practice Test 2	_____	31
★ Practice Test 3	_____	47
★ Practice Test 4	_____	62
★ Practice Test 5	_____	76
★ Practice Test 6	_____	91
★ Practice Test 7	_____	106
★ Practice Test 8	_____	120
★ Practice Test 9	_____	135
★ Practice Test 10	_____	151
<b>Practice Test Answer Keys</b>	_____	<b>167</b>
<b>Practice Test Answers and Explanations</b>	_____	<b>173</b>

1) What is  $4.6 \times 0.8$ ?

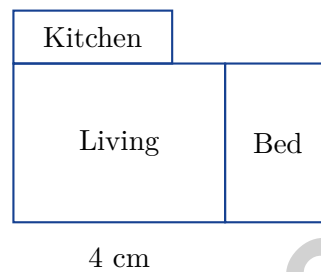
A. 3.68

C. 0.368

B. 36.8

D. 5.4

2) A floor plan of a small apartment is shown with a scale of  $1 \text{ cm} = 1.5 \text{ m}$ .



What is the actual width of the living room?

A. 4 m

C. 6 m

B. 5 m

D. 8 m

3) A temperature of  $-8^\circ F$  is compared to  $-3^\circ F$ . Which statement is correct?

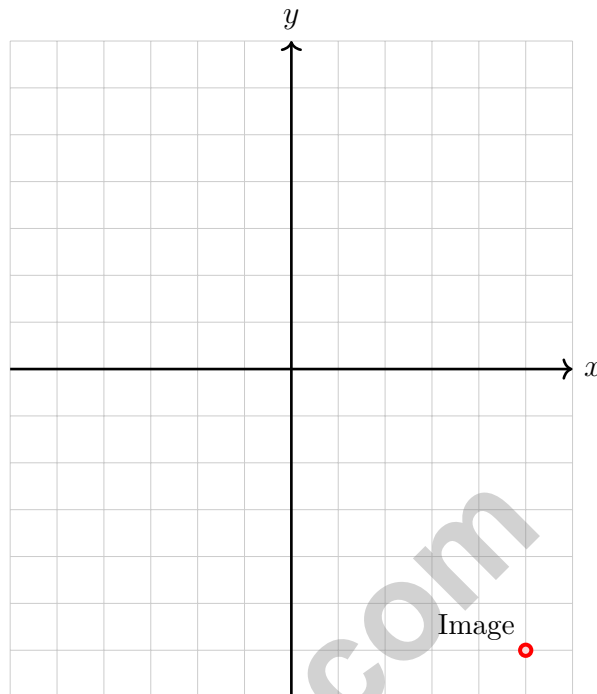
A.  $-8^\circ F$  is warmer

C.  $-8^\circ F$  is colder

B.  $-3^\circ F$  is colder

D. They are the same temperature





4)

A point  $H$  is reflected over the  $x$ -axis. If the image is at  $(5, -6)$ , where was the original point  $H$  located?

6 ○○○○○○

5)

10 ○○○○○○○○○○

The diagram represents a ratio of  $6 : 10$ . Which statement about the ratio  $6 : 10$  is FALSE?

- A. It simplifies to  $3 : 5$ .
- C. It is equivalent to  $12 : 20$ .
- B. It can be written as  $\frac{6}{10}$  or  $\frac{3}{5}$ .
- D. It is equivalent to  $5 : 6$ .



Scan me!  
For more practice  
& answers

6) Express 25% as a fraction in simplest form.

A.  $\frac{1}{4}$   
 B.  $\frac{25}{100}$

C.  $\frac{1}{25}$   
 D.  $\frac{1}{75}$

7) Two people compare budgets. Person A saves 20% of \$800, and Person B saves 40% of \$400. Who saves more?

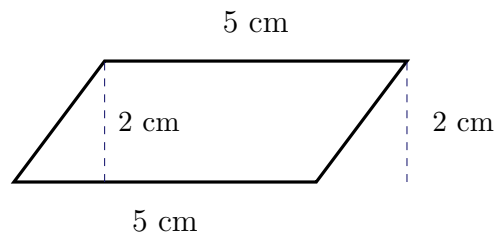
- A. Person A saves more.  
 B. Person B saves more.

- C. They save the same amount.  
 D. Cannot be determined.

8) A student claims that in a box plot,  $Q_1$  is always less than the median. Under what circumstance would this student be WRONG?

- A. When the data is normally distributed.  
 B. Never;  $Q_1$  is always less than the median by definition.
- C. When the dataset is very small (fewer than 4 values).  
 D. When all values in the dataset are the same.





1)

The trapezoid has both bases labeled as 5 cm and a height of 2 cm. What is the area?

