

# 4

# Virginia SOL

## Grade 3

# MATH

## PRACTICE TESTS

### Standards-Aligned Practice



#### STANDARDS-ALIGNED

Practice to build skills and boost confidence



#### 4 FULL-LENGTH TESTS

Realistic questions to prepare for test day



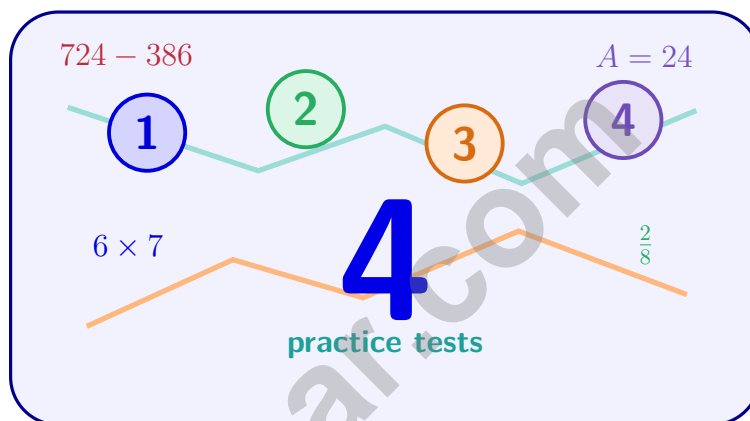
#### ANSWER KEYS & EXPLANATIONS

Detailed solutions to learn and improve



# 4 Virginia SOL Grade 3 Math Practice Tests

*Standards-Aligned Review with Mixed Practice and Answer Key*



Four focused 30-question missions for Grade 3 math: number facts, fractions, measurement, data, area, shapes, answer keys, and clear explanations for every item.

**Jay Daie and Reza Nazari**



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# Welcome to the Virginia Math Launch

Four missions, careful work, and a stronger Grade 3 thinker



Read the mission. Show the work. Check the answer. Launch again.

## To the Grade 3 Mission Leader

This book is a four-mission practice launch for the Virginia SOL. Each test gives you a fresh chance to multiply, divide, read graphs, compare fractions, measure, find area, and explain math in a way someone else can follow.

Virginia has mountain passes, river roads, and historic places where details tell the story. Good math uses the same habit: pause, check the details, and move forward with a steady plan.

### Notice

Find the numbers, units, and question before choosing a path.

### Model

Draw an array, number line, table, or quick equation.

### Verify

Ask whether your answer fits the story and the unit.

**Launch promise:** I will slow down at the important moments, show the work I can, and use every miss as a clue for the next mission.

# How to Use This Book

A four-mission routine for steady Grade 3 growth

## 1. Warm Up the System

Read the review pages first. Remind your brain how equal groups, fractions, clocks, graphs, and area models work.

## 2. Fly One Mission

Take one complete 30-question test. Keep your work neat enough that you can check it later.

## 3. Review the Flight

Use the answer key, then pause. A wrong answer is useful when you can name what happened.

## 4. Repair and Relaunch

Rework a few missed questions before starting the next test. The repair step is where the score begins to move.

### A Four-Session Plan

<b>Session 1</b>	Take Test 1 and mark the topics that need attention.
<b>Session 2</b>	Take Test 2 and focus on showing every step clearly.
<b>Session 3</b>	Take Test 3 and watch for units, labels, and two-step problems.
<b>Session 4</b>	Take Test 4 and finish with calm, careful checking.

**Best mission habit:** After checking answers, write one sentence: “Next time I will pay attention to \_\_\_\_\_.”



## Test Overview

### What each Grade 3 math mission asks you to do

Each practice test has 30 questions. Across four tests, you will practice the kind of Grade 3 math thinking used on the Virginia SOL: reading carefully, choosing a strategy, doing accurate computation, and explaining enough work to make your answer clear.

#### Multiple Choice

Look for the best answer. Estimate first when you can, cross out choices that do not fit, and reread the question before you choose.

#### Open Response

Write the answer and show the reason. A good Grade 3 response may use a drawing, equation, table, number line, or a few clear words.

#### Math Ideas Inside the Four Tests

- multiplication, division, arrays, missing factors, and two-step word problems
- place value, rounding, addition, subtraction, and multiplying by tens
- unit 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 shape categories

**What strong SOL work looks like:** the answer matches the question, the units make sense, and the work is clear enough to check.



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& answers

# Table of Contents

★ Practice Test 1	_____	13
★ Practice Test 2	_____	25
★ Practice Test 3	_____	37
★ Practice Test 4	_____	49
Practice Test Answer Keys	_____	60
Practice Test Answers and Explanations	_____	63

1) Which list shows the multiples of 4 from 1 to 20?

