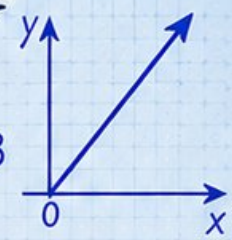
3 New Hampshire NH SAS

GRADE 6 MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs



$y = 2x + 3$

$\frac{3}{5} + \frac{2}{10} = \frac{8}{10} = \frac{4}{5}$

36% of 150 = ?

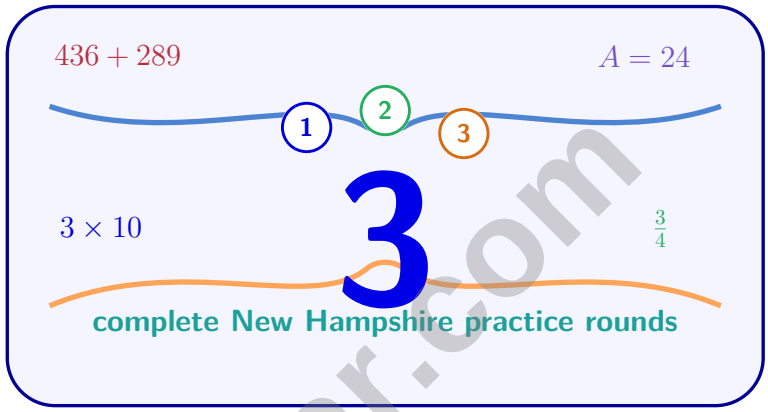
3 PRINTED TESTS

2 ONLINE TESTS

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

3 New Hampshire NH SAS Grade 6 Math Practice Tests

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



Three 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!

Three focused rounds using granite-state precision

This book gives you three 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.

How to Use This Book

A three-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?

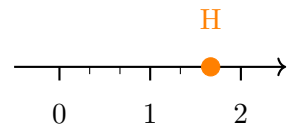
Three NH SAS tests, 120 questions, and a full review path

Part	What You Will Practice
Tests 1–2	Foundation rounds for ratios, rational numbers, operations, and careful reading.
Test 3	Final stamina round for expressions, equations, geometry, data, problem models, and mixed review.
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.

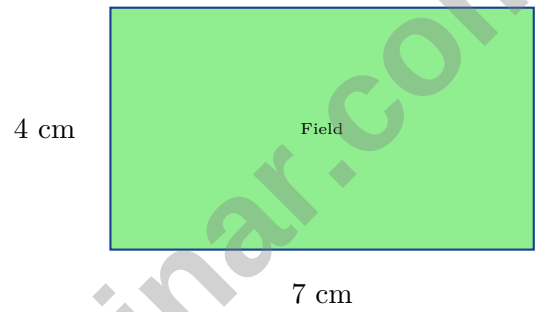
Table of Contents

1) The number line below shows tick marks at thirds. Point H is marked. What is the value of point H?



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

2) A scale drawing of a rectangular field is shown with a scale of 1 cm = 3 m.



What is the actual area of the field in square meters?

☐ A. 28 sq m
☐ B. 84 sq m
☐ C. 252 sq m
☐ D. 576 sq m

3) In a student club, the ratio of 6th graders to 7th graders is 4 : 6. If there are 12 sixth graders, how many seventh graders are in the club?

4)

Hours	1	3	5
Miles	55	165	275

Based on the table, what is the rate in miles per hour?

5) A recipe uses 8 cups of sugar to make 32 servings. How much sugar per serving?

6) A fruit vendor sells apples at a rate shown in the ratio table. If the vendor sells 18 pounds of apples, how much money does the vendor earn?

Apples (pounds)	Money ($)
6	9
18	?

7) What is the GCF of 10 and 15?

☐ A. 2
☐ B. 3
☐ C. 5
☐ D. 10

8) Which pair of integers are 5 units apart on a number line?

☐ A. -8 and -3
☐ B. 2 and 8
☐ C. -4 and 2
☐ D. 1 and 5

9) A student is making a trail mix with a ratio of 4:3 (nuts to dried fruit). If the graph has nuts on the x-axis and dried fruit on the y-axis, which point represents a mixture with 12 cups of nuts?

☐ A. $(12, 8)$
☐ B. $(12, 9)$
☐ C. $(12, 12)$
☐ D. $(12, 16)$

10) Which is greater: $\frac{7}{10}$ or 65%?

