

9

Virginia

SOL

GRADE 5 MATHEMATICS PRACTICE TESTS

Full-Length Standards-Aligned Practice
for Strong Math Performance

$$A = l \times w$$

$$x^2 + 3x - 4 = 0$$

$$y = 2x + 1$$



$$2,345 \times 6 = 14,070$$



$$\frac{3}{4} + \frac{1}{8} = \frac{7}{8}$$

$$7.2 \div 0.8 = 9$$



$$(12 + 8) \div 4 = 5$$



Build Confidence



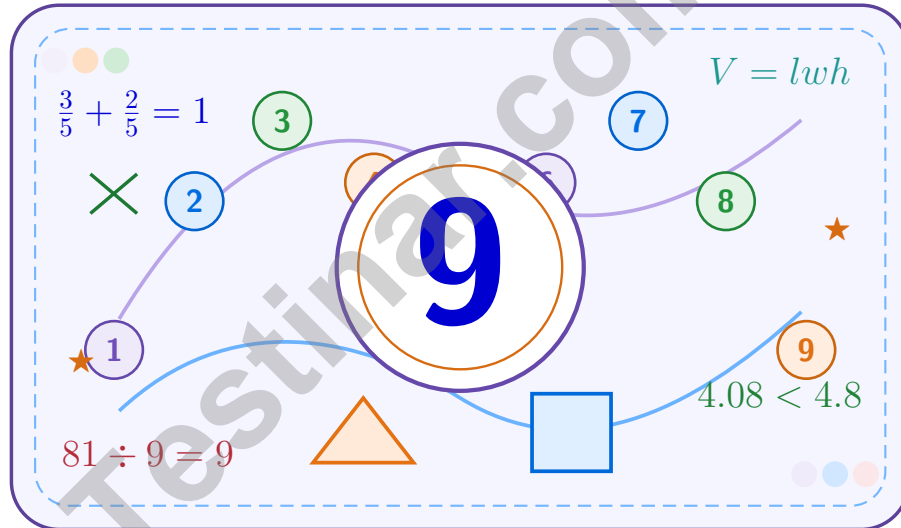
Improve Math Skills



Achieve Success

9 Virginia SOL Grade 5 Math Practice Tests

A nine-step confidence climb with clear review, smart strategy, and practice that gets stronger every round



Nine full tests, focused skill boosters, and student-friendly support from start to finish for Grade 5 mathematicians who want to climb higher.

Jay Daie and Reza Nazari



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Welcome to the Confidence Climb

This book is here to help you practice with purpose and rise step by step

To the Grade 5 Mathematician

This practice book is a place to think, try, fix, and grow. You do not have to be perfect on the first question or the first test. What matters most is careful effort, clear work, and learning from each round of practice.

Use these nine tests like stepping-stones. Take one test at a time, check your answers honestly, and notice which skills need more attention. Small improvements add up fast.

Try

Give each problem your best thinking.

Check

Study mistakes and learn what happened.

Rise

Bring that lesson into the next round.

A strong habit for every page: read carefully, estimate when it helps, show your steps, and keep going even when a question feels tricky. That is how steady math confidence is built.

How to Use This Book

A simple practice routine that turns nine tests into steady growth

A Nine-Session Climb Map

Session	Mission Focus
1	Take Test 1; review place value and operation slips.
2	Take Test 2; keep work neat and easy to read.
3	Take Test 3; give extra time to fractions and decimals.
4	Take Test 4; slow down on word problems and units.
5	Take Test 5; compare scores and habits with earlier rounds.
6	Take Test 6; notice which habits are now automatic.
7	Take Test 7; explain open-ended answers clearly.
8	Take Test 8; review topics that still need attention.
9	Take Test 9; finish with calm, careful, confident work.

Step 1: Warm Up

Start with the quick review.
Spend a few minutes refreshing the ideas before you start a test.

Step 2: Take the Test

Take one full practice test.
Work in a quiet space and let accuracy matter more than speed.

