

# 3

# Virginia SOL

## GRADE 3

# MATH PRACTICE TESTS

Standards-Aligned  
Practice for Stronger  
Math Skills and  
Test Readiness



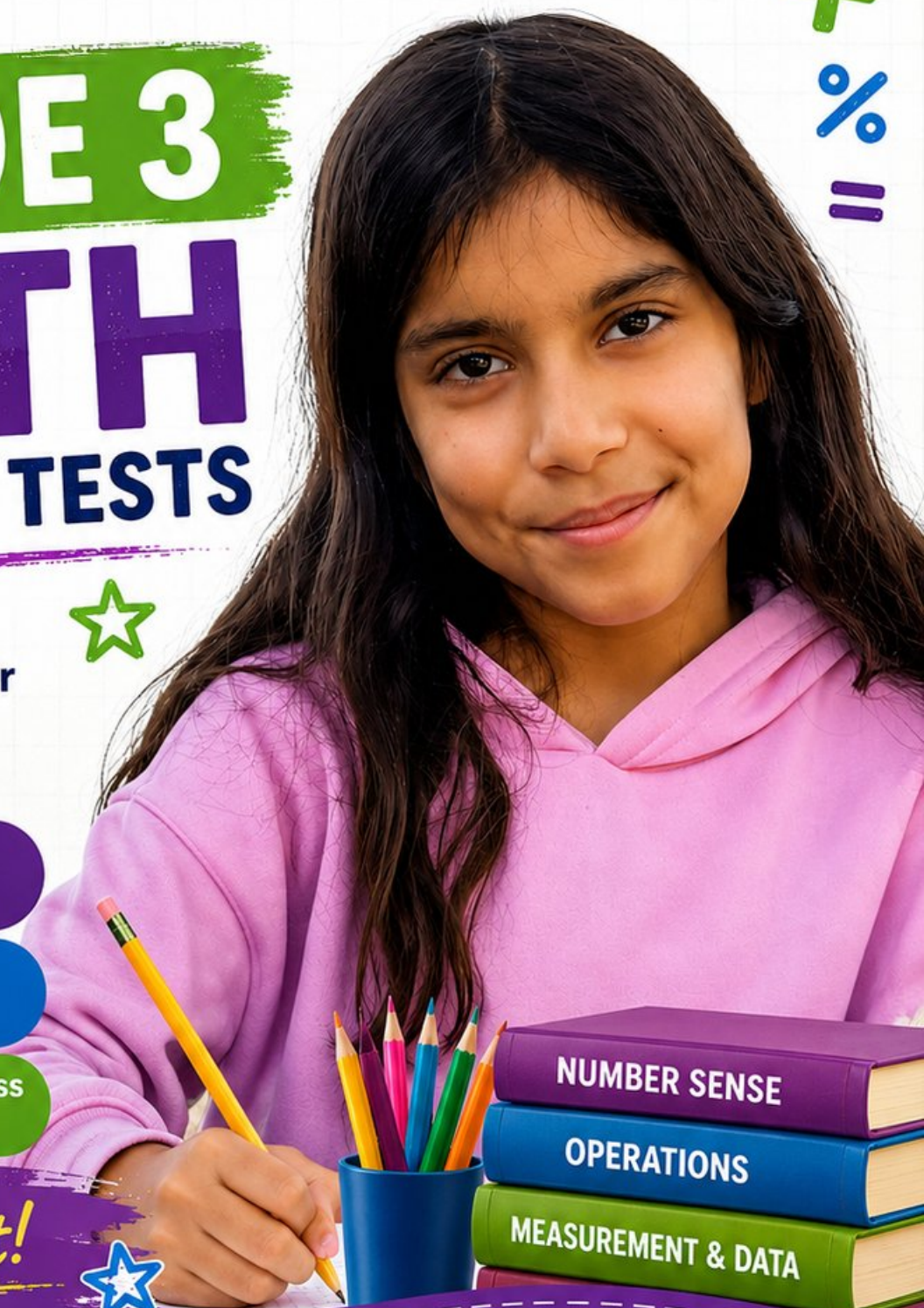
Build Confidence  
with Targeted Practice



