

8 Virginia SOL

GRADE 6

MATH PRACTICE TESTS

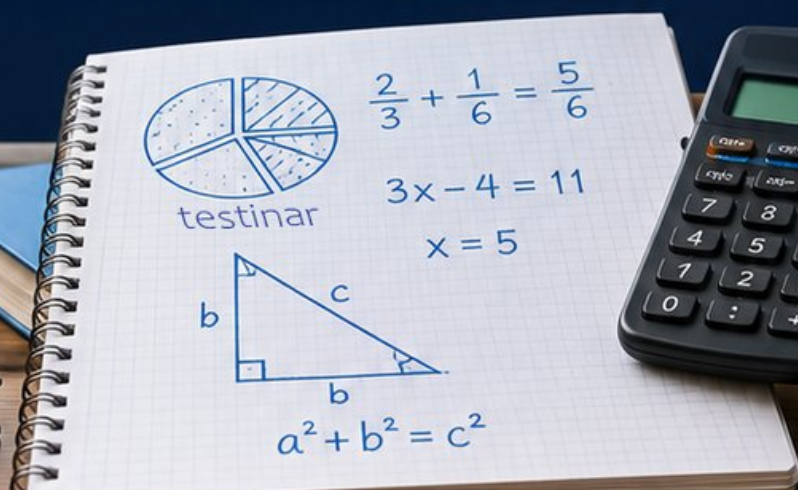
8
PRINTED
TESTS

+

2
ONLINE
TESTS

Use these two additional online practice tests for extra review after the printed tests in this book.

Standards-Aligned *Steady Southern* Problem Solving for Comprehensive Assessment Program



You've
Got
This!



BUILT FOR
ACAP SUCCESS



REALISTIC TESTS
& QUESTION TYPES



STRENGTHEN
MATH SKILLS



REVIEW, PRACTICE,
AND IMPROVE

8 Virginia SOL Grade 6 Math Practice Tests

Standards-Aligned Commonwealth-Ready Math Practice for Standards of Learning



Eight complete 40-question Grade 6 practice rounds for SOL, built for commonwealth-ready math practice with ratios, rational numbers, expressions, equations, geometry, statistics, answer keys, and clear explanations for every item.

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Welcome, Virginia Math Explorer!

Eight focused rounds using commonwealth-ready math practice

This book gives you eight full Grade 6 practice tests for SOL. Each round uses historic routes, mountain views, and careful solution checks as a fresh mental backdrop while you read closely, choose a smart strategy, show your work, and check whether your answer makes sense.

Your Virginia Practice Promise

Build the answer with evidence: identify the skill, show the work, and verify the result.

Read

Plan

Check

How to Use This Book

A eight-session routine for commonwealth-ready math practice

1. **Preview the skills.** Scan the quick review pages before beginning the first round.
2. **Work in order.** Take one 40-question test at a time in a quiet place.
3. **Mark confidence.** Put a small star beside problems where your plan felt strong.
4. **Correct actively.** Retry missed items before reading the full explanation.
5. **Plan the next round.** Use the growth log to choose one habit and one skill to practice.

Virginia review rhythm: Take one round, review the reasoning, and use the next test to improve precision.



What Is Inside?

Eight SOL tests, 320 questions, and a full review path

Part	What You Will Practice
Tests 1–3	Foundation rounds for ratios, rational numbers, operations, and careful reading.
Tests 4–6	Skill-building rounds with expressions, equations, geometry, data, and problem models.
Tests 7–8	Final stamina rounds for mixed review, neat work, and flexible strategy choices.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Commonwealth-ready math practice means recognizing the skill even when the next question changes topic, changes format, or asks for an explanation.



Scan me!
For more practice
& answers

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1)

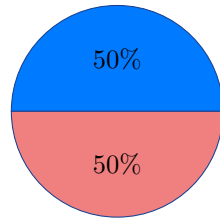
Gallons	2	4	6
Miles	48	96	144

Based on the table, what is the rate in miles per gallon?

