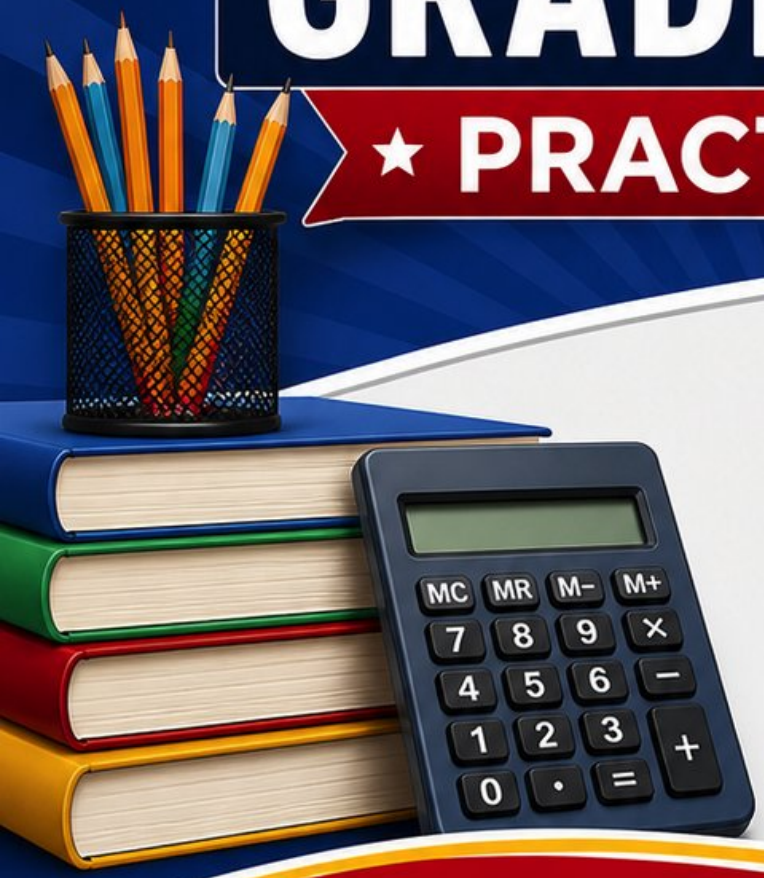
5 FULL-LENGTH New York NYSTP

GRADE 5 MATH

★ PRACTICE TESTS ★



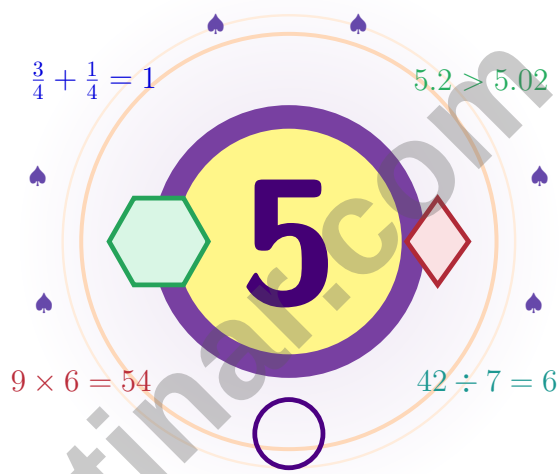
- 5 FULL-LENGTH PRACTICE TESTS
- COMPLETE STANDARDS REVIEW
- SKILL PRACTICE, WORD PROBLEMS, AND MORE!

$\frac{3}{4} + \frac{2}{4} = \frac{5}{4}$ $12 \times 3 = 36$ $\frac{7}{10} = 0.7$

BUILT FOR SUCCESS. DESIGNED TO HELP EVERY STUDENT.

5 New York NYSTP Grade 5 Math Practice Tests

A five-checkpoint adventure for New York Grade 5 thinkers



Five full tests, a friendly quick review, smart strategy pages, and student-tested support that turn Grade 5 practice in The Empire State into a steady quest of real growth.