Step 3: Study the Pattern

Check your work honestly.
Circle missed questions and notice patterns in the mistakes.

Step 4: Learn, Then Retry

Read the explanation and try again.
Learning happens after the test too. Fixing mistakes is one of the smartest parts of practice.



Scan me

Test Overview

What this practice book helps students do

These practice tests are designed to help Grade 5 students get comfortable with the kind of thinking used on the Virginia SOL. The goal is bigger than only getting answers right. Students are practicing how to read closely, choose a strategy, solve carefully, and explain their work when needed.

Selected-Response Questions

Students solve the problem and choose the best answer. Estimating first and crossing out weak choices can save time and points.

Constructed-Response Questions

Students show their thinking, steps, models, or explanations. Even when unsure, writing what they know can help organize the problem.

Grade 5 Skills You Will Practice Often

- place value, comparing numbers, and rounding
- multi-digit addition, subtraction, multiplication, and division
- fractions, decimals, and mixed numbers
- perimeter, area, volume, and measurement conversions
- coordinate points, patterns, graphs, and tables
- geometry and multi-step word problems

What strong work looks like: the answer is correct, the steps are clear, the labels or units are included, and the final result makes sense.



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Grade 5 Mathematics Reference Materials

PERIMETER AND AREA

Perimeter of Rectangle $P = 2l + 2w$ or $P = 2(l + w)$

Area of Rectangle $A = l \times w$

Area of Triangle $A = \frac{1}{2} \times b \times h$

Volume of Rectangular Prism $V = l \times w \times h$

LENGTH

Customary

1 foot (ft) = 12 inches (in.)

1 yard (yd) = 3 feet (ft)

1 yard (yd) = 36 inches (in.)

Metric

1 meter (m) = 100 centimeters (cm)

1 centimeter (cm) = 10 millimeters (mm)

1 kilometer (km) = 1,000 meters (m)

CAPACITY

Customary

1 cup (c) = 8 fluid ounces (fl oz)

1 pint (pt) = 2 cups (c)

1 quart (qt) = 2 pints (pt)

1 gallon (gal) = 4 quarts (qt)

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WEIGHT AND MASS

Customary

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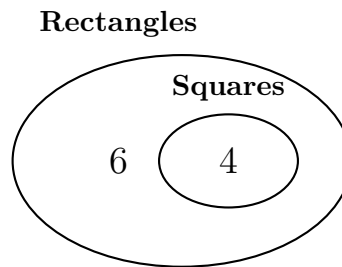
1 minute (min) = 60 seconds (sec) 1 week = 7 days

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- 1) A Venn diagram shows squares inside rectangles:



Which statement is supported by this diagram?

- A. No square is a rectangle. C. Every square is a rectangle.
- B. Every rectangle is a square. D. Triangles are rectangles.
- 2) Write the decimal for “five hundred eight and seventy-two thousandths”.

Record your answer in the space provided.

- 3) Estimate: $14\frac{1}{7} - 8\frac{4}{5}$.

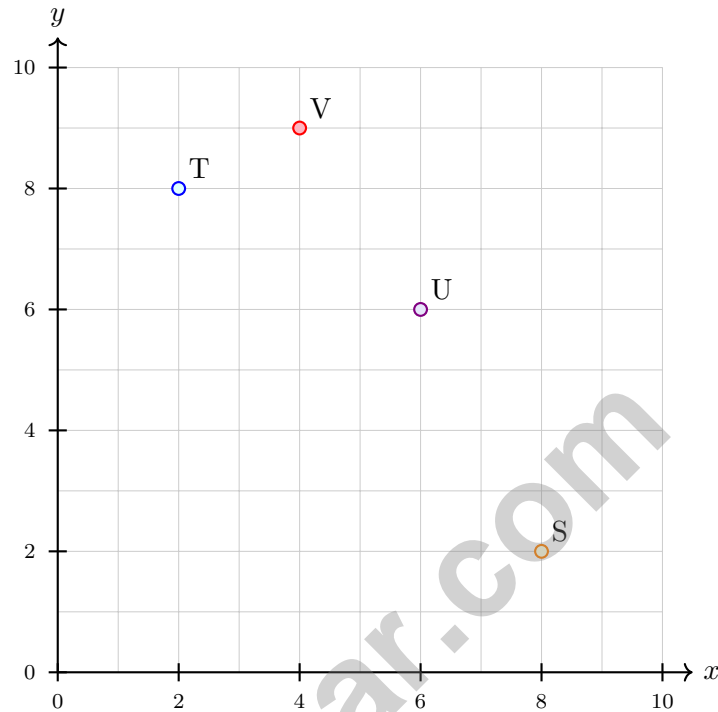
- A. About 5 C. About 7
- B. About 6 D. About 8

