

# 4 New Hampshire NH SAS

GRADE  
**6**  
MATH

## PRACTICE TESTS





Standards Aligned Problem Solving  
For Comprehensive Assessment Programs

4

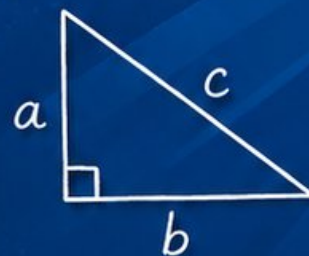
PRINTED  
TESTS 

2

ONLINE  
TESTS 

-  Build Confidence
-  Master Key Math Skills
-  Answer Explanations for Every Question
-  Test-Taking Strategies That Work

$$2x + 5 = 21$$
$$x = 8$$



$$\frac{3}{4} + \frac{1}{2} = \frac{5}{4}$$

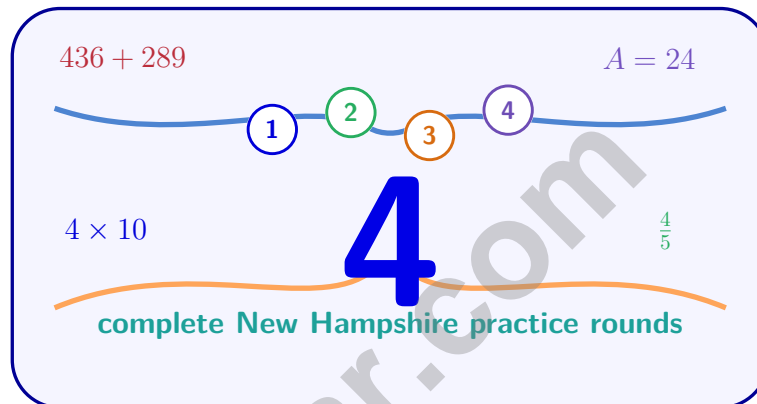


USE THESE TWO  
**ADDITIONAL ONLINE  
PRACTICE TESTS**

FOR EXTRA REVIEW AFTER  
THE PRINTED TESTS  
IN THIS BOOK.

# 4 New Hampshire NH SAS Grade 6 Math Practice Tests

*Standards-Aligned Granite-State Precision for New Hampshire Statewide Assessment System*



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

**Jay Daie and Reza Nazari**



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# Welcome, New Hampshire Math Explorer!

Four focused rounds using granite-state precision

This book gives you four full Grade 6 practice tests for NH SAS. Each round uses mountain towns, forest trails, and crisp problem notes 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 a solid solution: read closely, write the relationship, and test the answer.

Read

Plan

Check

## How to Use This Book

A four-session routine for granite-state precision

1. **Work in order.** Take one 40-question test at a time in a quiet place.
2. **Preview the skills.** Scan the quick review pages before beginning the first round.
3. **Correct actively.** Retry missed items before reading the full explanation.
4. **Mark confidence.** Put a small star beside problems where your plan felt strong.
5. **Plan the next round.** Use the growth log to choose one habit and one skill to practice.

**New Hampshire review rhythm:** Complete a round, polish the rough spots, and start the next test with a clearer plan.



## What Is Inside?

Four NH SAS tests, 160 questions, and a full review path

Part	What You Will Practice
Tests 1–2	Foundation rounds for ratios, rational numbers, operations, and careful reading.
Tests 3–4	Skill-building and final stamina rounds with expressions, equations, geometry, data, and problem models.
Answer Pages	Compact keys and explanations that show why each answer works.

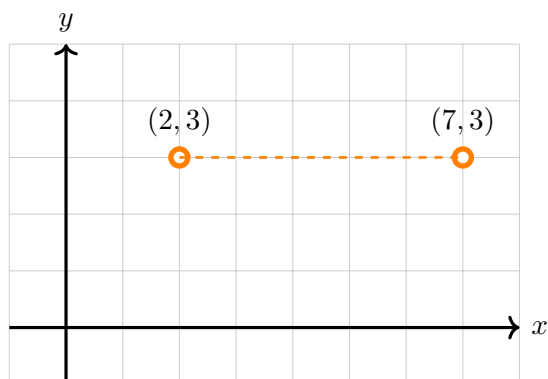
The tests are mixed on purpose. Granite-state precision means recognizing the skill even when the next question changes topic, changes format, or asks for an explanation.



Scan me!  
For more practice  
& answers

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1)

What is the distance between  $(2, 3)$  and  $(7, 3)$ ?