Jay Daie and Reza Nazari

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New York Grade 5: Quest Briefing

A five-checkpoint adventure for New York Grade 5 thinkers

Just for New York Grade 5 Quest Specialists

This book is your practice zone, not a place to be perfect. Each of the five tests gives you a chance to notice clues, choose a strategy, check your thinking, and come back stronger for the next round. Math is a lot like a New York skyline – it grows tall because every floor was framed with care.

Some questions will feel easy right away. Some will make you slow down, draw, estimate, or retry. That is excellent news. It means your math brain is doing real work.

Look

Look at the problem like a careful detective.

Test

Test your idea one careful step at a time.

Repair

Repair what was off and try the next one.

A strong quest habit for New York: slow down, write neatly, estimate before you solve, and keep going even when a problem looks tricky at first. That is exactly how confident math students are built.

Your Step-by-Step Plan

A simple routine that turns five tests into real growth

Step 1: Notice

Notice the structure: warm-up, test, review, repair.
Wake up important ideas before you begin so your brain is ready to use them.

Step 2: Practice

Practice one full test in quiet conditions.
Find a quiet space, work carefully, and let accuracy matter more than speed.

Step 3: Honest Check

Check honestly without rushing.
Circle missed questions and look for patterns. Which skill or habit needs another try?

Step 4: Polish

Polish the rough spots before test number two.
Read the explanation, repair the work, and carry that lesson into the next test.

A Five-Week New York Quest Map

Week	Mission Focus
Week 1	Take Test 1 and frame your first floor.
Week 2	Take Test 2 and notice one habit that grew sharper.
Week 3	Take Test 3 and reinforce fractions, decimals, and conversions.
Week 4	Take Test 4 and slow down on multi-step problems.
Week 5	Take Test 5 and crown your tower with calm, careful work.

Table of Contents

Grade 5 Mathematics Reference Materials

PERIMETER AND AREA

Perimeter of Rectangle	$P = 2l + 2w$ or $P = 2(l + w)$
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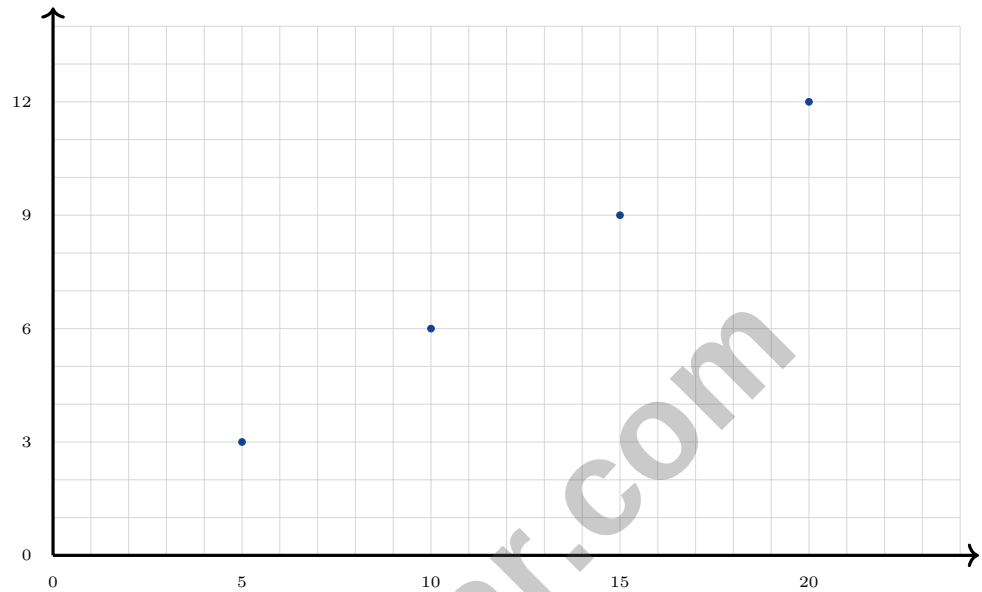
1) A graph shows the pattern from two input-output rules. Input values: 1, 2, 3, 4. First output: 5, 10, 15, 20. Second output: 3, 6, 9, 12. Which (first output, second output) pair matches input 2?



☐ A. (5, 3)
☐ B. (10, 6)
☐ C. (15, 9)
☐ D. (20, 12)

2) A city has 25 neighborhoods with 1000 residents each. How many residents?