- 4) Find the product: $7 \times 100,000$.

Record your answer in the space provided.



5) Which point is located at (2, 8) on this coordinate plane?



- A. Point S
- B. Point T
- C. Point U
- D. Point V

6) Which pair of fractions can be arranged in a chain of equivalences with $\frac{1}{2}$?

- A. $\frac{3}{5}$ and $\frac{6}{10}$
- B. $\frac{3}{8}$ and $\frac{6}{12}$
- C. $\frac{2}{5}$ and $\frac{4}{10}$
- D. $\frac{2}{4}$ and $\frac{4}{8}$

7) You multiply a decimal by 10. What happens to the decimal point?

- A. It moves 1 place to the left
- B. It moves 1 place to the right
- C. It stays in the same place
- D. It disappears



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1) Express 9×1000 using exponent notation.

A. 9×10^1

B. 9×10^2

C. 9×10^3

D. 9×10^4

2) A recipe uses $\frac{3}{4}$ cup of milk. If you reduce it by $\frac{1}{4}$ cup, how much milk do you use?

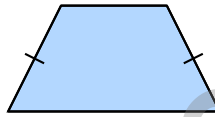
A. $\frac{1}{4}$ cup

B. $\frac{1}{2}$ cup

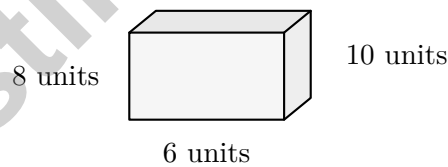
C. $\frac{3}{4}$ cup

D. 1 cup

3) Which pair of line segments are congruent in this figure?

 A. Top and bottom sides B. Left and right sides C. All four sides D. No sides are congruent

4) A rectangular prism with dimensions 3 units \times 4 units \times 5 units is enlarged so that each dimension is doubled. What is the volume of the enlarged prism?

 A. 120 cubic units B. 240 cubic units C. 480 cubic units D. 960 cubic units

5) Find 7×10^2 .

Record your answer in the space provided.



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- 1) Maria ate $\frac{1}{4}$ of a pizza and Juan ate $\frac{1}{3}$ of the same pizza. What fraction of the pizza did they eat together?
- A. $\frac{7}{12}$ C. $\frac{2}{12}$
 B. $\frac{3}{7}$ D. $\frac{5}{12}$
- 2) A store sells 2500 bananas. This equals 25×10^n . Find n .
- A. 1 C. 4
 B. 3 D. 2
- 3) During a class field trip, 28 students and 4 adults travel by bus. The bus has 40 seats. How many empty seats are there?
- A. 12 seats C. 10 seats
 B. 6 seats D. 8 seats
- 4) Pattern: 64, 32, 16, 8, ... What's next?
- A. 2 C. 6
 B. 0 D. 4
- 5) For each input, multiply by 4 and then add 2. Which ordered pair is true for input 0?
- A. (0, 0) C. (0, 6)
 B. (0, 4) D. (0, 2)



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1) If you know the volume is 336 cm^3 and two dimensions are 12 cm and 7 cm, what is the third dimension?

A. 3 cm

C. 5 cm

B. 6 cm

D. 4 cm

2) Convert: $750 \text{ cm} = ? \text{ m}$.

Record your answer in the space provided.