- A. 4 units
- B. 5 units
- C. 6 units
- D. 7 units

2) A reflection across both axes is equivalent to a rotation around the origin. If you reflect  $(a, b)$  across the  $x$ -axis and then across the  $y$ -axis, the result is:

- A.  $(-a, b)$
- B.  $(a, -b)$
- C.  $(-a, -b)$
- D.  $(b, a)$

3) Order from least to greatest:

$$\frac{3}{5}, -\frac{3}{5}, -\frac{1}{5}, \frac{1}{5}$$

- A.  $-\frac{3}{5}, -\frac{1}{5}, \frac{1}{5}, \frac{3}{5}$
- B.  $\frac{1}{5}, \frac{3}{5}, -\frac{1}{5}, -\frac{3}{5}$
- C.  $-\frac{1}{5}, -\frac{3}{5}, \frac{1}{5}, \frac{3}{5}$
- D.  $\frac{3}{5}, \frac{1}{5}, -\frac{1}{5}, -\frac{3}{5}$

4) Evaluate:  $-4 \times 6$

A. 24

C. 2

B. -24

D. -2

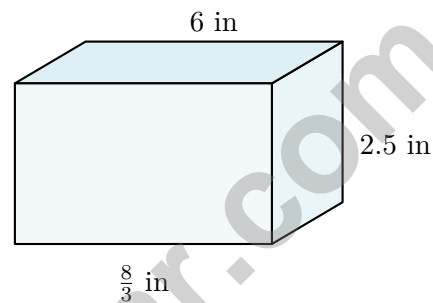
5) A geological survey measures elevation: Starting point at 500 m, Site A is 80 m lower, Site B is 150 m lower than Site A. What is the elevation of Site B?

A. 350 m

C. 270 m

B. 230 m

D. 630 m



6)

Find the volume of the prism.

A.  $20 \text{ in}^3$

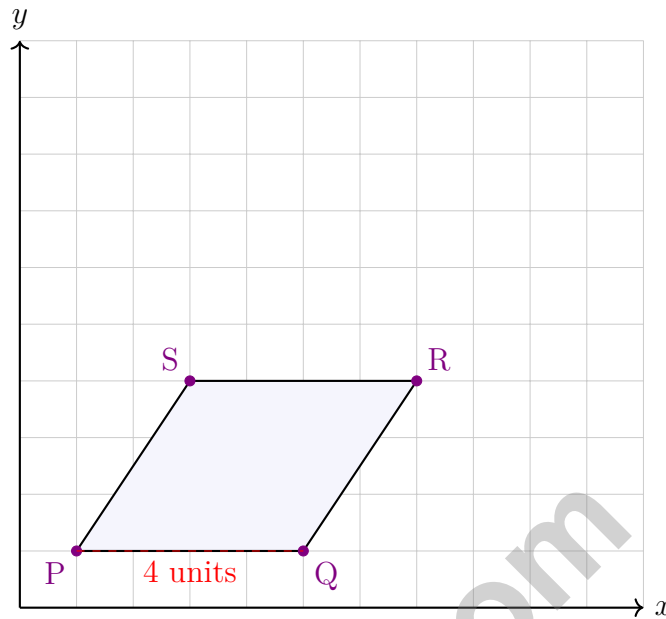
C.  $40 \text{ in}^3$

B.  $30 \text{ in}^3$

D.  $60 \text{ in}^3$



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7)

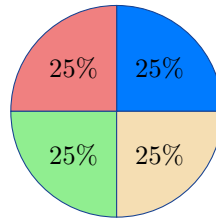
What is the length of side  $PQ$ ?

- A. 3 units
- B. 6 units
- C. 5 units
- D. 4 units

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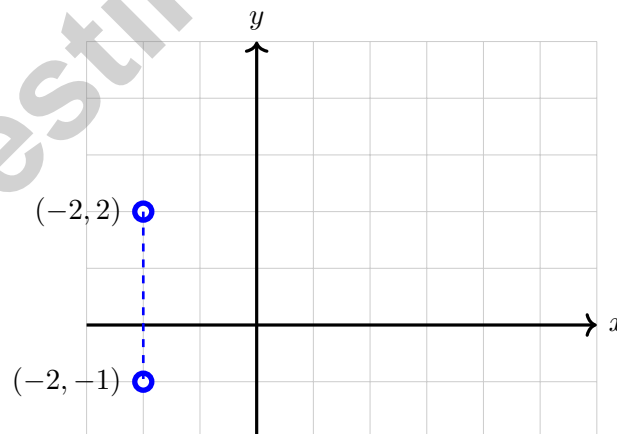
5)

A baker made 560 cookies. The circle graph shows  $\frac{1}{4}$  are chocolate chip. How many chocolate chip cookies did the baker make?

