

# 9

# New Hampshire NH SAS

GRADE

# 6

MATH

# PRACTICE TESTS

Standards-Aligned Review  
Mixed Practice & Answer Key



## 9 PRINTED TESTS

Realistic practice to build confidence and mastery



## DETAILED ANSWER EXPLANATIONS

Learn with step-by-step solutions



## FOCUSED & EFFECTIVE

Target key math skills with purposeful practice



## BUILD CONFIDENCE

Strengthen problem solving and test-taking skills



**9 PRINTED TESTS**  
**+2 ONLINE TESTS**

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

**PRACTICE TODAY.**  
**SUCCEED TOMORROW.**



PRACTICE



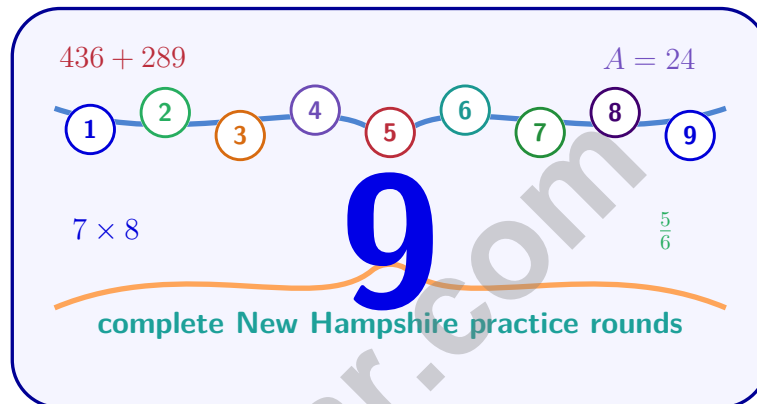
REVIEW



SUCCEED

# 9 New Hampshire NH SAS Grade 6 Math Practice Tests

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



Nine 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**



# 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!

Nine focused rounds using granite-state precision

This book gives you nine 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 nine-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?

Nine NH SAS tests, 360 questions, and a full review path

Part	What You Will Practice
Tests 1–3	Foundation 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	Final stamina rounds for mixed review, neat work, and flexible strategy choices.
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


# Table of Contents

★ Practice Test 1	_____	14
★ Practice Test 2	_____	31
★ Practice Test 3	_____	46
★ Practice Test 4	_____	63
★ Practice Test 5	_____	78
★ Practice Test 6	_____	91
★ Practice Test 7	_____	107
★ Practice Test 8	_____	122
★ Practice Test 9	_____	137
<b>Practice Test Answer Keys</b>	_____	<b>155</b>
<b>Practice Test Answers and Explanations</b>	_____	<b>161</b>

- 1) Sam says the ratio of boys to girls in a class is 3 : 5, and there are 40 students total. He calculates there are 25 boys and 15 girls. What is Sam's error?

**Ratio 3 : 5 (Boys:Girls)**

**Boys:**  3 parts  $\times 5 = 15$  students

**Girls:**  5 parts  $\times 5 = 25$  students

Sam flipped the groups: he used 25 for boys and 15 for girls.

- A. He flipped the ratio                       C. He forgot to find the unit rate  
 B. He divided instead of multiplied       D. His calculation is correct
- 2) A runner's splits for three legs: 12.4 s, 11.8 s, and 13.2 s. What is the total time?
- A. 35.4 s                                       C. 36.4 s  
 B. 37.4 s                                       D. 38.0 s
- 3) If a \$200 purchase has a \$30 discount applied, what is the percent discount?

- 4) A student measures the width of a table as 180 centimeters. How many meters wide is the table?

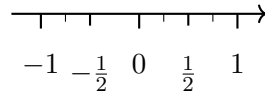


- 5) If  $-7$  and  $7$  are plotted on a number line, which option identifies all true statements about them?
- A. The same distance from zero       C. On opposite sides of zero  
 B. Opposites       D. All of the above
- 6) A candy bar is  $\frac{5}{8}$  pound. How many candy bars are in  $2\frac{1}{2}$  pounds?
- A. 3       C.  $4\frac{1}{2}$   
 B. 4       D. 5
- 7) Which expression represents the quotient when 6,048 is divided by 36?
- A. 168       C. 182  
 B. 178       D. 190
- 8) Which prime factorization equals 48?
- A.  $2^4 \times 3$        C.  $2 \times 24$   
 B.  $2^3 \times 6$        D.  $2^2 \times 12$
- 9) Factor  $16 + 32$  using the GCF.
- A.  $2(8 + 16)$        C.  $8(2 + 4)$   
 B.  $4(4 + 8)$        D.  $16(1 + 2)$
- 10) On an elevator, someone travels down 7 floors (represented as  $-7$ ). How far did they travel in terms of absolute value?
- A.  $-7$  floors       C. 0 floors  
 B. 7 floors       D. 14 floors



