

# 5

# FULL-LENGTH

# Virginia

# SOL

## GRADE 5 MATH

### ★ PRACTICE TESTS ★



**5 FULL-LENGTH  
PRACTICE TESTS**



**COMPLETE  
STANDARDS  
REVIEW**



**SKILL PRACTICE,  
WORD PROBLEMS,  
AND MORE!**

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



$$12 \times 3 = 36$$



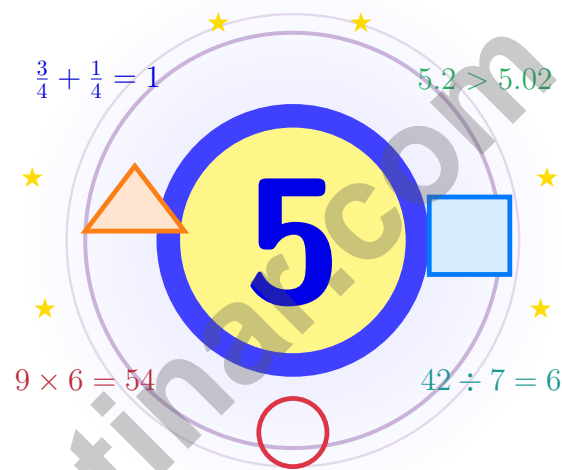
$$\frac{7}{10} = 0.7$$



**BUILT FOR SUCCESS. DESIGNED TO HELP EVERY STUDENT.**

# 5 Virginia SOL Grade 5 Math Practice Tests

*Your practice journey starts here, one smart checkpoint at a time*



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

**Jay Daie and Reza Nazari**



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# Welcome to the Math Quest, Virginia

Your practice journey starts here, one smart checkpoint at a time

## Quest Briefing for Virginia Grade 5 Math Crew

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 like the Blue Ridge Parkway – the careful drive rewards every curve with a wider view.

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 Virginia:** 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.

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# How to Use This Book

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 Virginia Quest Map

Week	Mission Focus
Week 1	Take Test 1 like the first mile on the parkway.
Week 2	Take Test 2 and notice one habit that grew steadier.
Week 3	Take Test 3 and lift fractions, decimals, and conversions.
Week 4	Take Test 4 and slow down on multi-step problems.
Week 5	Take Test 5 with calm, careful, confident driving.



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

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### LENGTH

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1) Predict which product is largest without calculating all of them.

$$A: 9 \times \frac{4}{5}$$

$$B: 9 \times 1\frac{1}{10}$$

$$C: 9 \times \frac{9}{10}$$

Compare each factor to 1

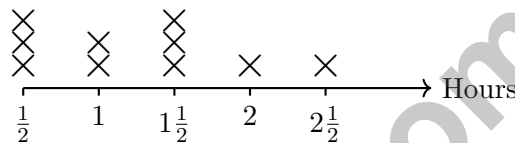
A.  $9 \times \frac{4}{5}$

C.  $9 \times \frac{9}{10}$

B.  $9 \times 1\frac{1}{10}$

D. All equal

2) The line plot shows the number of hours students exercise per week:



What is the total number of hours shown in the line plot?

A.  $12\frac{1}{2}$  hours

C. 25 hours

B. 10 hours

D.  $6\frac{1}{4}$  hours

3) A sports equipment bin measures 11 centimeters long, 5 centimeters wide, and 8 centimeters tall. What is its volume?

A. 440 cubic centimeters

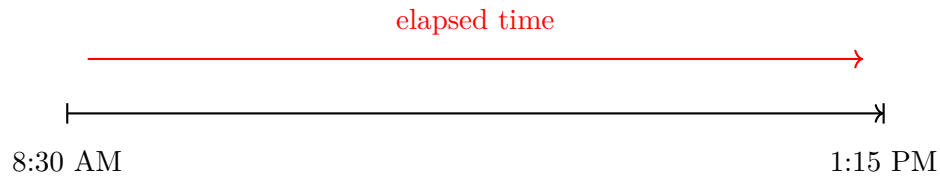
C. 88 cubic centimeters

B. 55 cubic centimeters

D. 40 cubic centimeters



- 4) A transport company tracks deliveries with arrival times: First delivery: 8:30 AM Second delivery: 10:45 AM Third delivery: 1:15 PM  
How much time passed from the first to the last delivery?