- A. 140                       C. 180  
 B. 100                       D. 200

6) Which characteristic is MOST important when deciding to use a dot plot instead of a histogram?

- A. You need to show the median only     C. The dataset is large (over 100 points)  
 B. The dataset is small and you want to see each value     D. The data represents categories, not numbers



7)

Find the distance between  $(-2, 2)$  and  $(-2, -1)$ .

- A. 2 units                       C. 4 units  
 B. 5 units                       D. 3 units



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& answers

1) A table shows the relationship between hours of homework and test scores earned:

Hours of Homework	Test Score
1	65
2	75
3	85

If this relationship is graphed as ordered pairs (hours, score), is this a proportional relationship?

- A. Yes, with a constant rate of 65 points per hour
- B. Yes, with a constant rate of 10 points per hour
- C. No, because the ratios are not constant
- D. Yes, because the scores increase consistently
- 2) What is  $5,625 \div 45$ ?
- A. 125
- B. 128
- C. 130
- D. 135
- 3) A runner completes a lap in 2.35 minutes. At this rate, how long would 5 laps take?
- A. 11.75 minutes
- B. 7.35 minutes
- C. 10.75 minutes
- D. 12.25 minutes
- 4) Find the LCM of 9 and 12.
- A. 36
- B. 108
- C. 21
- D. 24



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& answers



## New Hampshire NH SAS Practice Test Answer Keys

**How to use this New Hampshire NH SAS answer section with a Grade 6 student:**

1. check the answer first, then write one quick reason the choice is correct
2. mark questions to try again, especially the skills that feel connected to granite-state precision
3. rework the problem before reading the full explanation, using this reminder:  
Build a solid solution: read closely, write the relationship, and test the answer.

**A calm New Hampshire correction routine turns every missed item into useful practice. Complete a round, polish the rough spots, and start the next test with a clearer plan.**



Scan me!  
For more practice  
& answers

## New Hampshire Practice Test Answers and Explanations

Review the four printed NH SAS tests with solid, precise, and ready for the next trail habits.