A. 1, 5, 9, 13, 17

C. 2, 6, 10, 14, 18

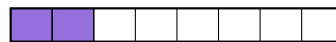
B. 3, 7, 11, 15, 19

D. 4, 8, 12, 16, 20

2) Which fraction is equivalent to  $\frac{2}{8}$ ?



$\frac{1}{4}$



$\frac{2}{8}$

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

C.  $\frac{2}{4}$

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

D.  $\frac{3}{4}$

3) Ben draws a rectangle on a grid. It has 4 rows of unit squares and 5 columns. What is the area?

A. 18 sq units

C. 9 sq units

B. 24 sq units

D. 20 sq units

4) Ben has 36 books. He puts them equally on 4 shelves. How many books are on each shelf?

A. 9

C. 10

B. 8

D. 12

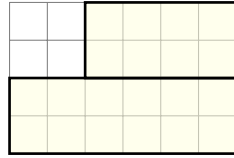
5) A classroom is shaped like an L. One part is 8 units by 3 units. The other part is 5 units by 2 units. What is the total area of the classroom?



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10) This grid shows a step-shaped figure made of unit squares. Count by breaking it into parts.



How many unit squares cover this step shape?

- A. 12 sq units
- B. 16 sq units
- C. 20 sq units
- D. 24 sq units

11) Noah marks  $\frac{3}{8}$  on a number line from 0 to 1 divided into 8 equal parts. Then he marks  $\frac{5}{8}$ . How many eighths are between these two points?

- A. 1 eighth
- B. 2 eighths
- C. 3 eighths
- D. 5 eighths

12) Which picture shows 10 items divided equally into 2 groups?

- A. Two groups of five



- B. Five groups of two



- C. Ten groups of one



- D. Five groups of ten



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1) Ava buys 4 packs of crayons with 9 crayons in each pack. She already has 7 crayons. Let  $c$  be the total number of crayons. Which equation shows how to find  $c$ ?

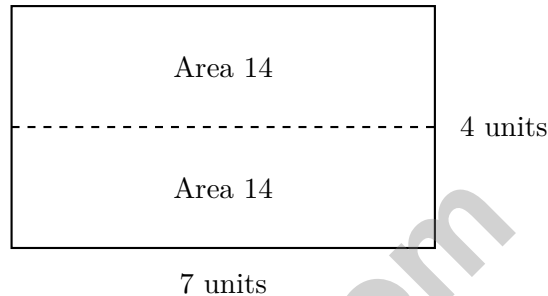
A.  $c = 4 + 9 + 7$

C.  $c = 4 \times 9 \times 7$

B.  $c = 9 + 7 - 4$

D.  $c = (4 \times 9) + 7$

2) A rectangle has this tiling:



Which sum of the two smaller areas gives the total area?

A.  $7 \times 2 = 14$

C.  $14 + 14 = 28$

B.  $7 \times 3 = 21$

D.  $7 + 4 = 11$

4 inches



6 inches

3)

A rectangular tile is 6 inches long and 4 inches wide. Find the area.

A. 24 sq in

C. 10 sq in

B. 20 sq in

D. 12 sq in



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- 4) Mia had some stickers. She gave away 145 stickers and has 238 left. How many stickers did Mia have at the start?

- 5) Lily's sandbox is a square with sides of 5 feet. How many square feet is the sandbox?

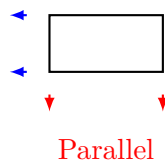
- A. 10 sq ft                       C. 25 sq ft  
 B. 20 sq ft                       D. 30 sq ft

- 6) Which number is missing from the multiplication fact family?  $\_\_ \times 5 = 35$

- A. 6                                   C. 8  
 B. 9                                   D. 7

- 7) A number line from 0 to 1 is divided so there are exactly 4 equal parts. If you mark the first partition, what fraction do you mark?

- A.  $\frac{1}{4}$                                    C.  $\frac{1}{5}$   
 B.  $\frac{1}{3}$                                    D.  $\frac{4}{4}$



8)

Which statement about parallel sides is true?

- A. All triangles have parallel sides                       C. No quadrilaterals have parallel sides  
 B. All rectangles have parallel sides                       D. Only circles have parallel sides



1) A teacher says: “If a number rounds to 500 when rounded to the nearest 100, it must be at least 450. Is the teacher correct? Why or why not?”