- A. 20 miles per gallon C. 48 miles per gallon
 B. 96 miles per gallon D. 24 miles per gallon
- 2) A height requirement states that riders must be taller than 48 inches. Which inequality matches this?
- A. $h \geq 48$ C. $h < 48$
 B. $h \leq 48$ D. $h > 48$
- 3) A student's score on a test depends on the number of questions answered correctly. In this situation, which variable is dependent?
- A. The test C. The student's score
 B. The number of questions answered correctly D. The difficulty of the test
- 4) Find the base of a triangle with area 45 m^2 and height 10 m.
- A. 4.5 m C. 18 m
 B. 90 m D. 9 m
- 5) A box plot shows: $\text{min} = 5$, $Q_1 = 15$, $\text{median} = 20$, $Q_3 = 25$, $\text{max} = 40$. What is the range?
- A. 10 C. 35
 B. 20 D. 40



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6)

A music store polled 200 customers about preferred instruments. If the circle graph shows 50% prefer guitar, how many customers prefer guitar?

- A. 100 C. 50
 B. 75 D. 150

7) Solve for x : $2x = 14$.

8) A swimming pool contains 2,000 milliliters of water. How many liters is this? (Use 1 liter = 1000 milliliters.)

- A. 0.2 liters C. 20 liters
 B. 200 liters D. 2 liters

9) The point $(5, -3)$ is located in which quadrant?

- A. Quadrant I C. Quadrant III
 B. Quadrant II D. Quadrant IV



10) Compare -3.5 and -3.75 . Which symbol makes the statement true?

$$-3.5 \square -3.75$$

A. $<$

B. $>$

C. $=$

D. Cannot determine

11)

Evaluate: $50 - 2^3 \times 5$

A. 10

B. 20

C. 30

D. 40

12) A swimming pool must have a temperature greater than 78 degrees Fahrenheit. Which inequality matches this requirement for temperature t ?

A. $t \leq 78$

B. $t = 78$

C. $t > 78$

D. $t < 78$



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1) Which ordered pair has an x -coordinate of -5 and shares the same y -coordinate as the point $(2, 8)$?

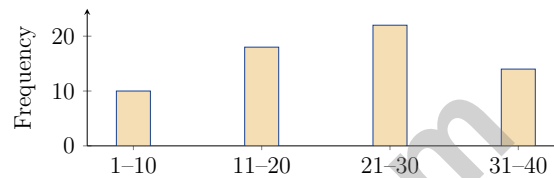
A. $(-5, 8)$

C. $(-5, 2)$

B. $(8, -5)$

D. $(-5, -8)$

2) A histogram is most useful for displaying data when you need to:



A. Compare two specific values

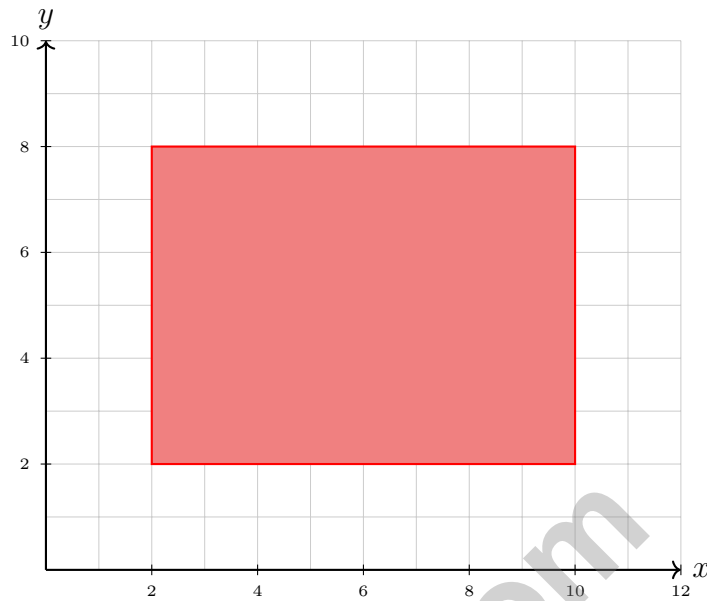
C. Display the distribution of continuous data grouped into bins

B. Show individual data points

D. Track changes over time



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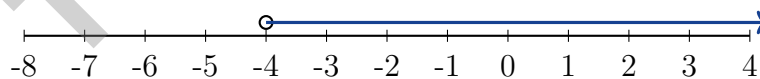


3)

Which rectangle has the same area as a rectangle with vertices at $(2, 2)$, $(10, 2)$, $(10, 8)$, and $(2, 8)$?

- A. Vertices at $(1, 1)$, $(13, 1)$, $(13, 7)$, $(1, 7)$
- B. Vertices at $(3, 1)$, $(15, 1)$, $(15, 5)$, $(3, 5)$
- C. Vertices at $(1, 1)$, $(9, 1)$, $(9, 9)$, $(1, 9)$
- D. Vertices at $(2, 1)$, $(14, 1)$, $(14, 7)$, $(2, 7)$

4) Which number line represents the inequality $x > -4$?