☐ A. 1025
☐ B. 2500
☐ C. 250
☐ D. 25000

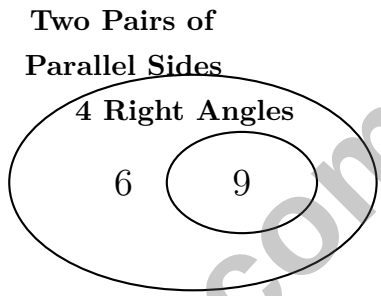
3) Evaluate: $3 \times 4 + 5 \times 2 - 6$

☐ A. 14
☐ B. 16
☐ C. 22
☐ D. 20

4) A garden plot is $6\frac{3}{4}$ feet long and needs a fence. If $2\frac{7}{10}$ feet is already fenced, estimate how much more fencing is needed.

☐ A. About 3 feet
☐ B. About 4 feet
☐ C. About 5 feet
☐ D. About 6 feet

5) A Venn diagram shows quadrilaterals with 4 right angles inside the group of quadrilaterals with two pairs of parallel sides:



Why is the smaller circle completely inside the larger circle?

☐ A. No quadrilateral can have four right angles.
☐ B. A rectangle is never a parallelogram.
☐ C. A square has only three sides.
☐ D. A quadrilateral with four right angles also has two pairs of parallel sides.

6) Two boxes are compared. Box A is 8 feet by 4 feet by 3 feet. Box B is 7 feet by 5 feet by 3 feet. By how much is Box B's volume greater than Box A's volume?

Record your answer in the space provided.

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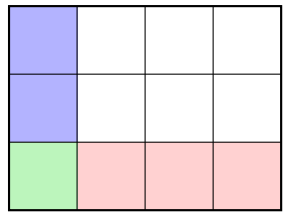
1) Which statement does NOT correctly describe the area model?

Model:



$\frac{1}{4} \times \frac{1}{3}$

☐ A. The overlap has 1 square.
☐ B. The product is $\frac{1}{12}$.
☐ C. The model shows a 4×3 grid.
☐ D. The denominator should be 7, not 12.

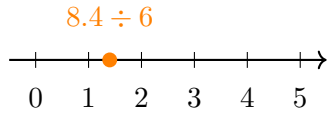
2) Jake computed $\frac{3}{4} - \frac{1}{6} = \frac{2}{2}$. Is Jake correct?

☐ A. Yes
☐ B. No, the answer is $\frac{7}{12}$
☐ C. No, the answer is $\frac{1}{2}$
☐ D. No, the answer is $\frac{5}{6}$

3) If $4 \times 6 = 24$, what is $4{,}000 \times 60$?

☐ A. 240,000
☐ B. 24,000
☐ C. 2,400,000
☐ D. 2,400

4) A number line shows where a quotient lands. If 8.4 is divided by 6, between which numbers does it fall?



☐ A. Between 0 and 1
☐ B. Between 3 and 4
☐ C. Between 2 and 3
☐ D. Between 1 and 2

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1) A store displays decimal prices. Using the usual rule that 5 rounds up, which price is the smallest amount that rounds to \$15 when rounded to the nearest dollar?

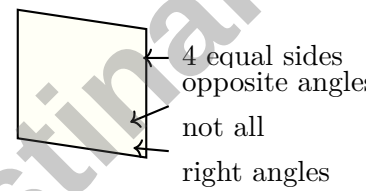
☐ A. \$14.49
☐ B. \$13.50
☐ C. \$15.50
☐ D. \$14.50

2) In a kitchen science lab, three liquids are measured: $\frac{1}{6}$ liter, $\frac{1}{9}$ liter, and $\frac{1}{4}$ liter. To compare volumes, what is the least common denominator?

Denom.	1st Mult.	2nd Mult.	3rd Mult.
6	6	12	18
9	9	18	27
4	4	8	12

☐ A. 18
☐ B. 36
☐ C. 72
☐ D. 108

3)



What is this shape, and what is it NOT?