Strengthen Skills  
in Key Math Concepts



Improve Test Readiness  
with Realistic Practice

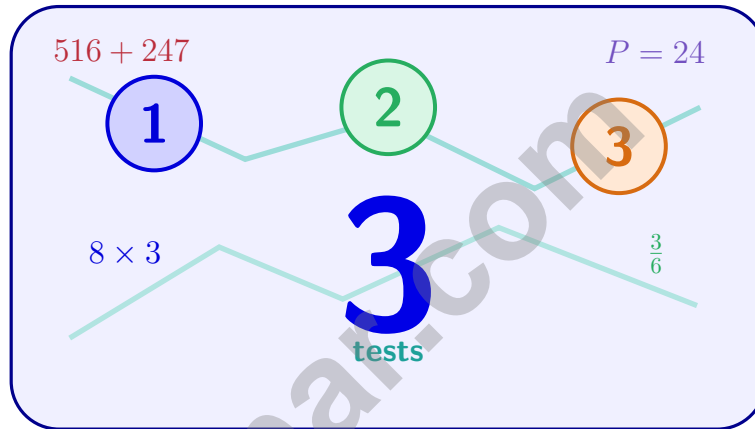


Be Ready.  
Do Your Best!



# 3 Virginia SOL Grade 3 Math Practice Tests

*Standards-Aligned Practice for Stronger Math Skills and Test Readiness*



Three 30-question trail tests packed with Grade 3 review, Virginia SOL strategy tips, answer keys, and step-by-step explanations that turn every miss into the next move.

**Jay Daie and Reza Nazari**



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# Welcome to the Virginia Math Trail

Three tests, one trail, and a stronger Grade 3 thinker at the end



## To the Grade 3 Trail Scout

This book is your practice trail for the Virginia SOL. You will multiply and divide, read graphs, work with fractions, measure time, find area, and explain your thinking – one trail marker at a time.

Some problems will feel quick, like a clear stretch of wide open trail. Some will ask you to slow down, draw, count, or try again. That slow part is where strong math grows. Every page gives your brain another chance to spot, choose, and build.

### Spot

Read carefully and find what the problem is really asking.

### Sketch

Use numbers, arrays, number lines, or labels to make your thinking visible.

### Signal

Check that your answer makes sense before you wave the next question on.

**Trail promise:** I will read like a tracker, sketch like a planner, and check like a careful scout. I do not have to be perfect to keep moving forward.

# How to Use This Book

A four-step trail plan that turns practice into progress

## Step 1: Pack Your Pack

**Read the Quick Review first.**  
Wake up the Grade 3 ideas you will need before you set foot on the trail.

## Step 2: Hit the Trail

**Take one full test.**  
Thirty questions. Pencil sharp, work shown, calm pace – one marker at a time.

## Step 3: Campfire Check

**Check answers honestly.**  
Circle missed questions. Star any problem that felt confusing – those are tomorrow’s clues.

## Step 4: Track Back

**Fix a few mistakes.**  
Read the explanation, rework the problem, and carry that lesson up the next stretch of trail.

## A Three-Week Trail Plan

<b>Week 1</b>	Hike Test 1. Map what feels strong and what needs a second look.
<b>Week 2</b>	Hike Test 2. Sharpen the habits: read slow, sketch the model, label every number.
<b>Week 3</b>	Hike Test 3. Bring everything – facts, models, checks, and calm focus.

**Best trail habit:** Do not only ask, “What did I score?” Ask, “What did I learn how to do better?”



# Test Overview

## What waits on the trail and what each practice test builds

Each practice test has 30 questions. Together they walk you through the kind of math thinking the Virginia SOL asks Grade 3 students to use: read carefully, choose a strategy, show work, and check whether an answer makes sense.

### Selected-Response Questions

Pick the best answer from the choices. Strong scouts estimate first, cross out answers that cannot be right, and reread the question before circling.

### Open-Ended Questions

Write the answer and show the thinking. A clear response uses neat numbers, helpful labels, and a short model or explanation.

### Grade 3 Ideas You Will Meet on the Trail

- multiplication, division, arrays, equal groups, and fact fluency
- rounding, adding, subtracting, and multiplying by multiples of 10
- fractions, number lines, equivalent fractions, and comparing fractions
- time, mass, liquid volume, picture graphs, bar graphs, and line plots
- area, perimeter, unit squares, rectangles, and shapes
- two-step word problems and explaining a solution path

**What strong SOL work looks like:** the scout reads the whole problem, picks a sensible strategy, writes numbers neatly, labels the answer, and checks that the answer truly fits the question.



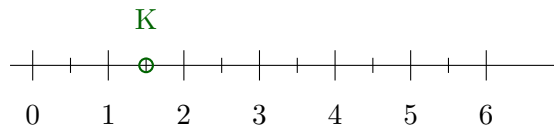
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1)

The number line from 0 to 6 is divided into halves. Point  $K$  is at 1.5. Write point  $K$  as an improper fraction.

A.  $\frac{2}{3}$

C.  $\frac{6}{2}$

B.  $\frac{3}{2}$

D.  $\frac{12}{2}$

2) Ben shares 32 cookies equally among 4 friends. How many cookies does each friend get?