- A.  $5 \text{ cm}^2$                        C.  $12 \text{ cm}^2$   
 B.  $20 \text{ cm}^2$                        D.  $10 \text{ cm}^2$

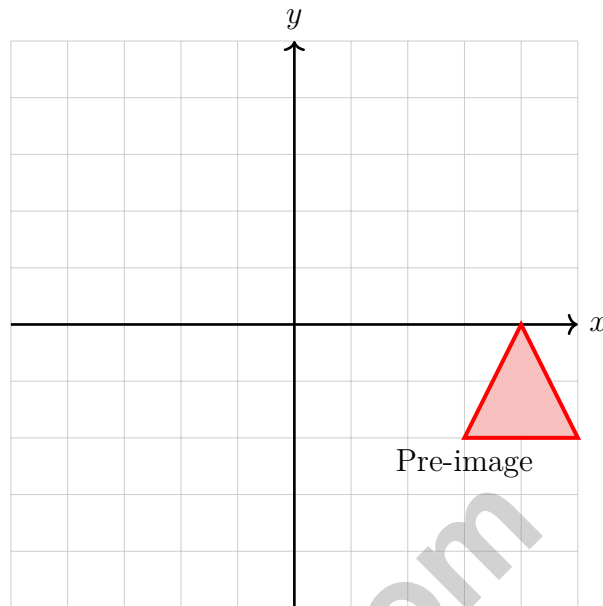
2) A table shows the cost of buying notebooks.

<b>Notebooks</b>	1	3	5	7
<b>Cost (\$)</b>	2	6	10	14

Which equation best represents this relationship?

- A.  $\text{Cost} = 2 \times \text{Notebooks}$                        C.  $\text{Cost} = \text{Notebooks} + 1$   
 B.  $\text{Cost} = 3 \times \text{Notebooks}$                        D.  $\text{Cost} = 2 \times \text{Notebooks} + 1$





3)

A triangle with vertices at  $(3, -2)$ ,  $(5, -2)$ , and  $(4, 0)$  is translated 4 units left and 2 units up. What will be the image of the vertex originally at  $(5, -2)$ ?

- A.  $(1, 0)$                        C.  $(1, -4)$   
 B.  $(9, -4)$                      D.  $(9, 0)$

4) Two circles have radii of 2 inches and 4 inches respectively. Using  $\pi \approx 3.14$ , what is the difference in their areas?

- A.  $37.68 \text{ in}^2$                        C.  $6.28 \text{ in}^2$   
 B.  $12.56 \text{ in}^2$                      D.  $50.24 \text{ in}^2$

5) Which statement BEST describes a statistical question?

- A. It has a single, definite answer.                       C. It is asked only once per year.  
 B. It involves a very large number of people.                       D. It anticipates variability and is answered by collecting data.



Scan me!  
For more practice  
& answers

1) An elevator is at floor 0. It goes up 6 floors, then down 10 floors. At which floor is the elevator now?

- A. Floor 6  
 B. Floor -4  
 C. Floor 4  
 D. Floor 16

2) Jenny's salary increases from \$40,000 to \$44,000. What is the percent increase?

- A. 8%  
 B. 15%  
 C. 12%  
 D. 10%

3) The table shows a constant rate. What is the rate per unit?

Hours	3	6	9
Cost (\$)	45	90	135

- A. \$12 per hour  
 B. \$25 per hour  
 C. \$20 per hour  
 D. \$15 per hour

4) Elena is mixing paint. She needs 6 pints of blue paint and 2 quarts of red paint. How many pints total does she need? (Use 1 quart = 2 pints.)

- A. 8 pints  
 B. 10 pints  
 C. 12 pints  
 D. 14 pints

5) Store A sells milk for \$3.20 per gallon. Store B sells milk for \$2.80 per gallon. How much will you save per gallon by shopping at Store B?

- A. \$0.30  
 B. \$0.40  
 C. \$0.50  
 D. \$0.80

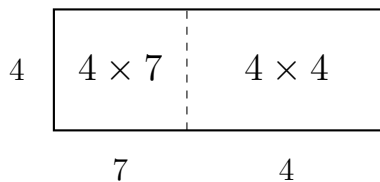


Scan me!  
For more practice  
& answers

6) Find the LCM of 6 and 9 using prime factorization.

- A. 18                                       C. 36  
 B. 27                                       D. 54

7) The diagram below shows an area split into two rectangles. What is the factored form?