☐ A. $\frac{7}{10}$
☐ B. 65%
☐ C. They are equal
☐ D. Cannot be determined

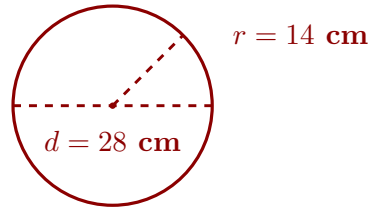
11) A toy that costs \$24 is bought at 20% off. What is the final price?

☐ A. \$4.80
☐ B. \$9.60
☐ C. \$14.40
☐ D. \$19.20

12) If $\frac{4}{6} = \frac{x}{15}$, what is the value of x?

☐ A. 8
☐ B. 18
☐ C. 12
☐ D. 10

1)



What is the approximate area of a circle with diameter 28 cm? Use $\pi \approx \frac{22}{7}$.

- ☐ A. 88 cm^2
- ☐ B. 264 cm^2
- ☐ C. 616 cm^2
- ☐ D. 1232 cm^2

2) Error Analysis: A student claims, "The question 'How old is my parent?' is statistical because I need to ask my parent to find the answer."
What is the error in this reasoning?

- ☐ A. Parents don't like to share their age.
- ☐ B. Statistical questions are always asked in school.
- ☐ C. Your parent will not give an accurate answer.
- ☐ D. Asking someone a question does not make it statistical.

3) What is the range of the data set: $12, 28, 5, 45, 19$?

- ☐ A. 5
- ☐ B. 12
- ☐ C. 40
- ☐ D. 45

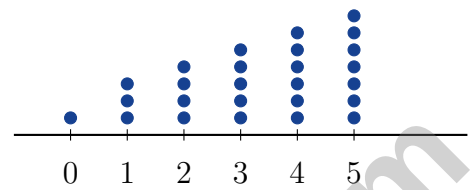
4) The data set is: $2, 4, 6, 8, 30$. Which statement is true?

- ☐ A. Mean equals Median
- ☐ B. Mean is less than Median
- ☐ C. Mean is greater than Median
- ☐ D. Mean is half the Median

5) A farmer records the heights of 6 plants: $12, 15, 13, 14, 16, 18$ inches. What is the range of the plant heights?

☐ A. 3
☐ B. 5
☐ C. 6
☐ D. 18

6) A dot plot shows the number of pets owned by families in a neighborhood. The data displays a left-skewed pattern. This means:



☐ A. Most families have fewer pets, with fewer families having more pets
☐ B. Most families have many pets, with fewer families having fewer pets
☐ C. The data is evenly distributed
☐ D. All families have the same number of pets

7) Compare two box plots: Dataset A has median 50 and IQR 15; Dataset B has median 45 and IQR 20. Which statement is true?

☐ A. Dataset A has a higher center and less spread.
☐ B. Dataset A has a lower center and more spread.
☐ C. Both datasets have the same center.
☐ D. Dataset B is more skewed.

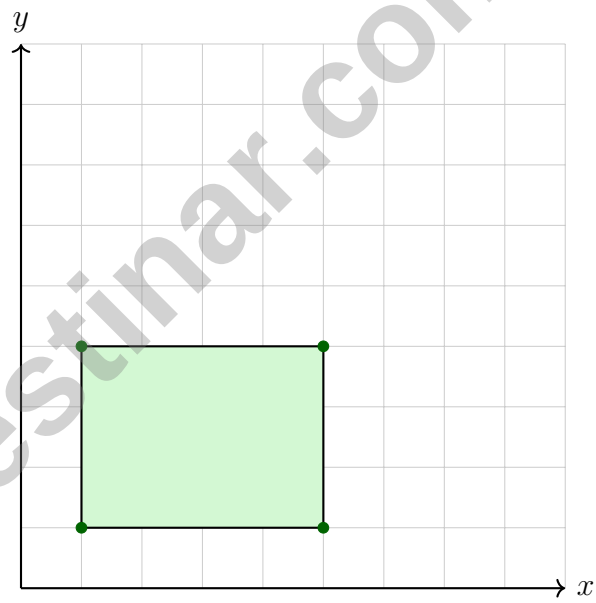
1) What is $\frac{2}{9} \div \frac{4}{9}$?

☐ A. $\frac{8}{81}$
☐ B. $\frac{1}{2}$
☐ C. $\frac{6}{9}$
☐ D. 2

2) A rectangular prism has volume 45 cubic inches. Its length is 6 inches and width is $\frac{5}{2}$ inches. What is its height?