- A. Closed circle at -4 , arrow right
- B. Closed circle at -4 , arrow left
- C. Open circle at -4 , arrow left
- D. Open circle at -4 , arrow right



5) A phone plan costs \$30 per month plus a one-time setup fee of \$25. If m is the number of months and C is the total cost, which equation represents this?

A. $C = 30m$

C. $C = 30m + 25$

B. $C = 25m$

D. $C = 25m + 30$

6) A triangular flag has an area of 36 in^2 and a height of 9 inches. What is its base?

A. 4 in

C. 18 in

B. 8 in

D. 27 in

7) Evaluate: 5^3

A. 15

C. 125

B. 25

D. 243

8) A thermometer shows -8°C . It drops another 12°C . What is the new temperature number?

9) Simplify $11x - 6x + 2x$.

A. $7x$

C. $5x$

B. $15x$

D. $19x$



Virginia SOL Practice Test Answer Keys

How to use this Virginia SOL answer section with a Grade 6 student:

1. check the answer first, then write one quick reason the choice is correct
2. mark questions to try again, especially the skills that feel connected to commonwealth-ready math practice
3. rework the problem before reading the full explanation, using this reminder:
Build the answer with evidence: identify the skill, show the work, and verify the result.

A calm Virginia correction routine turns every missed item into useful practice. Take one round, review the reasoning, and use the next test to improve precision.



Scan me!
For more practice
& answers

Virginia Practice Test Answers and Explanations

Review the eight printed SOL tests with prepared, precise, and ready for the next challenge habits.

Practice Test 1 Answers and Explanations

- 1) **Choice D is correct.** **(6.PFA.2)** Divide miles by gallons: $48 \div 2 = 24$ miles per gallon.
- 2) **Choice D is correct.** **(6.PFA.4)** “Taller than” (strictly greater) means $h > 48$, not $h \geq 48$.
- 3) **Choice C is correct.** **(6.PFA.4)** The score depends on how many questions are answered correctly. Questions correct is independent; score is dependent.
- 4) **Choice D is correct.** **(6.MG.2)** Solving $45 = \frac{1}{2} \times b \times 10 \Rightarrow b = 9$ m.
- 5) **Choice C is correct.** **(6.PFA.2)** Range = max – min = $40 - 5 = 35$.
- 6) **Choice A is correct.** **(6.NS.1)** 50% of 200 is $0.50 \times 200 = 100$ customers.
- 7) **The correct answer is 7.** **(6.PFA.3)** Divide both sides by 2: $x = 7$.
- 8) **Choice D is correct.** **(6.CE.2)** Divide: $2000 \div 1000 = 2$ liters.
- 9) **Choice D is correct.** **(6.MG.3)** The point $(5, -3)$ has a positive x -coordinate and a negative y -coordinate. Points with $(+, -)$ are located in Quadrant IV.
- 10) **Choice B is correct.** **(6.PFA.2)** -3.5 is closer to zero than -3.75 , so -3.5 is greater. More negative means smaller.
- 11) **Choice A is correct.** **(6.NS.3)** Following the diagram: Step 1: Exponent $2^3 = 8$. Step 2: Multiply $8 \times 5 = 40$. Step 3: Subtract $50 - 40 = 10$.
- 12) **Choice C is correct.** **(6.CE.2)** “Greater than” means strictly more, not equal: $t > 78$. This excludes 78 itself.
- 13) **Choice A is correct.** **(6.MG.3)** Reflection over the x -axis keeps the x -coordinate unchanged and negates the y -coordinate.
- 14) **Choice C is correct.** **(6.MG.1)** Area = $\pi r^2 \approx 3.14 \times 6^2 = 3.14 \times 36 = 113.04$ ft².
- 15) **Choice D is correct.** **(6.PS.2)** Mean = $\frac{12 + 18 + x}{3} = 15 \Rightarrow 12 + 18 + x = 45 \Rightarrow x = 15$.
- 16) **Choice A is correct.** **(6.PS.2)** Set P’s larger range (20 vs. 15) indicates that its data is more spread out across a wider interval.
- 17) **Choice A is correct.** **(6.PS.2)** IQR = $35 - 20 = 15$. Upper fence = $Q3 + 1.5(\text{IQR}) = 35 + 22.5 = 57.5$. Lower fence = $Q1 - 1.5(\text{IQR}) = 20 - 22.5 = -2.5$. Since 5 and 50 are within fences, no outliers.
- 18) **The correct answer is 2.** **(6.MG.2)** Using $A = \frac{1}{2}(b_1 + b_2) \times h$: $80 = \frac{1}{2}(14 + b_2) \times 10 = 5(14 + b_2)$. So $16 = 14 + b_2$, giving $b_2 = 2$ ft.
- 19) **Choice A is correct.** **(6.NS.1)** Total socks = 10. Black socks = 4. Probability = $\frac{4}{10} = 0.4$.
- 20) **The correct answer is Both A (180 ÷ 3 = 60 mph) and B (120 ÷ 2 = 60 mph) match the 60 mph rate.** **(6.NS.3)** A matches because $180 \div 3 = 60$ mph. B matches because $120 \div 2 = 60$ mph. Choices C, D, and E give 50 mph, 45 mph, and about 66.7 mph.
- 21) **Choice B is correct.** **(6.PS.2)** In a standard stem-and-leaf plot, the stem is the tens digit and the leaf is the ones digit.
- 22) **Choice C is correct.** **(6.PS.1)** By truncating the axis at 50, the visual differences between bars are exaggerated (they appear 4 or 5 times larger). The actual differences are only 2 units. This is a classic form of visual manipulation.
- 23) **Choice B is correct.** **(6.MG.1)** The correct calculation is $\$48 \div 4 = \12 per shirt. The student reversed the division, computing $4 \div 48$ instead of $48 \div 4$. Unit price requires cost per unit, not units per cost.
- 24) **Choice C is correct.** **(6.PFA.4)** Savings are 25% of \$250: $0.25 \times 250 = \$62.50$.
- 25) **Choice B is correct.** **(6.NS.2)** Since 7 and 11 are both prime and share no common factors, their LCM is their product: $7 \times 11 = 77$.
- 26) **Choice A is correct.** **(6.CE.1)** The rectangle has height 3 and is divided horizontally into two widths: 2 and 5. The total area is $3 \times 2 + 3 \times 5 = 3(2 + 5)$.
- 27) **Choice A is correct.** **(6.CE.2)** Starting floor: 8. Descending 11 floors: $8 + (-11) = -3$.