- A.  $4(7 + 4) = 44$                                        C.  $(7 + 4)(4) = 44$   
 B.  $7(4 + 4) = 56$                                        D.  $4(7 \times 4) = 112$
- 8) A stock price decreased by \$18. How much did it decrease in absolute value?
- A. -18 dollars                                       C. 36 dollars  
 B. 0 dollars                                       D. 18 dollars
- 9) On a number line, if point A is at  $-\frac{5}{6}$  and point B is at  $\frac{1}{6}$ , what is the distance between them?
- A.  $\frac{1}{6}$                                        C. 1  
 B.  $\frac{2}{3}$                                        D.  $1\frac{1}{6}$
- 10) A point on the  $y$ -axis must have which coordinate equal to zero?
- A. The  $x$ -coordinate                                       C. Both coordinates  
 B. The  $y$ -coordinate                                       D. Neither (the origin only)



**New Hampshire NH SAS Practice Test Answer Keys**

**How to use this section with a Grade 6 student:**

1. check the answer first
2. mark questions to try again
3. rework the problem before reading the full explanation

**A calm correction routine turns every missed item into useful practice.**

Testinar.com



Scan me!  
For more practice  
& answers

## Practice Test Answers and Explanations

### Practice Test 1 Answers and Explanations

- Choice A is correct.** **(6.G.A.2)** Treat it like whole numbers first:  $46 \times 8 = 368$ . Together the factors tuck in two decimal places, so the “real” answer is cozy at 3.68.
- Choice C is correct.** **(6.EE.A.2a)** Multiply:  $4 \text{ cm} \times 1.5 \text{ m/cm} = 6 \text{ m}$ .
- Choice C is correct.** **(6.G.A.3)**  $-8 < -3$ , so  $-8^\circ F$  represents a lower (colder) temperature.
- The correct answer is (5, 6).** **(6.SP.B.4)** If the image after reflecting over the  $x$ -axis is  $(5, -6)$ , then the original point was  $(5, 6)$  (reflect back by negating the  $y$ -coordinate again).
- Choice D is correct.** **(6.SP.B.5)** Simplify  $6 : 10$  by dividing both parts by 2, giving  $3 : 5$ . That means  $\frac{3}{5}$  and  $12 : 20$  are equivalent forms, but  $5 : 6$  is not.
- Choice A is correct.** **(6.EE.B.8)**  $25\% = \frac{25}{100}$ . Simplify by dividing numerator and denominator by 25:  $\frac{25 \div 25}{100 \div 25} = \frac{1}{4}$ .
- Choice C is correct.** **(6.NS.B.3)** Person A:  $20\%$  of  $\$800 = 0.20 \times 800 = \$160$ . Person B:  $40\%$  of  $\$400 = 0.40 \times 400 = \$160$ . Both save  $\$160$ .
- Choice D is correct.** **(6.SP.B.4)** If every data value is identical, then min,  $Q_1$ , median,  $Q_3$ , and max are all equal. In this edge case,  $Q_1$  is not less than the median; they are equal.
- Choice A is correct.** **(6.NS.A.1)** 3rd graders read approximately 4.8 books; kindergarteners read approximately 2.5 books. The difference is about  $4.8 - 2.5 = 2.3$  books.
- Choice D is correct.** **(6.EE.A.3)** Both statements work. The exact counts give  $12 : 18$ , and dividing both parts by 6 gives the simpler ratio  $2 : 3$ , or “for every 2 boys there are 3 girls.”
- Choice D is correct.** **(6.EE.B.6)** Find the unit rate:  $8 \div \frac{1}{2} = 8 \times 2 = 16$  acres per day. Multiply by 3 days:  $16 \times 3 = 48$  acres.
- The correct answer is 314.** **(6.G.A.1)** Radius  $r = \frac{20}{2} = 10$  ft. Area  $= \pi r^2 \approx 3.14 \times 10^2 = 3.14 \times 100 = 314 \text{ ft}^2$ .
- Choice B is correct.** **(6.G.A.1)** Shop A:  $\$22.50 \div 5 = \$4.50/\text{latte}$ . Shop B:  $\$32.00 \div 8 = \$4.00/\text{latte}$ . Shop C:  $\$28.50 \div 6 = \$4.75/\text{latte}$ . Shop B is lowest.
- Choice B is correct.** **(6.SP.B.5c)** Each row maintains the ratio  $2 : 3$ . Row 1:  $8 : 12 = 2 : 3$  (divide by 4). Row 2:  $10 : 15 = 2 : 3$  (divide by 5). Row 3:  $12 : 18 = 2 : 3$  (divide by 6). All rows have the ratio  $2 : 3$ .
- Choice B is correct.** **(6.SP.A.2)** If lawns mowed is on the  $x$ -axis and dollars earned is on the  $y$ -axis, the unit rate is  $\frac{45}{3} = 15$  dollars per lawn.
- Choice D is correct.** **(6.EE.A.3)**  $60\%$  of  $15 = 0.60 \times 15 = 9$  kg.
- Choice A is correct.** **(6.EE.A.2b)** Ratio  $5 : 3$  with width 12 means each part is  $12 \div 3 = 4$  feet. Length is  $5 \times 4 = 20$  feet.
- Choice B is correct.** **(6.NS.C.7c)** Divide:  $750 \div 10 = 75$  cm.
- The correct answer is A:**  $\frac{1}{2} \times 14 \times 9 = 63 \text{ m}^2$  (correct). **D:**  $\frac{1}{2} \times 6 \times 15 = 45 \text{ in}^2$  (correct).. **(6.EE.A.2c)** A is correct because  $\frac{1}{2} \times 14 \times 9 = 63 \text{ m}^2$ . D is correct because  $\frac{1}{2} \times 6 \times 15 = 45 \text{ in}^2$ . B doubles instead of halves, C uses the inverse formula incorrectly, and E describes the wrong effect of tripling the base.
- Choice D is correct.** **(6.EE.B.5)** After first discount:  $\$100 - 0.20 \times 100 = \$80$ . After second discount:  $\$80 - 0.10 \times 80 = \$72$ .
- The correct answer is 20.** **(6.EE.B.8)** Total sum  $= 25 \times 4 = 100$ . Sum of three  $= 20 + 28 + 32 = 80$ . Fourth  $= 100 - 80 = 20$ .
- Choice A is correct.** **(6.EE.C.9)** The constant of proportionality is  $k = \frac{\text{cost}}{\text{items}} = \frac{10}{2} = \frac{20}{4} = \frac{30}{6} = \frac{40}{8} = 5$ . The cost is  $\$5$  per item.
- Choice D is correct.** **(6.G.A.1)**  $\frac{5}{8} \times \frac{6}{5} = \frac{30}{40} = \frac{3}{4}$ .
- Choice A is correct.** **(6.NS.C.8)** Following the long division steps:  $7,524 \div 44 = 171$  with no remainder. Verify:  $44 \times 171 = 7,524$ .
- Choice A is correct.** **(6.RP.A.1)** When we divide 20 by each number:  $20 \div 1 = 20$ ,  $20 \div 2 = 10$ ,  $20 \div 4 = 5$ ,  $20 \div 5 = 4$ ,  $20 \div 10 = 2$ ,  $20 \div 20 = 1$ . All these are factors.