3) A measurement shows rope lengths: 2.34 m and 1.52 m. What is the total length?

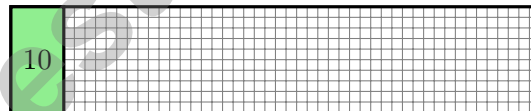
A. 3.76 m

C. 3.96 m

B. 3.86 m

D. 4.86 m

4) In a thousandths model, 1 whole is divided into 1000 equal small squares. How many small squares equal one hundredth?



Each tiny square is one thousandth; shaded strip is one hundredth.

A. 1

C. 100

B. 10

D. 1000



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 Virginia scores.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** **(5.MG.3)** The circle for squares is completely inside the circle for rectangles, so every square shown is also a rectangle.
- 2) **The correct answer is 508.072.** **(5.NS.2)** Whole part: 508. Fractional part: 72 thousandths means 0 tenths, 7 hundredths, 2 thousandths: 508.072.
- 3) **Choice A is correct.** **(5.NS.2)** $14\frac{1}{7} \approx 14$ and $8\frac{4}{5} \approx 9$. So $14\frac{1}{7} - 8\frac{4}{5} \approx 14 - 9 = 5$.
- 4) **The correct answer is 700,000.** **(5.NS.1)** 100,000 has five zeros, so $7 \times 100,000$ is 7 followed by five zeros: 700,000.
- 5) **Choice B is correct.** **(5.NS.2)** Point T is 2 units to the right and 8 units up from the origin, so it is at (2, 8).
- 6) **Choice D is correct.** **(5.CE.2)** Both fractions in A are equivalent to $\frac{1}{2}$: $\frac{1}{2} = \frac{2}{4} = \frac{4}{8}$. The other choices include at least one fraction that is not equivalent to $\frac{1}{2}$.
- 7) **Choice B is correct.** **(5.PFA.1)** Multiplying by 10 shifts the decimal point 1 place to the right. For example, $3.4 \times 10 = 34$.
- 8) **Choice C is correct.** **(5.CE.2)** $\frac{3}{4} \times 24 = \frac{3 \times 24}{4} = \frac{72}{4} = 18$, so 18 cups of oats are needed.
- 9) **Choice B is correct.** **(5.CE.2)** A fourth split into 4 equal parts gives sixteenths: $\frac{1}{4} \div 4 = \frac{1}{16}$ gallon for each table.
- 10) **Choice B is correct.** **(5.MG.2)** Multiply: $15 \times 23 = 15 \times (20 + 3) = (15 \times 20) + (15 \times 3) = 300 + 45 = 345$ plants.
- 11) **The correct answer is 5.** **(5.MG.2)** $5 = 5 \times 1$, $10 = 5 \times 2$, etc. Each A term is 5 times its B term.
- 12) **Choice A is correct.** **(5.PFA.1)** A square is the only quadrilateral that is both a rectangle (all 90° angles) and a rhombus (all sides equal).
- 13) **The correct answer is 7.21.** **(5.CE.1)** Align by place value. Hundredths: $6 + 5 = 11$, write 1 carry 1. Tenths: $3 + 8 + 1 = 12$, write 2 carry 1. Ones: $4 + 2 + 1 = 7$. Result 7.21.
- 14) **Choice D is correct.** **(5.CE.1)** In the first expression, only the 6 is multiplied by 4. In the second expression, the whole sum $(12 + 6)$ is multiplied by 4, so the second expression is larger.
- 15) **Choice B is correct.** **(5.CE.4)** The diagram shows $\frac{1}{3}$ split into 2 equal parts, which represents $\frac{1}{3} \div 2 = \frac{1}{6}$.
- 16) **Choice C is correct.** **(5.CE.2)** A, B, and D all equal 10. Only C equals 9, since $\frac{9}{10} < 1$.
- 17) **Choice B is correct.** **(5.CE.2)** The unit fraction is the amount being shared, so divide $\frac{1}{5}$ by 6. The equation is $\frac{1}{5} \div 6 = n$.