- A. Yes, the teacher is correct
- B. No, numbers from 450 to 549 round to 500
- C. No, numbers as low as 400 can round to 500
- D. No, the rule only works for even numbers

2) Which comparison is true?

- A.  $\frac{3}{5} > \frac{3}{4}$
- B.  $\frac{3}{5} < \frac{3}{4}$
- C.  $\frac{3}{4} < \frac{3}{5}$
- D.  $\frac{3}{5} = \frac{3}{4}$

3) The theater has 8 rows of seats. Each row has 30 seats. How many seats are in the theater?

- A. 38
- B. 83
- C. 240
- D. 2400

4) A picture graph shows apples in bags. Look at the key and count the symbols.

Key: ● = 5 apples

Bag 1: ● ● ●

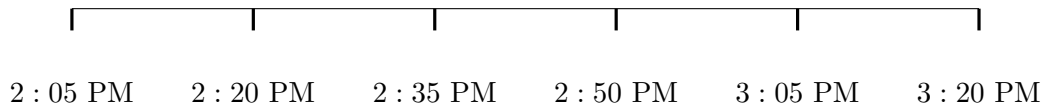
Bag 2: ● ● ● ●

- A. Bag 1 has 15 apples, Bag 2 has 20 apples.
- B. Bag 1 has 3 apples, Bag 2 has 4 apples.
- C. Bag 1 has 15 apples, Bag 2 has 10 apples.
- D. Bag 1 has 20 apples, Bag 2 has 15 apples.



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5) Look at the number line showing elapsed time.



What is the elapsed time from 2 : 35 PM to 3 : 05 PM?

- A. 25 minutes                       C. 35 minutes  
 B. 30 minutes                       D. 45 minutes
- 6) A square mural is made of unit tiles. It has 6 columns and 6 rows. What is the area of the mural?
- A. 12                                       C. 36  
 B. 24                                       D. 66
- 7) Find  $\frac{1}{3} + \frac{1}{3}$ .

- 8) Tom's teacher asked him to match  $8 \times 2$  to a picture. Which picture is correct?
- A. Eight rows of 8 objects each                       D. Eight separate groups with 2 objects in each  
 B. Two rows of seven objects each  
 C. A single group of ten objects
- 9) Talia has 45 stickers. She wants to arrange them in 9 equal rows. How many stickers will be in each row?
- A. 4 stickers                                       C. 6 stickers  
 B. 7 stickers                                       D. 5 stickers



## 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 turns every missed item into useful practice.**

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## Practice Test Answers and Explanations