### Practice Test 1 Answers and Explanations

- Choice B is correct.** [6.NS.C.8](#) Same  $y$ -coordinate (3):  $|7 - 2| = 5$  units.
- Choice C is correct.** [6.NS.C.8](#) First reflect across the  $x$ -axis:  $(a, b) \rightarrow (a, -b)$ . Then reflect across the  $y$ -axis:  $(a, -b) \rightarrow (-a, -b)$ .
- Choice A is correct.** [6.NS.C.7d](#) Negative fractions come before positive ones.  $-\frac{3}{5} < -\frac{1}{5}$  and  $\frac{1}{5} < \frac{3}{5}$ .
- Choice B is correct.** [6.NS.B.3](#) Negative times positive is negative:  $(-4) \times 6 = -24$ .
- Choice C is correct.** [6.EE.A.3](#) Site A:  $500 - 80 = 420$  m. Site B is 150 m lower:  $420 - 150 = 270$  m.
- Choice C is correct.** [6.G.A.2](#)  $V = \frac{8}{3} \times 2.5 \times 6 = \frac{8}{3} \times 15 = 40 \text{ in}^3$ .
- Choice D is correct.** [6.G.A.3](#) Side  $PQ$  is horizontal from  $(1, 1)$  to  $(5, 1)$ . Length =  $5 - 1 = 4$  units.
- Choice B is correct.** [6.G.A.1](#) Rectangle: base  $8 - 1 = 7$ , height  $6 - 1 = 5$ , area = 35 square units. Triangle: base  $12 - 8 = 4$ , height  $6 - 1 = 5$ , area =  $\frac{1}{2} \times 4 \times 5 = 10$  square units. Total =  $35 + 10 = 45$  square units.
- Choice C is correct.** [6.G.A.4](#) Two triangular bases:  $2 \times 30 = 60 \text{ cm}^2$ . Three rectangular faces:  $(5 \times 10) + (12 \times 10) + (13 \times 10) = 50 + 120 + 130 = 300 \text{ cm}^2$ . Total =  $60 + 300 = 360 \text{ cm}^2$ .
- Choice A is correct.** [6.NS.C.8](#) Reflection over the  $y$ -axis negates the  $x$ -coordinate:  $(-2, -2) \rightarrow (2, -2)$ .
- The correct answer is 67%.** [6.RP.A.3c](#) Multiply the decimal by 100:  $0.67 \times 100 = 67\%$ .
- The correct answer is 90.** [6.RP.A.3c](#)  $60\%$  of  $150 = 0.60 \times 150 = 90$  students.
- Choice B is correct.** [6.RP.A.3](#) To find the actual length from a drawing length, multiply by the scale factor:  $3 \text{ inches} \times 4 \text{ feet per inch} = 12 \text{ feet}$ . The student divided  $(3 \div 4 = \frac{3}{4})$  instead of multiplying.
- Choice A is correct.** [6.NS.B.4](#) Using the distributive property:  $7(4 + 6) = 7 \cdot 4 + 7 \cdot 6 = 28 + 42 = 70$ .
- Choice B is correct.** [6.NS.C.6c](#) Point F is at  $2 + \frac{3}{8} = 2\frac{3}{8}$ , which equals 2.375.
- Choice A is correct.** [6.NS.B.3](#) When adding two negative numbers, add their absolute values:  $|-3| + |-2| = 3 + 2 = 5$ , then make the result negative:  $-3 + (-2) = -5$ .
- Choice D is correct.** [6.RP.A.1](#) From  $A = \pi r^2$ , we get  $113.04 \approx 3.14 \times r^2$ , so  $r^2 \approx 36$ , thus  $r = 6$  cm. Diameter  $d = 2 \times 6 = 12$  cm.
- The correct answer is 600.** [6.RP.A.3](#) Step 1: Find the unit rate:  $240 \div 8 = 30$  widgets per hour. Step 2: In 20 hours:  $30 \times 20 = 600$  widgets.
- The correct answer is The constant of proportionality is 4, and the cost per unit is \$4.** [6.RP.A.3a](#) A is correct because  $k = \frac{8}{2} = 4$ . B is correct because the cost per unit is \$4. The equation is  $y = 4x$ , so Choice C is false; Choice D is false because the graph passes through  $(0, 0)$ ; Choice E gives the wrong unit rate.
- Choice D is correct.** [6.NS.C.7d](#) Entertainment is 15% of the budget.  $15\%$  of  $\$1000 = 0.15 \times 1000 = \$150$ .
- Choice B is correct.** [6.NS.C.7d](#) For constant  $k = 2.5$ :  $y/x = 2.5$ . When  $x = 6$ :  $y/6 = 2.5$ , so  $y = 6 \times 2.5 = 15$ .
- Choice B is correct.** [6.EE.C.9](#) Number of months:  $\$600 \div \$40 \text{ per month} = 15$  months.
- Choice A is correct.** [6.NS.B.2](#)  $6,216 \div 38 = 163$  remainder 22. Verify:  $38 \times 163 + 22 = 6,216$ .
- Choice A is correct.** [6.NS.B.3](#)  $3 \times 3 = 9$ . We have  $1 + 1 = 2$  decimal places total, so 0.09 is correct.
- Choice B is correct.** [6.NS.B.4](#) Multiples of 8: 8, 16, 24, 32, ... Multiples of 12: 12, 24, 36, ... The least common multiple is 24.
- Choice C is correct.** [6.NS.C.5](#) On a number line,  $-3$  is to the right of  $-8$ , so  $-3$  is greater than  $-8$ . The fewer negative units from zero, the greater the number.
- Choice C is correct.** [6.NS.C.7c](#) Check each: A:  $2 = 2$  (equal). B:  $4 = 4$  (equal). C:  $3 \neq 5$  (NOT equal). D:  $6 = 6$  (equal).



## Hi, Math Detective!

◇ You did such a great job! You finished 4 tests like a real detective. You found the clues, used your tools, and solved the math. ◇

★ **Detectives know:** good work takes time. You took your time. You looked carefully. You found the answers! ★

### Your Detective Skills

- **Sharp Eyes:** You notice the small details.
- **Smart Plans:** You pick the right way to solve.
- **Brave Heart:** You try even when it's tricky.
- **Steady Work:** You finish what you start.

**Detective tip:** on test day, look carefully at each problem. Underline important words. Then solve like the detective you are!

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 Detective Helper

# PRACTICE TODAY. SUCCEED TOMORROW!

This book includes 4 full-length Math practice tests and 2 online tests to help Grade 6 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:

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



### 2 ONLINE TESTS

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



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PRACTICE  
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STAY  
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