Hi, Math Champion!

◇ Look what you did! 8 full practice tests. That's hundreds of math problems. You started as a learner. You are now a math athlete. ◇

★ **Champions know:** hard work pays off. You did the hard work. Your math skills are strong because you practiced. ★

Champion's Stats

- **Focus:** HIGH! You stay on task.
- **Speed:** STRONG! You move at the right pace.
- **Accuracy:** SHARP! You catch your own mistakes.
- **Mindset:** CHAMPION! You believe in yourself.

Champion tip: on test day, walk in proud. You trained for this. You are ready!

If you want to share something or ask a question, please email me at jay@testinar.com.

Jay Daie

Your Math Coach

MASTER MATH. ACE YOUR TESTS.

This Grade 6 Math Practice Tests book is designed to help students build confidence, strengthen math skills, and excel on comprehensive assessments.

With 8 full-length printed tests and 2 online tests, this resource provides realistic practice, a variety of question types, and detailed answer explanations to help students achieve their best.

Perfect for classroom use, homework, test preparation, and extra practice at home.



PERFECT FOR

- ✓ Classroom Practice
- ✓ Homework & Review
- ✓ Independent Learning
- ✓ Test Preparation
- ✓ Skill Reinforcement
- ✓ Building Confidence



**PRACTICE TODAY.
SUCCEED TOMORROW.**

WHAT STUDENTS WILL GAIN



Stronger Math Skills

Build a solid foundation through targeted practice and review.



Better Problem Solving

Develop logical thinking and effective solution strategies.



Understand Key Concepts

Reinforce important math ideas aligned with standards.



Test Confidence

Get familiar with test formats and improve accuracy.



Achieve Success

Build confidence and perform your best on test day.

TOPICS COVERED

- ✓ Ratios & Rates
- ✓ Percents
- ✓ The Number System
- ✓ Statistics & Probability
- ✓ Expressions & Equations
- ✓ Data Analysis
- ✓ Geometry
- ✓ Measurement & Conversions
- ✓ Fractions & Decimals
- ✓ And More!



2 ONLINE TESTS

Extra online practice to reinforce learning and build confidence.

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8 FULL-LENGTH
PRACTICE TESTS



2 ONLINE
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DETAILED ANSWER
EXPLANATIONS