☐ A. It IS a Square; it is NOT a Rhombus.
☐ B. It IS a Rhombus; it is NOT a Square.
☐ C. It IS a Rectangle; it is NOT a Parallelogram.
☐ D. It IS a Parallelogram; it is NOT a Trapezoid.

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1) Pattern A starts at 1. Pattern B starts at 3.

Step	0	1	2	3	4
Pattern A	1	10	100	1,000	10,000
Pattern B	3	30	300	3,000	30,000

Which statement explains the relationship between the two patterns?

☐ A. Each Pattern B value is 3 times the matching Pattern A value.
☐ B. Each Pattern B value is 10 times the matching Pattern A value.
☐ C. Each Pattern B value is 3 more than the matching Pattern A value.
☐ D. Each Pattern B value is 10 more than the matching Pattern A value.

2) Compare without computing: $5 \times (240 + 80)$ and $240 + 80$.

☐ A. Equal
☐ B. First is $\frac{1}{5}$ of the second
☐ C. First is 5 less than the second
☐ D. First is 5 times the second

3) A shipping crate: length 6 ft, width 5 ft, height 3 ft. If you double the height, new volume =?

☐ A. 90 ft^3
☐ B. 360 ft^3
☐ C. 45 ft^3
☐ D. 180 ft^3

4) An error-analysis item: Chen added $\frac{2}{3} + \frac{1}{5}$ and got $\frac{3}{8}$. Is he correct?

☐ A. Yes, $\frac{3}{8}$ is correct.
☐ B. No, the correct answer is $\frac{8}{15}$.
☐ C. No, the correct answer is $\frac{2}{8}$.
☐ D. No, the correct answer is $\frac{13}{15}$.

5) Identify the correct rounding statement:

☐ A. 6.234 rounded to the nearest tenth is 6.24
☐ B. 6.234 rounded to the nearest tenth is 6.2
☐ C. 6.234 rounded to the nearest whole number is 7
☐ D. 6.234 rounded to the nearest hundredth is 6.24

Practice Test Answer Keys

How to use this section:

1. check your answer
2. circle missed questions
3. rework them before reading the explanation

Good correction habits build strong scores.

Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

1) **Choice B is correct.** 5.G.2 For input 2: first output is 10 (position 2 in 5, 10, 15, 20), second output is 6 (position 2 in 3, 6, 9, 12).
2) **Choice D is correct.** 5.NBT.2 $25 \times 1000 = 25000$. Append three zeros to 25.
3) **Choice B is correct.** 5.OA.1 Multiply first: $3 \times 4 = 12$ and $5 \times 2 = 10$. Then finish left to right: $12 + 10 - 6 = 16$.
4) **Choice B is correct.** 5.NF.2 $6\frac{3}{4} \approx 7$ and $2\frac{7}{10} \approx 3$. So $6\frac{3}{4} - 2\frac{7}{10} \approx 7 - 3 = 4$ feet.
5) **Choice D is correct.** 5.G.4 Rectangles and squares have four right angles, and their opposite sides are parallel.
6) **The correct answer is 9 ft^3.** 5.MD.5 Box A has volume $8 \times 4 \times 3 = 96$ cubic feet. Box B has volume $7 \times 5 \times 3 = 105$ cubic feet, so Box B is greater by 9 cubic feet.
7) **Choice B is correct.** 5.OA.1 Work outward: $12 \div 3 = 4$, then $[4 + 1] = 5$, then $5 \times 2 = 10$. The final subtraction gives $10 - 3 = 7$.
8) **Choice C is correct.** 5.NF.7c The amount being shared is one third, and it is split into 4 equal parts. So the matching division equation is $\frac{1}{3} \div 4 = ?$.
9) **Choice A is correct.** 5.NBT.1 One-tenth of 3.6 is $\frac{1}{10} \times 3.6 = 3.6 \div 10 = 0.36$.
10) **Choice D is correct.** 5.NF.7c This is $6 \div \frac{1}{3}$. There are 3 one-third-pound bundles in each pound, so 6 pounds makes 18 bundles.
11) **Choice B is correct.** 5.MD.5c Find each part first: Prism A is $5 \times 4 \times 5 = 100$ cubic inches, and Prism B is $6 \times 4 \times 3 = 72$ cubic inches. Because the parts do not overlap, add them: $100 + 72 = 172$ cubic inches.
12) **Choice A is correct.** 5.NF.5b The factors increase from $\frac{1}{2}$ to 1 to $\frac{3}{2}$, so the products increase: 5, 10, 15.
13) **Choice D is correct.** 5.MD.5 Multiply the three dimensions: $11 \times 7 \times 4 = 308$ cm^3.
14) **Choice D is correct.** 5.MD.5a Volume $= 8 \times 6 \times 4 = 192$ cubic feet.
15) **Choice B is correct.** 5.G.4 When all three angles in a triangle are less than 90 degrees, the triangle is called acute.
16) **Choice B is correct.** 5.NF.2 Both bars show the same shaded region. The top bar shows $\frac{4}{8}$ and the bottom bar shows $\frac{1}{2}$. Since $\frac{4}{8} = \frac{1}{2}$, they are equivalent.
17) **Choice A is correct.** 5.G.2 The student reversed the order of the coordinates. Instead of writing the x-coordinate first and y-coordinate second, the student switched them.
18) **The correct answer is 4.4.** 5.NBT.4 Hundredths digit is 8, which rounds the tenths up: $4.3 \rightarrow 4.4$.
19) **Choice D is correct.** 5.NBT.2 $12.50 \times 100 = 1250$ dollars (move decimal 2 places right).
20) **Choice C is correct.** 5.NBT.2 Dividing by 1,000 moves the decimal point three places to the left. $8,000 \div 1,000 = 8$.
21) **Choice B is correct.** 5.NBT.2 $28 \times 10^4 = 28 \times 10000 = 280000$ dollars.
22) **Choices A, B are correct.** 5.NBT.3b Compare place by place. A and B are in increasing order. C is largest to smallest, and D has 0.605 out of order because $0.605 < 0.65$.
23) **Choice A is correct.** 5.NBT.2 The diagram shows $42.6 \div 10 = 4.26$. Move decimal 1 place left.
24) **Choice D is correct.** 5.NF.6 He needs $\frac{3}{5}$ of $\frac{2}{3}$ cup, so multiply: $\frac{3}{5} \times \frac{2}{3} = \frac{6}{15}$, which simplifies to $\frac{2}{5}$ cup.
25) **Choice C is correct.** 5.MD.2 3 miles has 4 marks, 5 miles has 1 mark. Difference: $4 - 1 = 3$.
26) **Choice D is correct.** 5.NBT.7 $16.50 - 7.24 = 9.26$ liters of water used.
27) **Choice D is correct.** 5.MD.1 Since 1 pound = 16 ounces, multiply 6 by 16: $6 \times 16 = 96$ ounces.
28) **Choice C is correct.** 5.G.2 Both points have the same x-coordinate (3), so the distance is $9 - 4 = 5$ miles north.
29) **Choice D is correct.** 5.NF.5b The area model shows the distributive property: $3 \times 1\frac{2}{5} = 3 \times 1 + 3 \times \frac{2}{5} = 3 + \frac{6}{5} = 4\frac{1}{5}$.
30) **Choice C is correct.** 5.NF.1 LCM(10,4) = 20. $\frac{7}{10} = \frac{14}{20}$ and $\frac{1}{4} = \frac{5}{20}$. $\frac{14}{20} + \frac{5}{20} = \frac{19}{20}$.
31) **Choice A is correct.** 5.G.2 If y is 10 times x, multiply the x-value by 10. For $x = 3$, $3 \times 10 = 30$, so $(3, 30)$ fits.
32) **Choice A is correct.** 5.MD.1 1 meter = 1,000 millimeters. Divide: $8000 \div 1000 = 8$ m.

Hey there, Master Engineer!