☐ A. 2 in
☐ B. 6 in
☐ C. 5 in
☐ D. 3 in

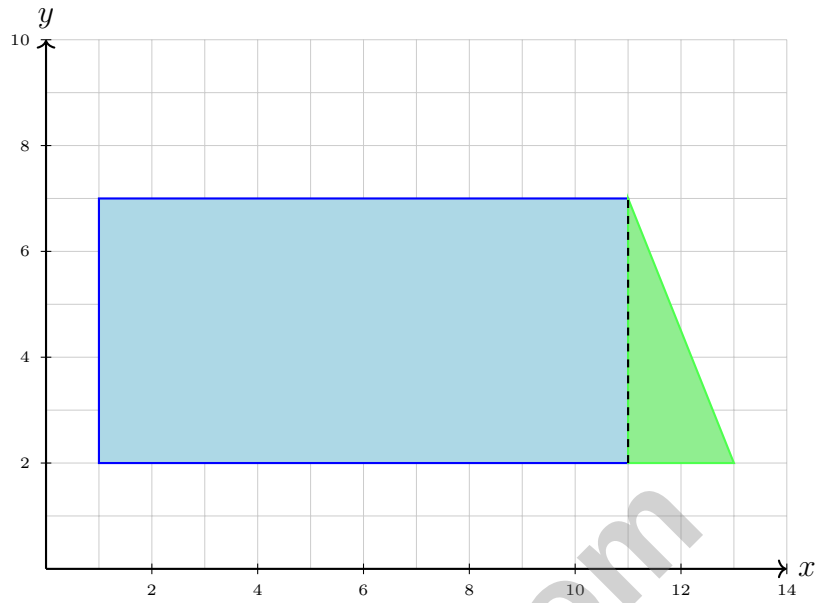
3)



What is the perimeter of the rectangle shown above?

☐ A. 9 units
☐ B. 12 units
☐ C. 14 units
☐ D. 16 units

4)



A floor plan region consists of a rectangle and a triangle. The rectangle has vertices at $(1, 2)$, $(11, 2)$, $(11, 7)$, and $(1, 7)$. The triangle has vertices at $(11, 2)$, $(13, 2)$, and $(11, 7)$. What is the total area?

- ☐ A. 55 square units
- ☐ B. 65 square units
- ☐ C. 70 square units
- ☐ D. 75 square units

5) Which net is NOT a valid net for a rectangular prism?

- ☐ A. Cross with 1×4 center and two squares on opposite sides
- ☐ B. Two 2×3 rectangles stacked vertically
- ☐ C. Line of 6 squares
- ☐ D. T-shape with 3×2 base and three rectangles attached

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.