Scan me!  
For more practice  
& answers

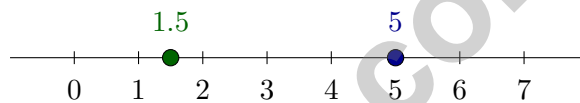
- 11) On a zoomed number line from  $-1$  to  $1$  divided into quarters, which fraction is at the third quarter mark?



- A.  $\frac{1}{4}$ 
 C.  $\frac{3}{4}$   
 B.  $\frac{1}{2}$ 
 D.  $\frac{7}{8}$
- 12) How many quadrants have points with at least one positive coordinate?

- A. 1
  C. 3  
 B. 2
  D. 4

13)



Which number is between  $1.5$  and  $5$ ?

- A. 3
  C. 6  
 B. 0.5
  D. 1



- 1) A researcher plots quarterly sales (in thousands of dollars). When creating a stem-and-leaf plot from: 45, 52, 48, 61, 55, 58, 63, which stems are needed?

Stem	Leaf
4	5, 8
5	2, 5, 8
6	1, 3

- A. Stems 4 and 5
- B. Stems 5 and 6
- C. Stems 4, 5, and 6
- D. Only stem 5
- 2) What is  $6^2$ ?
- A. 12
- B. 36
- C. 42
- D. 62
- 3) Compute:  $\frac{-45}{5}$

- A. 9
- B. -40
- C. 40
- D. -9

4)

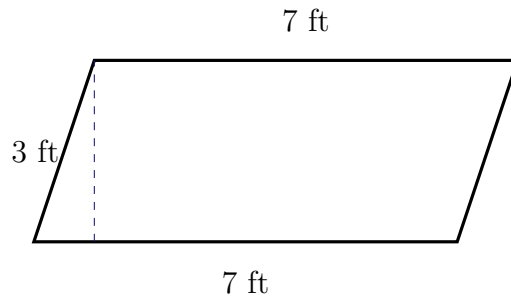
Quantity	Cost (\$)
2	14
4	28
6	42
9	$y$

The table shows a proportional relationship between quantity and cost. What is the value of  $y$ ?

- A. 56
- B. 63
- C. 49
- D. 51



Scan me!  
For more practice  
& answers



5)

What is the area of the parallelogram shown?

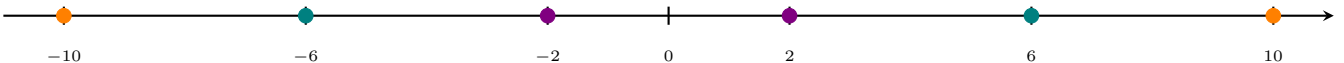
- A.  $10 \text{ ft}^2$ 
 C.  $21 \text{ ft}^2$   
 B.  $17 \text{ ft}^2$ 
 D.  $28 \text{ ft}^2$

6) A rectangular prism has length 6 cm, width 5 cm, and height  $\frac{4}{5}$  cm. What is its volume?

- A.  $12 \text{ cm}^3$ 
 C.  $24 \text{ cm}^3$   
 B.  $18 \text{ cm}^3$ 
 D.  $30 \text{ cm}^3$

7) A car travels at a constant speed. After 3 hours, the car has traveled 165 miles. At this rate, how many miles will the car travel in 8 hours?

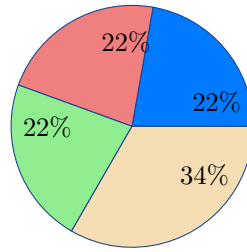
8)



On this number line, mark which pairs have the same absolute value.

