

3

South Carolina

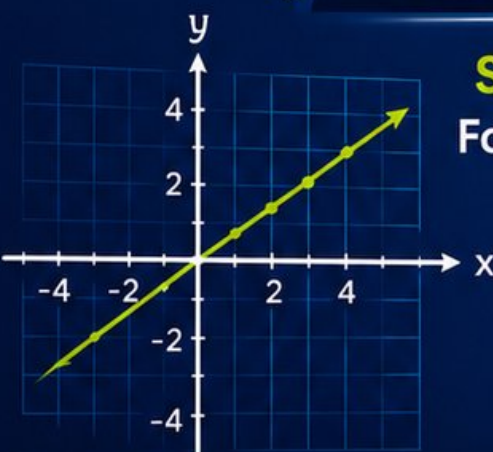
SC READY

GRADE 8

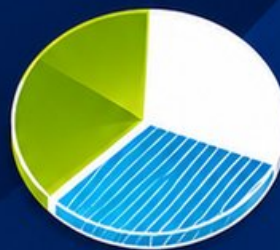
MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs



$$V = s^3$$



$$y = mx + b$$
$$2x + 5 = 13$$
$$x = 4$$



3 PRINTED TESTS



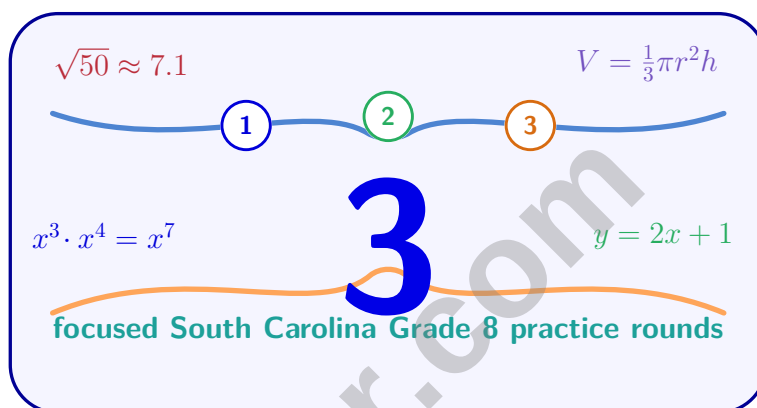
2 ONLINE TESTS



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

3 South Carolina SC READY Grade 8 Math Practice Tests

Focused Grade 8 SC READY Practice with Clear Explanations



Three complete 40-question Grade 8 SC READY practice rounds with real numbers, exponents, scientific notation, equations, functions, transformations, geometry, data analysis, probability, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari



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Welcome, South Carolina Grade 8 Problem Solver!

Three focused rounds for sharper SC READY math thinking

This book gives you three full Grade 8 SC READY math practice tests. Each round is built to help you recognize structure, reason with real numbers and exponents, analyze linear relationships, connect equations with graphs, and explain your thinking with care.

Your South Carolina Practice Promise

I will read every question carefully, choose a strategy that fits, write enough work to prove my answer, and use corrections as training for the next test.

Read

Model

Verify

How to Use This Book

A three-session plan for confident Grade 8 review

1. **Warm up with the review pages.** Notice the big ideas before starting the tests.
2. **Complete one test at a time.** Treat each 40-question round like a real practice session.
3. **Show your reasoning.** Jot an exponent rule, equation, graph, transformation, diagram, or quick estimate when it helps.
4. **Correct actively.** Rework missed items before reading the explanation.
5. **Choose the next target.** After each test, name one skill and one habit to improve.

South Carolina review rhythm: Work a test, score it, study your misses, then come back ready for the next round with one clear goal.



What Is Inside?

Three SC READY tests, 120 questions, and a focused review path

Part	What You Will Practice
Tests 1–2	Real numbers, exponents, scientific notation, equations, and careful reading.
Test 3	Functions, systems, transformations, geometry, data analysis, and multi-step problem solving.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Grade 8 success means recognizing which idea is being tested even when the next question changes format.