A. 28

C. 9

B. 36

D. 8

3) Look at this grid below. Count the unit squares that cover the rectangle. Show your counting method: Did you count by rows, by columns, or another way?



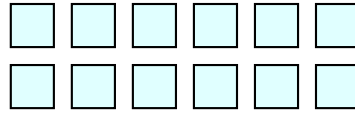
What is the total area?



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7)



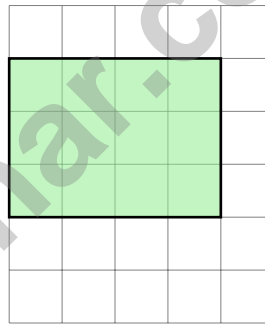
What is the product shown by this array?

 A. 10 C. 6 B. 8 D. 12

8) Eli drinks juice from a bottle. The bottle contained 1 liter. After he drinks some, 300 mL remains. How much juice did he drink?

 A. 300 mL C. 700 mL B. 500 mL D. 1000 mL

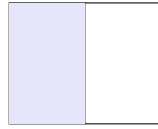
9) Look at the shaded squares on the grid. Count the unit squares.

 A. 10 square units C. 11 square units B. 12 square units D. 13 square units

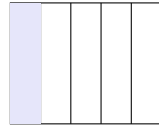
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1) Which picture shows  $\frac{1}{2}$  shaded?

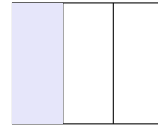
A



B



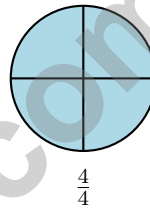
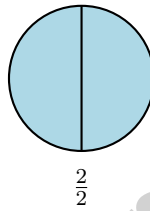
C



- A. Picture A  
 B. Picture B

- C. Picture C  
 D. None of these

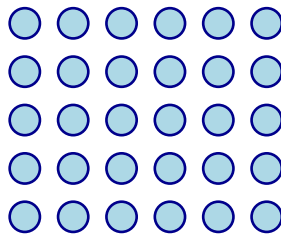
2) Look at the circle models. Which shows 1 whole in two different ways?



- A. Only the left shows 1  
 B. Both show 1 whole

- C. Only the right shows 1  
 D. Neither shows 1

3) Look at this array. Count the objects.



5 rows with 6 objects in each row

- A. 25 objects  
 B. 28 objects

- C. 30 objects  
 D. 36 objects



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 & answers

4) If  $\square \times 3 = 18$ , what is  $18 \div 3$ ?

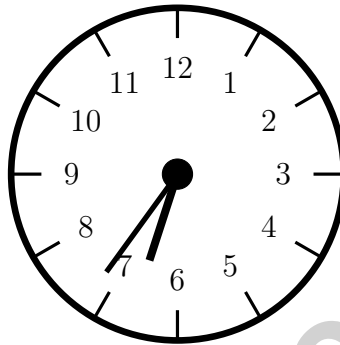
A. 3

C. 9

B. 18

D. 6

5) Look at the clock. What time is shown?



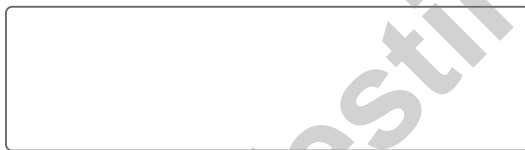
A. 6 : 32

C. 4 : 30

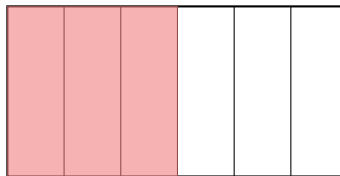
B. 6 : 36

D. 10 : 32

6) A square has how many right angles?



7) A rectangle is split into 6 equal strips. What fraction of the rectangle is 3 strips?



A.  $\frac{1}{6}$

C.  $\frac{3}{6}$

B.  $\frac{1}{3}$

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



1) Which shape has 4 equal sides and 4 right angles?

- A. Rectangle                       C. Square  
 B. Rhombus                         D. Trapezoid

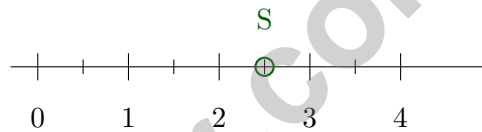
2) Below is a grouped representation showing 3 groups of items with 5 items in each group drawn as stars.



How many stars are there in total?

- A. 8                                       C. 10  
 B. 12                                    D. 15

3)



The tick marks divide a number line from 0 to 4 into halves. Where is point  $S$ ?