- A.  $-10$  and  $10$ ;  $-6$  and  $6$ ;  $-2$  and  $2$ 
 C. Only  $-6$  and  $6$   
 B. Only  $-2$  and  $2$ 
 D. Only  $-10$  and  $10$





1)

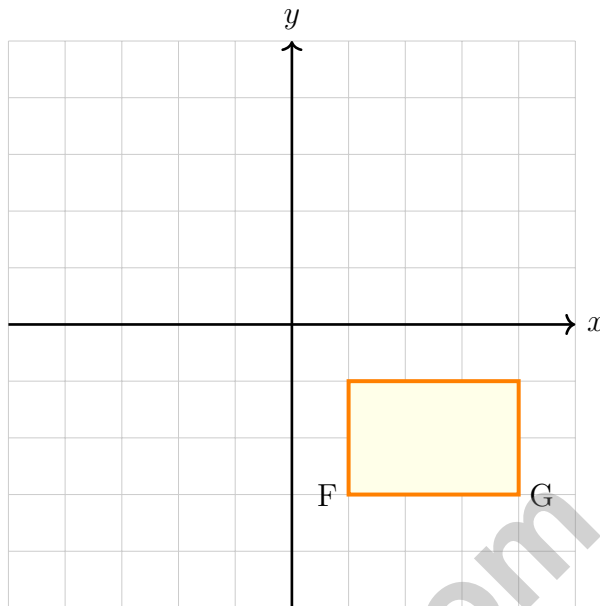
A circle graph shows that three sections each represent approximately 22% and one section represents approximately 34%. If the total is 450 items, how many items are in the largest section?

- A. 99
- B. 130
- C. 150
- D. 170

Testinar.com



Scan me!  
For more practice  
& answers

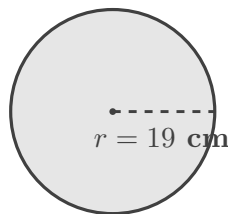


2)

A rectangle  $FGHJ$  has vertices at  $(1, -3)$ ,  $(4, -3)$ ,  $(4, -1)$ , and  $(1, -1)$ . If the rectangle is reflected over the  $x$ -axis, what will be the image of  $(1, -1)$ ?

- A.  $(1, 1)$
- B.  $(-1, -1)$
- C.  $(1, -1)$
- D.  $(-1, 1)$

**Circular Disc**



3)

A circular disc has a radius of 19 cm. Using  $\pi \approx \frac{22}{7}$ , which is closest to the area?

- A.  $418 \text{ cm}^2$
- B.  $836 \text{ cm}^2$
- C.  $1134 \text{ cm}^2$
- D.  $2268 \text{ cm}^2$