⋆ Excellent engineering work! You've successfully designed and tested five complete mathematical systems, applying principles, calculating specifications, and optimizing solutions like a professional engineer! Every problem presented unique design challenges, and you approached each one methodically, testing your designs and making improvements. Your engineering mindset has developed beautifully! ⋆

◇ **Here's what successful engineers know:** great engineering requires planning, calculation, testing, and refinement. Engineers build prototypes, identify weaknesses, and improve their designs iteratively. You've practiced that exact engineering cycle through these five tests! Each test helped you refine your mathematical engineering skills, and now your designs are structurally sound and ready for implementation! ◇

Engineering Quality Control

- **System Design:** Your problem-solving frameworks are logically structured!
- **Precision Engineering:** You calculate with accuracy and attention to detail!
- **Stress Testing:** You've proven your methods work under challenging conditions!
- **Project Approved:** Your mathematical engineering is ready for deployment!

Remember this engineering principle: well-designed systems function reliably when needed. You've engineered five successful mathematical systems. On test day, deploy your proven designs with confidence. If you encounter an unexpected specification, apply your engineering principles to design an appropriate solution. Your training has prepared you for any design challenge!

Want to share your mathematical engineering innovations or discuss an elegant system design? Submit your technical specifications to reza@testinar.com. I appreciate innovative engineering!

Reza Nazari & Jay Daie

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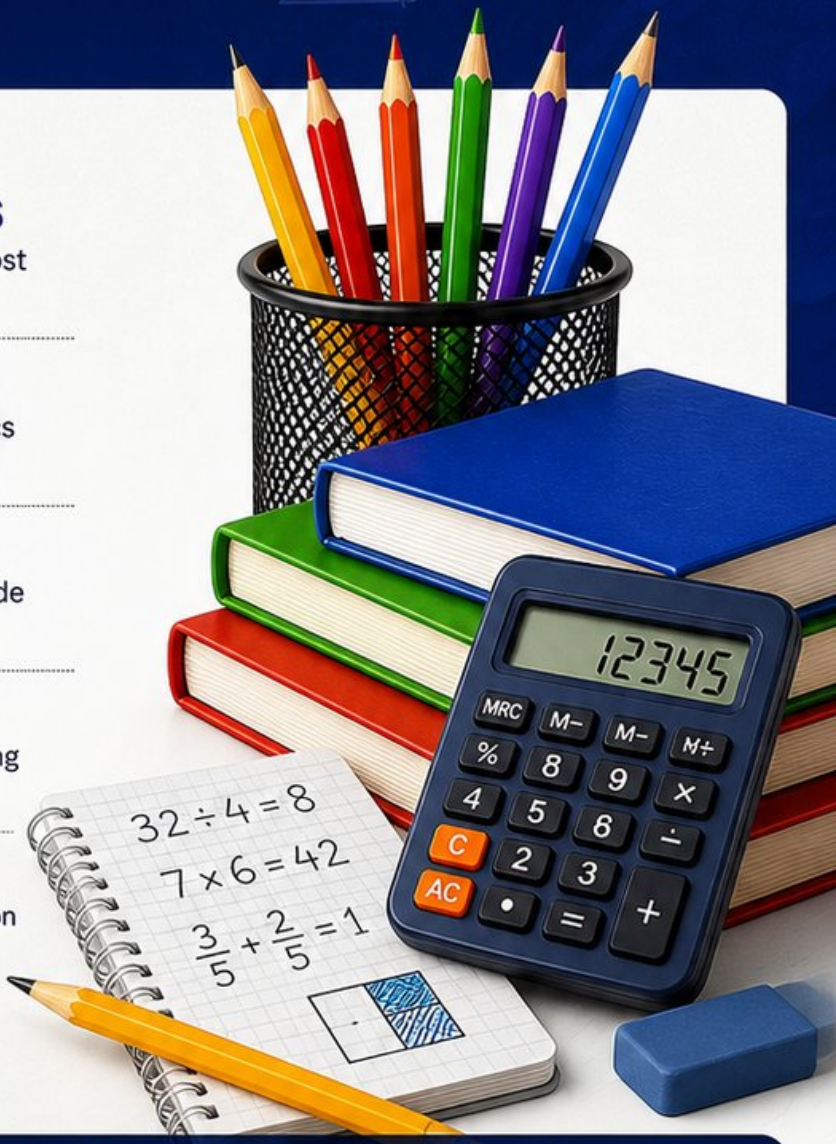

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