- A.  $\frac{3}{2}$                                        C.  $\frac{7}{2}$   
 B.  $\frac{5}{2}$                                        D.  $\frac{9}{2}$

4) Mia's desk is rectangular with length 7 feet and width 3 feet. Using repeated addition ( $3 + 3 + 3 + 3 + 3 + 3 + 3$ ), find the area.



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5) Eli made  $\frac{8}{4}$  pitchers of lemonade. How many whole pitchers did he make?

A. 1

C. 8

B. 4

D. 2

6)  $\frac{1}{2} = \frac{?}{6}$ . What is the missing numerator?

A. 1

C. 3

B. 2

D. 4

7) A school library has 456 books. The librarian buys 244 more books. How many books are in the library now?

A. 700

C. 690

B. 701

D. 711

8) Find  $4 \times (5 + 3)$ .

9) Mia and one friend share 16 cookies equally. How many cookies does each person get?

A. 6

C. 14

B. 18

D. 8

10) A number line from 0 to 1 is divided into 5 equal parts. What is the length of each part?

A.  $\frac{1}{5}$

C.  $\frac{5}{1}$

B.  $\frac{5}{1}$

D.  $\frac{1}{1}$



## Practice Test Answer Keys

**How to use this section with a Grade 3 student:**

1. check the answer first
2. mark questions to try again
3. rework the problem before reading the full explanation

**A calm correction routine builds stronger math habits.**

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## Practice Test Answers and Explanations

### Practice Test 1 Answers and Explanations

- Choice B is correct.** **(3.NS.1)** Point  $K$  at 1.5 is the third half-mark:  $\frac{3}{2} = 1.5$ .
- Choice D is correct.** **(3.CE.2)** Divide:  $32 \div 4 = 8$  cookies per friend.
- The correct answer is 48 sq units.** **(3.MG.1)** Count rows:  $8 + 8 + 8 + 8 + 8 + 8 = 48$  unit squares. Or count columns:  $6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 = 48$  unit squares.
- Choice B is correct.** **(3.MG.2)**  $5 \times 6 = 30$  unit square pavers.
- Choice B is correct.** **(3.MG.1)** At  $\frac{1}{4}$  inch there are 4 X's. At  $\frac{1}{2}$  inch there are 2 X's. The difference is  $4 - 2 = 2$  days.
- Choice A is correct.** **(3.NS.1)** Left rectangle: Area = 10, Height = 2, so Width =  $10 \div 2 = 5$ . Check:  $2 \times (5 + 3) = 2 \times 8 = 16 = 10 + 6$ .
- Choice D is correct.** **(3.NS.1)** The array shows 6 columns and 2 rows. So  $6 \times 2 = 12$  or  $2 \times 6 = 12$ .
- Choice C is correct.** **(3.MG.1)** 1 L = 1000 mL. Subtract:  $1000 - 300 = 700$  mL drunk.
- Choice B is correct.** **(3.MG.2)** The rectangle is 4 units wide and 3 units tall.  $4 \times 3 = 12$  square units.
- Choice B is correct.** **(3.MG.2)**  $P = 2(6) + 2(3) = 12 + 6 = 18$  units.
- Choice B is correct.** **(3.NS.1)** Four equal parts on the number line give unit fraction  $\frac{1}{4}$ .
- The correct answer is 2.** **(3.NS.1)**  $\frac{1}{3}$  is equivalent to  $\frac{2}{6}$ .
- Choices A and B are correct.** **(3.NS.1)**  $24 \div 3 = 8$  is the division sentence. The related multiplication is  $3 \times 8 = 24$ . Choice C confuses the divisor, choice D uses addition instead of division, and choice E swaps the dividend and divisor.
- Choice A is correct.** **(3.PFA.1)** Round 456 to 500 and 237 to 200. Estimate:  $500 + 200 = 700$ . Mia's answer 693 is very close to 700, so it is reasonable. (Exact:  $456 + 237 = 693$  is correct.)
- Choice A is correct.** **(3.NS.1)** One shaded part out of three equal parts is  $\frac{1}{3}$ .
- Choice C is correct.** **(3.NS.1)** The area model shows 4 groups of  $(6 \times 10)$ . Adding:  $60 + 60 + 60 + 60 = 240$ . Or:  $(4 \times 6) \times 10 = 24 \times 10 = 240$ .
- Choice C is correct.** **(3.NS.1)**  $8 \times 7 = 56$ . Think  $8 \times 7 = 8 \times (5 + 2) = 40 + 16 = 56$ .
- Choice B is correct.** **(3.NS.3)** Multiply numerator and denominator by 2:  $\frac{1 \times 2}{4 \times 2} = \frac{2}{8}$ .
- Choice C is correct.** **(3.NS.1)**  $\frac{1}{2}$  divides the distance into two equal parts, so it is exactly in the middle.
- Choice B is correct.** **(3.PS.1)** Read the height of each bar on the vertical axis by counting the grid lines.
- Choice A is correct.** **(3.PS.1)** Same numerator: fourths are smaller pieces than thirds. One fourth is smaller than one third.
- Choice D is correct.** **(3.CE.2)** The picture shows 3 groups with 5 circles in each group, so the matching equation is  $3 \times 5 = \square$ .
- Choice A is correct.** **(3.NS.1)** Area = length  $\times$  width, so  $36 = \text{length} \times 4$ . Therefore, length =  $36 \div 4 = 9$  feet. Choice B (8) is a common error; C (40) confuses with perimeter; D (32) is area minus width.
- The correct answer is 1 cm<sup>2</sup>.** **(3.MG.1)** Area = side length  $\times$  side length =  $1 \text{ cm} \times 1 \text{ cm} = 1$  square centimeter.
- Choice D is correct.** **(3.CE.2)** If  $35 \div \square = 7$ , rewrite this as a missing-factor problem:  $7 \times \square = 35$ . We ask: 7 times what gives 35? Since  $7 \times 5 = 35$ , the missing divisor is 5. This shows division working backwards from multiplication.
- Choice C is correct.** **(3.NS.1)** For 127: to the nearest 10, look at the ones digit ( $7 \geq 5$ ), so it rounds to 130. To the nearest 100, look at the tens digit ( $2 < 5$ ), so it rounds to 100. Both answers are correct for their respective place values.
- Choice C is correct.** **(3.NS.3)**  $\frac{3}{4}$  is not equivalent to  $\frac{4}{8}$ , which equals  $\frac{1}{2}$ . The other choices all name three-fourths.
- Choice A is correct.** **(3.PS.1)** Step 1: Team A total:  $4 + 5 = 9$  goals. Step 2: How many more than Team B:  $9 - 6 = 3$  more goals. Choices A and B both work (parentheses clarify order), but A is clearer.
- Choice C is correct.** **(3.MG.2)** Left:  $6 \times 5 = 30$  sq ft. Right:  $4 \times 3 = 12$  sq ft. Total:  $30 + 12 = 42$  sq ft.
- Choice D is correct.** **(3.PS.1)** The area model shows a rectangle split into two parts: one part is  $3 \times 2 = 6$  and the other is  $2 \times 2 = 4$ . Using the distributive property:  $2 \times (3 + 2) = 2 \times 3 + 2 \times 2 = 6 + 4 = 10$ .