### Practice Test 1 Answers and Explanations

- 1) **Choice D is correct.** **(3.OA.D.9)** Multiples of 4 follow the pattern 4, 8, 12, 16, 20, increasing by 4 each time.
- 2) **Choice A is correct.** **(3.NF.A.3)**  $\frac{2}{8}$  and  $\frac{1}{4}$  both equal one-quarter of a whole.
- 3) **Choice D is correct.** **(3.MD.C.7)** Area = rows  $\times$  columns =  $4 \times 5 = 20$  square units.
- 4) **Choice A is correct.** **(3.OA.A.3)** Divide:  $36 \div 4 = 9$  books per shelf.
- 5) **The correct answer is 34 square units.** **(3.MD.C.7d)** Part 1:  $8 \times 3 = 24$  sq units. Part 2:  $5 \times 2 = 10$  sq units. Total:  $24 + 10 = 34$  sq units.
- 6) **Choice B is correct.** **(3.MD.B.3)** Multiply the height by the scale:  $3 \times 5 = 15$  goldfish.
- 7) **Choice B is correct.** **(3.G.A.2)** If 5 out of 8 parts are colored, then  $8 - 5 = 3$  parts are not colored, which is  $\frac{3}{8}$ .
- 8) **Choice A is correct.** **(3.NF.A.3c)** Any whole number with denominator 1 equals that number.  $5 = \frac{5}{1}$ . Check: (B) is all fifths, (C) is a unit fraction, (D) is not whole.
- 9) **Choice D is correct.** **(3.MD.C.5b)**  $4 \times 7 = 28$  unit square stones.
- 10) **Choice C is correct.** **(3.MD.C.6)** Count bottom part:  $6 \times 2 = 12$  squares. Count top-right part:  $4 \times 2 = 8$  squares. Total:  $12 + 8 = 20$  unit squares.
- 11) **Choice B is correct.** **(3.NF.A.2b)** The distance from  $\frac{3}{8}$  to  $\frac{5}{8}$  is  $\frac{5}{8} - \frac{3}{8} = \frac{2}{8}$ , which is 2 eighths.
- 12) **Choice A is correct.** **(3.OA.A.2)**  $10 \div 2 = 5$ . The picture shows 10 items split into 2 equal groups of 5 each.
- 13) **Choices A and B are correct.** **(3.MD.C.5)** A is correct:  $2 \times 6 = 12$  square units. B is correct:  $3 \times 4 = 12$  square units. C is wrong:  $3 \times 3 = 9$ . D is wrong:  $5 \times 2 = 10$ . E is wrong:  $4 \times 2 = 8$ .
- 14) **Choice A is correct.** **(3.MD.C.7c)** The distributive property lets us split 8 into  $3 + 5$  and add two smaller areas:  $18 + 30 = 48$ . This matches tiling the rectangle in two parts.
- 15) **The correct answer is 12.** **(3.OA.D.8)**  $4 \times 5 = 20$ , and  $20 - 8 = 12$ .
- 16) **Choice C is correct.** **(3.NF.A.3a)** Two fractions are equivalent if they represent the same-size region. Since both shaded regions are equal,  $\frac{2}{3} = \frac{4}{6}$ .
- 17) **Choice C is correct.** **(3.MD.B.4)** The mode is the value with the most X's. At  $16\frac{1}{2}$ , there are 3 X's, which is more than any other value.
- 18) **Choice D is correct.** **(3.MD.C.7a)** Square:  $4 \times 4 = 16$  square units.
- 19) **Choice A is correct.** **(3.OA.A.4)** If  $72 \div 8 = 9$ , then  $8 \times 9$  must equal 72.
- 20) **Choice B is correct.** **(3.NF.A.3d)** CRITICAL: Fraction comparisons are ONLY valid when both fractions describe the same-size whole. Since pizza B is bigger than pizza A,  $\frac{1}{4}$  of the smaller pizza may actually be bigger than  $\frac{1}{6}$  of the larger pizza. We cannot compare them. Standard 3.NF.A.3.d requires recognizing that comparisons are valid only when the two fractions refer to the same whole.
- 21) **Choice B is correct.** **(3.G.A.1)** In a square (and all rectangles and rhombuses), both pairs of opposite sides are parallel.
- 22) **Choice A is correct.** **(3.NF.A.1)** A cake divided into 6 equal pieces has each piece as  $\frac{1}{6}$  (one-sixth).
- 23) **The correct answer is 42.** **(3.OA.C.7)**  $7 \times 6 = 42$ . Count by 6s: 6, 12, 18, 24, 30, 36, 42.
- 24) **Choice D is correct.** **(3.MD.C.5a)** Floor area =  $7 \text{ m} \times 6 \text{ m} = 42$  square meters = 42 unit-square tiles of 1 m each.
- 25) **Choice B is correct.** **(3.MD.C.7b)** Area = length  $\times$  width =  $7 \times 3 = 21$  square yards.
- 26) **Choice C is correct.** **(3.MD.A.1)**  $4 : 07 + 18 \text{ min} = 4 : 25 \text{ PM}$ .
- 27) **Choice A is correct.** **(3.OA.B.6)**  $36 \div 4 = 9$  is related to  $4 \times 9 = 36$  through the inverse relationship.
- 28) **Choice D is correct.** **(3.NBT.A.1)** The tens digit is 8. Since  $8 \geq 5$ , round up: 589 rounds to 600.
- 29) **Choice D is correct.** **(3.NBT.A.2)** Add:  $127 + 234 = 361$ . Ones:  $7 + 4 = 11$  (write 1, carry 1). Tens:  $2 + 3 + 1 = 6$ . Hundreds:  $1 + 2 = 3$ .
- 30) **Choice D is correct.** **(3.OA.B.5)** By the associative property,  $(3 \times 2) \times 4 = 3 \times (2 \times 4) = 24$ . Both groupings give the same product.



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## Hi, Math Pilot!

◇ 4 flights done in your math airplane. You have flown through smooth skies and bumpy clouds. You are a real pilot now. ◇

★ **Pilots know:** a good check before takeoff makes a smooth flight. Before each problem, do your check: read, plan, solve, verify. ★

### Pilot Skills

- **Pre-Flight:** You read the question carefully.
- **Steering:** You pick the right strategy.
- **Smooth Flight:** You stay calm in long tests.
- **Landing:** You always check your final answer.

**Pilot tip:** on test day, take off one problem at a time. Trust your training. You earned your wings!

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 Pilot

# Build Skills. Achieve More.

This book gives **Grade 3** students the focused practice they need to master math concepts with confidence.

## What's Inside?



### Standards-Aligned Practice

Questions designed to match Grade 3 math standards.



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