- 18) **Choice A is correct.** **(5.CE.2)** Borrow 1 from 6: $5\frac{7}{5} - 3\frac{4}{5} = 2\frac{3}{5}$.
- 19) **The correct answer is 72 cm^3 .** **(5.NS.1)** Multiply the three dimensions: $6 \times 4 \times 3 = 72 \text{ cm}^3$.
- 20) **Choices A, C are correct.** **(5.MG.2)** A is true because $20 + 1$ creates one extra group of 5. C is true because $100 - 1$ creates one fewer group of 9 than 100 groups. B changes the grouping, and D is equal rather than greater.
- 21) **Choice B is correct.** **(5.NS.2)** Multiplying by 10,000 moves the decimal four places right. From 4.56, that gives 45,600.
- 22) **Choice C is correct.** **(5.NS.2)** Since 4 quarts = 1 gallon, multiply 2 by 4: $2 \times 4 = 8$ quarts.
- 23) **Choice A is correct.** **(5.MG.1)** Multiply the side lengths to find the area: $\frac{3}{5} \times \frac{2}{3} = \frac{6}{15} = \frac{2}{5}$ square yard.
- 24) **Choice D is correct.** **(5.MG.1)** First ordered pair: (Pattern 1 first value, Pattern 2 first value) = (5, 2).
- 25) **Choice A is correct.** **(5.MG.1)** Each whole contains 3 pieces of size $\frac{1}{3}$. With 5 wholes, there are $5 \times 3 = 15$ pieces.
- 26) **Choice D is correct.** **(5.CE.2)** Two rows of $\frac{3}{8}$ each: $2 \times \frac{3}{8} = \frac{6}{8} = \frac{3}{4}$ (simplified).
- 27) **Choice A is correct.** **(5.NS.2)** The correct answer is $7,500 \div 100 = 75$. The student's answer of 750 is what you get when dividing by 10 instead.
- 28) **Choice D is correct.** **(5.NS.2)** $0.6 \times 100 = 60$ (move decimal 2 places right).
- 29) **Choice B is correct.** **(5.CE.2)** $\text{LCM}(2,4,8) = 8$. $\frac{1}{2} = \frac{4}{8}$, $\frac{1}{4} = \frac{2}{8}$, $\frac{1}{8} = \frac{1}{8}$. $\frac{4}{8} + \frac{2}{8} + \frac{1}{8} = \frac{7}{8}$.
- 30) **Choice D is correct.** **(5.CE.2)** Use the rectangular-prism volume formula: $5 \times 5 \times 3 = 75$. So the volume is 75 cubic meters.
- 31) **Choice C is correct.** **(5.MG.1)** Prism 1: $2 \times 3 \times 5 = 30$ cu. in. Prism 2: $1 \times 6 \times 5 = 30$ cu. in.



Cheer Squad Final Pep Talk

Hey Math Superstar!

◇ 9 practice tests! That's a LOT of work, and you did it all! I'm cheering so loud right now you can probably hear me through this page. You've earned every clap, every hooray, and every smile. ◇

★ **Cheerleader truth:** confidence is built by showing up. You showed up 9 times. That's why your confidence is real today. It's not pretend. You earned it, problem by problem. ★

Cheer Squad Roll Call

- **Effort:** 100% SHOWED UP!
- **Heart:** HUGE!
- **Skill:** STRONG and growing!
- **Spirit:** BRIGHT and bold!

Cheer tip: on test day, be your own cheerleader. Whisper to yourself: "I've got this. I've practiced. I'm ready." Tiny self-cheers make a big difference.

If you want to share a proud moment or ask a question, please email me at jay@testinar.com. I'd love to hear from you!

Jay Daie

Your Math Cheerleader (Go You!)

PRACTICE MORE. ACHIEVE MORE.

Give your child the edge they need to excel in **Grade 5 Math!** This book includes **9 full-length** practice tests designed to build confidence, sharpen skills, and improve test performance.

9

**FULL-LENGTH
PRACTICE
TESTS**

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