## Hi, Math Inventor!

◇ 3 practice tests. 3 chances to invent new ways to think. You tried things. You changed them. You made your math brain stronger! ◇

★ **Inventors know:** the first try isn't always the best try. Sometimes you fix it. Sometimes you start over. You did all of that! ★

### Inventor's Workshop

- **Sketch Pad:** Full of ideas!
- **Toolbox:** Lots of math strategies.
- **Workbench:** Neat and organized.
- **Brave Mind:** You try new things.

**Inventor tip:** on test day, if your first try doesn't work, switch tools. Inventors don't get stuck on one tool. Pick the right one for the job!

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 Inventor

# 3 GRADE 3 MATH PRACTICE TESTS

Practice Today. *Succeed* Tomorrow!



Give your child the tools to build strong math skills and test confidence!

This book includes 3 full-length Grade 3 Math practice tests that mirror real test formats and cover all key math standards. With a wide range of question types and real-world problems, students will gain the practice and confidence they need to do their best!

## What's Inside?



### Standards-Aligned Practice

Questions designed to cover essential Grade 3 math standards.



### Variety of Question Types

Multiple-choice, short answer, and more to build well-rounded skills.



### Real-World Applications

Engaging problems that connect math to everyday life.



### Step-by-Step Progress

Track improvement and build confidence with every test.



### Build Skills & Boost Confidence

Strengthen understanding and feel prepared for test day.

## COVERS ALL ESSENTIAL TOPICS

- ✓ Whole Numbers & Operations
- ✓ Fractions & Decimals
- ✓ Algebraic Thinking
- ✓ Geometry
- ✓ Measurement & Data
- ✓ Number Patterns
- ✓ Word Problems
- ✓ Ratio & Proportion
- ✓ Perimeter, Area & Volume
- ✓ Graphing & Data Analysis
- ✓ And More!



More Grade 3 Math Resources & Practice Materials

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**PRACTICE. PREPARE. SUCCEED.**