- A. 3 hours 45 minutes                       C. 4 hours 45 minutes  
 B. 4 hours 15 minutes                       D. 5 hours 15 minutes
- 5) Which statement correctly compares the place values?
- A. A digit in the hundredths place is 10 times greater than in the thousandths place.       C. A digit in the ones place is 100 times greater than in the tenths place.  
 B. A digit in the tenths place is 10 times greater than in the ones place.       D. A digit in the hundreds place is 10 times greater than in the thousands place.
- 6) Add:  $5\frac{1}{6} + 1\frac{5}{6}$
- A.  $6\frac{1}{3}$      C.  $7\frac{1}{6}$   
 B.  $6\frac{5}{6}$      D. 7
- 7) What is  $0.6 \div 100$ ?
- A. 0.6     C. 0.006  
 B. 0.06     D. 6



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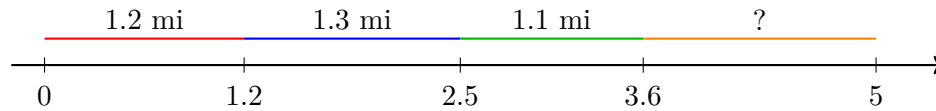
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1) A measured distance is 24 centimeters. What is this distance in millimeters?

- A. 2.4 mm                       C. 240 mm  
 B. 24 mm                         D. 2,400 mm

2) A runner completes a 5-mile course in 4 segments: 1.2 miles, 1.3 miles, 1.1 miles, and the final segment. How long is the final segment?



- A. 1.2 miles                       C. 1.4 miles  
 B. 1.3 miles                       D. 1.5 miles

3) A pattern rule doubles the input. If  $(5, y)$  is in the pattern, what is  $y$ ?

- A. 5                                       C. 25  
 B. 10                                     D. 7

4) A recipe makes 8 cups of soup. Maya wants to make  $\frac{3}{4}$  of the recipe. How many cups of soup will she make?

*Record your answer in the space provided.*

5) Subtract:  $3\frac{2}{9} - 1\frac{7}{9}$  (requires borrowing).

- A.  $2\frac{2}{9}$                                        C.  $2\frac{1}{9}$   
 B.  $1\frac{5}{9}$                                      D.  $1\frac{4}{9}$



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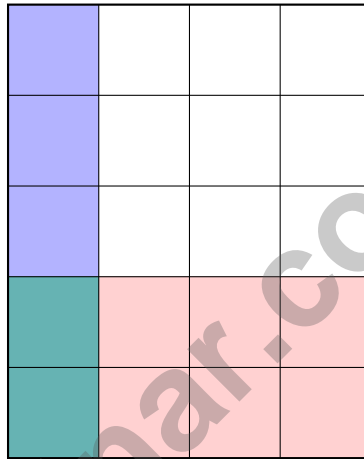


1) A composite stage platform is made from two non-overlapping rectangular prisms. Prism A is 4 centimeters long, 2 centimeters wide, and 2 centimeters tall. Prism B is 3 centimeters long, 3 centimeters wide, and 1 centimeter tall. What is the total volume?

- A. 25 cubic centimeters  
 B. 16 cubic centimeters

- C. 9 cubic centimeters  
 D. 33 cubic centimeters

2) Find the product:  $\frac{1}{4} \times \frac{2}{5}$



- A.  $\frac{2}{20}$  or  $\frac{1}{10}$   
 B.  $\frac{2}{9}$

- C.  $\frac{3}{9}$   
 D.  $\frac{1}{9}$

3) Which is the largest?

- A.  $91 \times 10$   
 B.  $91 \times 100$

- C.  $9 \times 1000$   
 D.  $10 \times 100$



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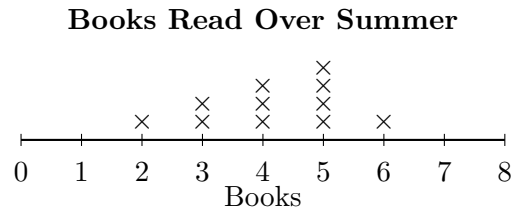
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- 1) The line plot shows the number of books read during summer break:



How many students read at least 4 books?