Scan me!  
For more practice  
& answers

## Hi, Math Champion!

◇ You trained hard! 10 full practice tests is real practice. Your math game is way better now than when you started. ◇

★ **Coach's truth:** kids who practice get better. You practiced. You got better. That's how it works!  
★

### Your Game Stats

- **Energy:** HIGH! You can finish a long test.
- **Smart Plays:** You know lots of strategies.
- **Calm Head:** You stay cool with hard problems.
- **Game-Day Ready:** You feel strong and prepared.

**Coach's tip:** the night before the test, get good sleep. Eat a good breakfast. Bring a sharp pencil. Trust your training!

If you want to share something or ask a question, please email me at [jay@testinar.com](mailto:jay@testinar.com).

**Jay Daie**

Your Math Coach

# PRACTICE MORE. ACHIEVE MORE. SUCCEED!

This **Grade 6 Math Practice Tests** book is designed to help students build strong math skills, deepen their understanding of key concepts, and gain the confidence they need to succeed on any test.

With 10 full-length printed tests and 2 online tests, students get the review, practice, and realistic test experience they need to improve accuracy, strengthen problem-solving abilities, and reach their full potential.

Perfect for classroom use, homework, test preparation, and extra practice at home.

## PERFECT FOR:

- ✓ Classroom Practice
- ✓ Homework & Review
- ✓ Independent Learning
- ✓ Test Preparation
- ✓ Skill Reinforcement
- ✓ Building Confidence



**CONFIDENCE TODAY.  
SUCCESS TOMORROW!**

## WHAT STUDENTS WILL GAIN



### Stronger Math Skills

Build a solid foundation through targeted practice and review.



### Better Problem Solving

Develop logical thinking and effective solution strategies.



### Deepen Understanding

Reinforce key math concepts aligned with standards.



### Test Confidence

Get familiar with test formats and improve accuracy.



### Achieve Success

Build confidence and perform your best on test day.

## TOPICS COVERED

- ✓ Ratios & Rates
- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Geometry
- ✓ Fractions & Decimals
- ✓ Percents
- ✓ Statistics & Probability
- ✓ Data Analysis
- ✓ Measurement & Conversions
- ✓ And More!



## 2 ONLINE TESTS

Extra online practice to reinforce learning and build confidence.

## MORE PRACTICE. GREATER RESULTS.

Give your child the tools needed to develop strong math skills, confidence, and a positive attitude toward learning.



10 PRINTED  
PRACTICE TESTS



2 ONLINE  
PRACTICE TESTS



DETAILED ANSWER  
EXPLANATIONS