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Table of Contents



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1) Solve by substitution: $\begin{cases} x = 4 - y \\ x + 3y = 8 \end{cases}$

☐ A. (0, 4)

☐ B. (1, 3)

☐ C. (2, 2)

☐ D. (3, 1)

- 2) A rectangular pyramid (not square) has a rectangular base with dimensions 5 m $\times$ 3 m. The slant heights are 8 m (for the pair of triangular faces on the longer base edges) and 7 m (for the pair on the shorter edges). What is the lateral surface area?

☐ A. $40 + 30 = 70 \text{ m}^2$

☐ C. 100 m^2

☐ B. $2 \times \frac{1}{2}(5)(8) + 2 \times \frac{1}{2}(3)(7) = 61 \text{ m}^2$

☐ D. 120 m^2

- 3) A taxi charges a base fare of \$3 plus \$2 per mile. The equation $y = 2x + 3$ represents the total fare y for x miles. What does the slope 2 represent?

☐ A. The base fare

☐ C. The total number of miles

☐ B. The minimum fare

☐ D. The charge per mile

- 4) Write an inequality for: "A number increased by 6 is at most 15."

☐ A. $x - 6 \leq 15$

☐ C. $x + 6 < 15$

☐ B. $6x \leq 15$

☐ D. $x + 6 \leq 15$

- 5) Which ordered pair is NOT in the solution region of $x + y \leq 4$?

☐ A. (1, 2)

☐ C. (0, 4)

☐ B. (2, 2)

☐ D. (3, 2)



6) A trapezoid is transformed by rotating it 90° counterclockwise about the origin. If a vertex was at $(3, -2)$ before the rotation, where is it after?

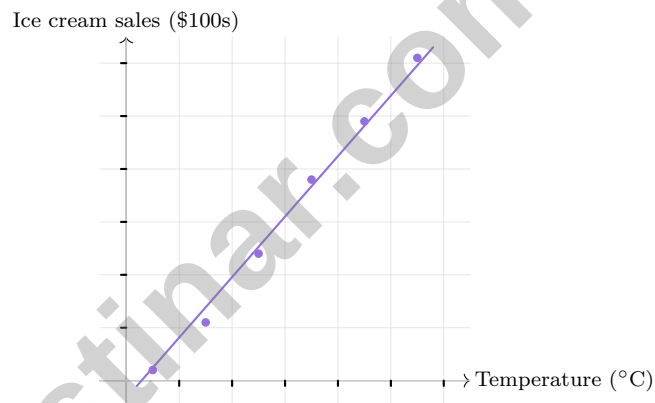
☐ A. $(3, 2)$

☐ C. $(2, 3)$

☐ B. $(-3, -2)$

☐ D. $(-2, 3)$

7) Explain why 10^5 is 100 times greater than 10^3 . Use exponents in your reasoning.



8)

An ice cream shop's sales model is $S = 1.1T + 0.3$, where S is sales in \$100s and T is temperature in $^\circ\text{C}$. According to the model, what does the slope tell the shop owner?

☐ A. Sales increase by \$110 for every 1°C increase

☐ C. Temperature has no effect on sales

☐ D. Sales are maximized at 1.1°C

☐ B. Sales are always at least \$30



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- 9) Maria wants to borrow \$1,500 for a school trip. She can borrow from her parents at 0% interest or from a credit union at 6% simple interest. If she repays over 2 years, how much more will she owe the credit union than her parents?

☐ A. \$0 ☐ C. \$180
☐ B. \$90 ☐ D. \$360

- 10) Simplify $\frac{g^8 \cdot g^{-2}}{g^3}$.

☐ A. g^{-3} ☐ C. g^{13}
☐ B. g^9 ☐ D. g^3

- 11) Convert $0.\overline{2}$ to a fraction. Show the algebraic steps (let $x = \dots$, multiply, subtract, solve).

- 12) Compute $(3.6)^2$ for comparison with $\sqrt{13}$.

- 13) What is the error in this work: $\sqrt[3]{100} = 10$?

☐ A. $10^3 = 100$ ☐ C. $10^3 = 1000$, not 100
☐ B. $10^2 = 1000$ ☐ D. $\sqrt[3]{100} = 100^3$



1) A sphere has a radius of 3 inches. What is its volume in cubic inches? (Use $\pi \approx 3.14$.)