- A. 5
- B. 6
- C. 7
- D. 8
- 2) “Add 14 and 6. Then divide by 4.” Which expression models this?
- A.  $14 + 6 \div 4$
- B.  $(14 + 6) \div 4$
- C.  $14 \div 4 + 6$
- D.  $6 \div 4 + 14$
- 3) Find the volume:  $L = 8$  ft,  $W = 3$  ft,  $H = 4$  ft.

*Record your answer in the space provided.*

- 4) Pattern A starts at 0 and adds 4. Pattern B starts at 0 and adds 1. What ordered pair  $(A, B)$  comes after one step?

*Record your answer in the space provided.*



## 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.**

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## Practice Test Answers and Explanations

### Practice Test 1 Answers and Explanations

- Choice B is correct.** **(5.CE.2)**  $1\frac{1}{10} > 1 > \frac{9}{10} > \frac{4}{5}$ , so the largest factor produces the largest product.
- Choice A is correct.** **(5.PS.1)** Add the fractional measurements shown:  $3(\frac{1}{2}) + 2(1) + 3(1\frac{1}{2}) + 2 + 2\frac{1}{2} = 12\frac{1}{2}$  hours.
- Choice A is correct.** **(5.MG.1)** Use the rectangular-prism volume formula:  $11 \times 5 \times 8 = 440$ . So the volume is 440 cubic centimeters.
- Choice C is correct.** **(5.MG.2)** 8:30 AM to 1:15 PM: from 8:30 to 12:30 is 4 hours, 12:30 to 1:15 is 45 minutes. Total: 4 hours 45 minutes.
- Choice A is correct.** **(5.PFA.1)** Each decimal place is 10 times the value of the next place to the right. So hundredths (0.01) is 10 times greater than thousandths (0.001).
- Choice D is correct.** **(5.NS.1)** Add:  $5\frac{1}{6} + 1\frac{5}{6} = 6\frac{6}{6} = 7$ .
- Choice C is correct.** **(5.NS.2)** Dividing by 100 moves the decimal 2 places left:  $0.6 \rightarrow 0.06 \rightarrow 0.006$ .
- Choice B is correct.** **(5.MG.1)** Divide the volume by the base area:  $360 \div 40 = 9$ , so the height is 9 cm.
- Choice D is correct.** **(5.NS.1)**  $\frac{4}{7} \approx \frac{1}{2}$ ,  $\frac{9}{10}$  is close to 1,  $\frac{1}{11} \approx 0$ , and  $\frac{8}{9} \approx 1$ . All fit their benchmarks.
- Choice D is correct.** **(5.NS.2)** A power of 10 tells how many factors of 10 to use.  $36 \div 10 = 3.6$ . This confirms the answer.
- Choice D is correct.** **(5.CE.2)**  $8 \times \frac{3}{8} = 3$  slices. The scaling factor  $\frac{3}{8}$  is less than 1, so the result is smaller than 8.
- The correct answer is (4, 2).** **(5.NS.2)** Moving 4 units right gives an  $x$ -coordinate of 4. Moving 2 units up gives a  $y$ -coordinate of 2, so the point is (4, 2).
- The correct answer is 4.** **(5.MG.3)** A square is a quadrilateral, a rectangle, a rhombus, and a parallelogram.
- The correct answer is  $23\frac{1}{2}$  in.** **(5.PS.1)** Add the lengths represented by the line plot:  $2 \times 3\frac{1}{2} = 7$ ,  $3 \times 4 = 12$ , and  $1 \times 4\frac{1}{2} = 4\frac{1}{2}$ . The total is  $7 + 12 + 4\frac{1}{2} = 23\frac{1}{2}$  inches.
- Choice B is correct.** **(5.CE.2)** LCM(2,3,6) = 6.  $\frac{1}{2} = \frac{3}{6}$ ,  $\frac{1}{3} = \frac{2}{6}$ ,  $\frac{1}{6} = \frac{1}{6}$ .  $\frac{3}{6} + \frac{2}{6} + \frac{1}{6} = \frac{6}{6} = 1$ .
- Choice B is correct.** **(5.MG.2)** Multiply:  $26 \times 7 = (20 \times 7) + (6 \times 7) = 140 + 42 = 182$  salads.
- Choice C is correct.** **(5.MG.1)** Original:  $4 \times 3 \times 4 = 48$ . Remove one layer: height becomes 3. New volume:  $4 \times 3 \times 3 = 36$  cubic units.
- The correct answer is 5.75.** **(5.CE.1)** Write  $9.40 - 3.65$ . Regroup 1 tenth as 10 hundredths, then subtract by place value:  $9.40 - 3.65 = 5.75$ .
- Choice A is correct.** **(5.MG.2)**  $V = 14 \times 3 \times 6 = 42 \times 6 = 252 \text{ in}^3$ .
- Choice C is correct.** **(5.MG.1)** Convert 4 feet to inches:  $4 \times 12 = 48$  inches. Divide by 12-inch pieces:  $48 \div 12 = 4$  pieces.
- Choices A, B are correct.** **(5.MG.3)** Parallelograms always have opposite sides parallel and opposite sides equal in length. Some special parallelograms have all right angles or all equal sides, but those are not true for every parallelogram.
- Choice A is correct.** **(5.CE.2)**  $\frac{1}{3} \times \frac{3}{4} = \frac{3}{12} = \frac{1}{4}$  pound.
- Choice A is correct.** **(5.MG.1)** Convert all to meters: 5,000 mm = 5 m, 50 m = 50 m, 0.5 km = 500 m, and 600 cm = 6 m. The smallest is 5,000 mm, which is 5 m.
- Choice A is correct.** **(5.MG.2)** Butter needed =  $\frac{1}{3} \times \frac{3}{4} = \frac{3}{12} = \frac{1}{4}$  cup.
- Choice B is correct.** **(5.CE.2)** The total is 6 wholes and each counted piece is one fourth. So the matching equation is  $6 \div \frac{1}{4} = n$ .
- Choice D is correct.** **(5.NS.2)** Dividing by 1,000 moves the decimal point three places to the left.  $9,200 \div 1,000 = 9.2$ .
- The correct answer is 9.** **(5.PFA.1)** Use place-value reasoning to keep the decimal in the correct place. Multiply both by 10:  $72 \div 8 = 9$ . This confirms the answer.
- Choice B is correct.** **(5.NS.2)** Dividing by 100 moves the decimal two places left, so 720 becomes 7.2.
- Choice B is correct.** **(5.NS.2)** Find each part first: Prism A is  $9 \times 4 \times 3 = 108$  cubic inches, and Prism B is  $6 \times 4 \times 5 = 120$  cubic inches. Because the parts do not overlap, add them:  $108 + 120 = 228$  cubic inches.