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

### Practice Test 1 Answers and Explanations

- Choice A is correct.** **(6.RP.A.3)** Ratio 3 : 5 means 3 parts boys and 5 parts girls, totaling 8 parts. Each part =  $40 \div 8 = 5$  students, so there are  $3 \times 5 = 15$  boys and  $5 \times 5 = 25$  girls. Sam swapped the two values.
- Choice B is correct.** **(6.NS.B.3)** Add:  $12.4 + 11.8 + 13.2 = 37.4$  s.
- The correct answer is 15%.** **(6.RP.A.3c)** Percent discount is  $\frac{30}{200} = 0.15 = 15\%$ .
- The correct answer is 1.8.** **(6.RP.A.3d)** Divide:  $180 \text{ cm} \div 100 \text{ cm/meter} = 1.8$  meters.
- Choice D is correct.** **(6.NS.C.5)** The integers  $-7$  and  $7$  satisfy all three conditions: they are each 7 units from zero, they are opposites, and they are on opposite sides of zero.
- Choice B is correct.** **(6.NS.A.1)**  $2\frac{1}{2} \div \frac{5}{8} = \frac{5}{2} \times \frac{8}{5} = \frac{40}{10} = 4$ .
- Choice A is correct.** **(6.NS.B.2)**  $6,048 \div 36 = 168$ . Verify:  $36 \times 168 = 6,048$ .
- Choice A is correct.** **(6.NS.B.4)**  $48 = 16 \times 3 = 2 \times 2 \times 2 \times 2 \times 3 = 2^4 \times 3$ . Option B uses composite 6; C and D use composite factors.
- Choice D is correct.** **(6.NS.B.4)** The greatest common factor of 16 and 32 is 16. Factoring out 16 gives  $16 + 32 = 16(1 + 2)$ .
- Choice B is correct.** **(6.NS.C.7c)** Distance traveled is always positive. The absolute value  $|-7| = 7$  floors represents the magnitude of the distance.
- Choice C is correct.** **(6.NS.C.6c)** From 0 to 1 divided into quarters, the third quarter mark is at  $\frac{3}{4}$ .
- Choice C is correct.** **(6.NS.C.8)** Quadrants I, II, and IV have at least one positive coordinate. Only Quadrant III (where both coordinates are negative) does not.
- Choice A is correct.** **(6.NS.C.7d)** 3 satisfies  $1.5 < 3 < 5$ .
- Choice B is correct.** **(6.NS.C.8)** Same  $x$ -coordinate (2):  $|3 - (-2)| = |3 + 2| = 5$  units.
- Choice D is correct.** **(6.NS.B.3)**  $-8 + 6 = -2$ . Starting at  $-8$ , move 6 units right to reach  $-2$ .
- Choice A is correct.** **(6.EE.A.3)** Loss of \$5 per day for 2 days means:  $42 - 5 - 5 = 42 - 10 = \$32$ .
- Choice A is correct.** **(6.EE.B.8)**  $x > 2$  means  $x$  is strictly greater than 2, so use an open circle (not including 2) with the arrow pointing toward larger values.
- The correct answer is 800.** **(6.NS.C.7d)** Total spent:  $50\% + 20\% + 10\% = 80\%$  of  $\$4000 = \$3200$ . Remaining:  $\$4000 - \$3200 = \$800$ .
- Choice B is correct.** **(6.G.A.3)** The bottom base goes from (1, 2) to (6, 2). Length =  $6 - 1 = 5$  units.
- Choice B is correct.** **(6.SP.A.2)** Population and sample are distinct concepts. The population is all individuals you want to study. A sample is a smaller group drawn from the population to represent it efficiently.
- Choice C is correct.** **(6.SP.B.5)** Since mean ( $\$500$ )  $>$  median ( $\$480$ ), there are high outliers (special high-sales days) pulling the mean up above the median.
- The correct answer is A and C are correct.** **(6.RP.A.3)** A:  $6 \times 3 = 18$  feet (correct). B:  $4 \times 3 = 12$  feet, not 10 (incorrect). C:  $21 \div 3 = 7$  inches (correct). D:  $9 \div 3 = 3$  inches, not 2 (incorrect). E:  $5 \times 3 = 15$  feet, not 16 (incorrect).
- Choice A is correct.** **(6.NS.B.3)** Probability of not liking ice cream =  $1 - 0.9 = 0.1$  or 10%.
- Choice B is correct.** **(6.NS.B.3)** A drop of  $7^\circ$  per hour for 5 hours:  $(-7) \times 5 = -35^\circ$ . The temperature decreases by  $35^\circ$  total.
- Choice D is correct.** **(6.EE.A.2a)** "Three times  $e$ " is  $3e$ . "Decreased by 9" means subtract 9:  $3e - 9$ .
- Choice C is correct.** **(6.EE.A.3)** Combine like terms:  $(6c - 2c) + (4d + 3d) = 4c + 7d$ .
- Choice B is correct.** **(6.EE.B.6)** Distance = speed  $\times$  time =  $a \times 5 = 5a$  miles.



Scan me!  
For more practice  
& answers

Star Player Pep Talk

---

## Hi, Star Player!

◇ 9 practice tests. Every one of them was a chance to grow. You took every chance. That's why you're a math star today! ◇

★ **Star players know:** confidence comes from practice. You can't fake it. You build it. You built yours over 9 tests. It's real now! ★

### Star Player Stats

- **Practice:** OFF THE CHARTS!
- **Skills:** BROAD! You can do many problem types.
- **Toughness:** HIGH! You don't quit on hard problems.
- **Game Plan:** READY! You know your strategies.

**Star tip:** on test day, take it one play at a time. One problem. Then the next. You will earn your stars!

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.

This **Grade 6 Math Practice Tests** book is designed to help students strengthen their math skills, master important concepts, and build the confidence they need to excel on any test.

With 9 full-length printed tests and 2 online tests, students get the review, practice, and realistic test experience they need to improve accuracy, develop 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



**PRACTICE TODAY.  
SUCCEED 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.



### Deeper 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.



9 PRINTED  
PRACTICE TESTS



2 ONLINE  
PRACTICE TESTS



DETAILED ANSWER  
EXPLANATIONS