New Hampshire Practice Test Answers and Explanations

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

Practice Test 1 Answers and Explanations

1) **Choice A is correct.** 6.NS.C.6c Point H is located $\frac{2}{3}$ of the way from 1 to 2, which is $1\frac{2}{3}$.
2) **Choice C is correct.** 6.RP.A.3 Actual dimensions: $7 \times 3 = 21$ m and $4 \times 3 = 12$ m. Area $= 21 \times 12 = 252$ sq m.
3) **The correct answer is** 18. 6.RP.A.3 The ratio of sixth graders to seventh graders is $4 : 6$, which simplifies to $2 : 3$. If 2 parts are 12 students, each part is 6, so seventh graders are $3 \times 6 = 18$.
4) **The correct answer is** 55 **miles per hour.** 6.RP.A.3d Divide miles by hours: $55 \div 1 = 55$ miles per hour (or $165 \div 3 = 55$).
5) **The correct answer is** 0.25 **cup.** 6.RP.A.3b $8 \div 32 = 0.25$ cups (or $\frac{1}{4}$ cup) per serving.
6) **The correct answer is** 27. 6.RP.A.3 The ratio is $6 : 9$ or $2 : 3$. For 18 pounds: $18 \div 2 \times 3 = 27$ dollars.
7) **Choice C is correct.** 6.NS.B.4 Factors of 10: $1, 2, 5, 10$. Factors of 15: $1, 3, 5, 15$. Common factors: $1, 5$. The GCF is 5.
8) **Choice A is correct.** 6.NS.B.3 The distance between -8 and -3 is $|-3-(-8)| = |5| = 5$ units.
9) **Choice B is correct.** 6.RP.A.3a The ratio is nuts:dried fruit = 4:3. If nuts = 12, then $12 \div 4 = 3$, so dried fruit $= 3 \times 3 = 9$. The point is $(12, 9)$.
10) **Choice A is correct.** 6.RP.A.3c Convert to the same form: $\frac{7}{10} = 70\%$. Since $70\% > 65\%$, the fraction is greater.
11) **Choice D is correct.** 6.RP.A.3c 20% of \$24 $= 0.20 \times 24 =$ \$4.80. Final price is \$24 − \$4.80 = \$19.20.
12) **Choice D is correct.** 6.RP.A.3 Cross-multiply: $4 \times 15 = 6 \times x$, so $60 = 6x$, thus $x = 10$.
13) **Choice A is correct.** 6.RP.A.3d Multiply: $8 \times 8 = 64$ fl oz.
14) **Choice A is correct.** 6.NS.C.7d Remainder after rent and food: \$500 − \$200 − \$100 = \$200. Savings: 38% of \$200 $= 0.38 \times 200 =$ \$76.
15) **Choice C is correct.** 6.NS.C.7d The constant speed is $\frac{45 \text{ miles}}{3 \text{ hours}} = 15$ mph. In 5 hours: distance $= 15 \times 5 = 75$ miles.
16) **Choice C is correct.** 6.EE.C.9 Correct entertainment budget: 15% of \$2000 $= 0.15 \times 2000 =$ \$300. The parent allocated \$400 when it should be \$300.
17) **Choice B is correct.** 6.NS.A.1 The first fraction stays the same; flip (invert) the second fraction and change divide to multiply.
18) **Choice D is correct.** 6.NS.B.2 $4{,}536 \div 19 = 238$ remainder 14. Rounding up gives 239 boxes per warehouse.
19) **Choice B is correct.** 6.NS.B.3 Add: $0.75 + 1.40 + 2.10 = 4.25$. Align all decimal points first.
20) **Choice B is correct.** 6.NS.B.4 $36 = 4 \times 9 = (2 \times 2) \times (3 \times 3) = 2^2 \times 3^2$. Options A, C, and D contain composite numbers.
21) **Choice C is correct.** 6.NS.C.5 Absolute value is the distance from zero. Both 7 and -7 are 7 units away from zero, so $|7| = |-7| = 7$.
22) **The correct answer is Girls to boys is** $10 : 15 = 2 : 3$ **(Choice A is correct). Boys to total is** $15 : 25 = 3 : 5$ **(Choice B is correct)..** 6.RP.A.1 Choice A is correct because girls to boys is $10 : 15$, which simplifies to $2 : 3$. Choice B is correct because boys to total is $15 : 25$, which simplifies to $3 : 5$. The other choices either flip the order, swap which group is named first, or use the wrong total (10 girls out of 25 students is $2 : 5$, not $1 : 3$).
23) **Choice B is correct.** 6.NS.C.7c $-(-6) = 6$. The opposite of 6 is -6.
24) **Choice B is correct.** 6.NS.C.8 Point A is at $(-1, 2)$ and point B is at $(1, 2)$. The y-coordinate stays the same while the x-coordinate changes sign, which is a reflection across the y-axis.
25) **Choice B is correct.** 6.NS.C.7d Positive numbers are greater than negative numbers. Among positives: $0.6 > 0.1$. Among negatives: $-\frac{3}{4} = -0.75 > -2$.

Author's Note

From a Friend Who Believes in You

Hi, Friend!

◇ I just want to say something important: I am proud of you. You did 3 full practice tests. That takes time, hard work, and heart. ◇

⋆ **Friendly truth:** a test is just one part of your math journey. You are SO much more than a score. The work you did is the real win! ⋆

What I Want You to Know

- **You are smart.** Every test you finished proves it.
- **You are brave.** You tried hard problems.
- **You are growing.** Mistakes taught you new things.
- **You are ready.** The skills are inside you.

One more thing: on test day, take a deep breath. Smile. Remember that someone (me!) believes in you. You can do this!

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

Jay Daie

Your Math Friend

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes 3 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:

- 3 Full-Length Printed Tests
- 2 Online Practice Tests
- Detailed Answer Explanations

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

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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
- The Number System
- Expressions & Equations
- Geometry
- Fractions & Decimals
- Percents
- Statistics & Probability
- Data Analysis
- Measurement & Conversions
- 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 REGULARLY | STAY FOCUSED | SOLVE CONFIDENTLY | SUCCEED BRIGHTLY

PREPARE TODAY. SUCCEED TOMORROW!