## Hey there, Mathematical Inventor!

★ Brilliant innovation session! You've engineered solutions to five complete practice tests, designing creative approaches and building mathematical machines in your mind like a master inventor! Every problem you solved required you to design a solution strategy, test different approaches, and refine your methods. That's exactly what inventors do and you've become exceptionally skilled at it! ★

◇ **Here's what successful inventors understand:** the first prototype rarely works perfectly. Great inventors test, adjust, redesign, and improve until they create something remarkable. You've practiced that exact process through these five tests! Each mistake taught you to refine your approach, and now you have a toolbox full of reliable mathematical inventions ready to use! ◇

### Inventor's Workshop: Your Creations

- **Problem-Solving Blueprints:** You've designed reliable methods for every problem type!
- **Strategic Prototypes:** You test multiple approaches to find the most efficient solution!
- **Quality Testing:** You verify your answers to ensure accuracy before submitting!
- **Continuous Improvement:** You learn from feedback and consistently enhance your skills!

**Remember this inventor's principle:** preparation is the foundation of innovation! Five complete practice tests represent substantial preparation. You've tested your mathematical machines repeatedly, and they work beautifully. Test day is your opportunity to demonstrate your inventions to the world. Trust your engineering!

Want to patent a particularly clever solution method? Share your mathematical inventions at [reza@testinar.com](mailto:reza@testinar.com). I celebrate innovative thinking!

**Reza Nazari & Jay Daie**

Your Supportive Math Coaches

# 5 FULL-LENGTH TESTS. STRONG SKILLS. BRIGHTER RESULTS.



Build confidence and master math with **5 full-length** practice tests designed to reflect the real test experience. This book provides the practice, review, and support students need to succeed in Grade 5 and beyond!

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### 5 FULL-LENGTH PRACTICE TESTS

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### COMPLETE STANDARDS REVIEW

Covers all essential Grade 5 math topics with clear explanations and examples.



### SKILL PRACTICE

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