☐ A. 56.52 in^3

☐ C. 169.56 in^3

☐ B. 113.04 in^3

☐ D. 339.12 in^3

Algorithm for $0.2\bar{5}$

Step 1: $x = 0.2\bar{5}$

Step 2: $10x = 2.\bar{5}$, $100x = 25.\bar{5}$

Step 3: subtract the aligned equations

Step 4: solve for x

2)

What is $0.2\bar{5}$ as a fraction?

☐ A. $\frac{25}{100}$

☐ C. $\frac{2}{10}$

☐ B. $\frac{25}{90}$

☐ D. $\frac{23}{90}$

3) Which expression is irrational?

☐ A. $\sqrt{4} + \sqrt{9}$

☐ C. $\sqrt{36} - 2$

☐ B. $\sqrt{2} \cdot \sqrt{8}$

☐ D. $\sqrt{3} + 1$

4) Which order is correct from smallest to largest?

☐ A. $\sqrt{2}, \sqrt{5}, \sqrt{3}$

☐ C. $\sqrt{3}, \sqrt{2}, \sqrt{5}$

☐ B. $\sqrt{5}, \sqrt{3}, \sqrt{2}$

☐ D. $\sqrt{2}, \sqrt{3}, \sqrt{5}$

5) Convert 0.0042 to scientific notation.

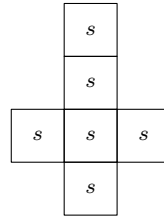
☐ A. 4.2×10^{-4}

☐ C. 0.42×10^{-2}

☐ B. 4.2×10^3

☐ D. 4.2×10^{-3}





Net of cube

6)

If the net above represents a cube with edge length 3 cm, what is the total surface area of the cube?

☐ A. 18 cm^2

☐ C. 36 cm^2

☐ B. 27 cm^2

☐ D. 54 cm^2

7) What is the slope of a line passing through the points (1, 2) and (3, 8)?

☐ A. 2

☐ C. $\frac{1}{3}$

☐ B. -2

☐ D. 3

8) Solve: $\frac{2x}{3} \geq -4$

☐ A. $x \geq -6$

☐ C. $x \geq -12$

☐ B. $x \leq -6$

☐ D. $x \leq -12$

9) If $f(x) = \frac{x-1}{3}$ and $f(x) = 2$, find x .



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1) Solve for x : $2(x + 3) = 3(x - 1)$

☐ A. $x = 9$

☐ C. $x = -3$

☐ B. $x = 3$

☐ D. $x = 1$

2) A residual is the vertical distance between a data point and the trend line. Which set of residuals indicates the BEST fit?

☐ A. Residuals of 15, -12, 18, -14, 20

☐ C. Residuals of -20, -18, 22, 25, 19

☐ B. Residuals of -1, 0, 1, 0, -1

☐ D. Residuals of -5, -4, 3, 4, 2

3) In similar triangles, corresponding sides are in the ratio $\frac{3}{7}$. If the larger triangle has a side of 21 cm, find the corresponding side in the smaller triangle.

☐ A. 7 cm

☐ C. 15 cm

☐ B. 9 cm

☐ D. 28 cm

4) A bus travels according to $d(t) = 55t$, where d is distance in miles and t is time in hours. How far has the bus traveled after 3 hours?

☐ A. 55 miles

☐ C. 165 miles

☐ B. 110 miles

☐ D. 185 miles

5) Which of the following best describes $0.\overline{99}$?

☐ A. Irrational

☐ C. Equal to 1, rational

☐ B. Between 0 and 1, rational

☐ D. Greater than 1, irrational

6) Which equals $0.\overline{54}$?

☐ A. $\frac{54}{100}$

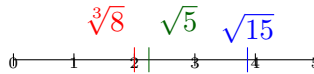
☐ C. $\frac{54}{90}$

☐ B. $\frac{27}{50}$

☐ D. $\frac{54}{99} = \frac{6}{11}$



7)



Which list orders the values from least to greatest?

☐ A. $\sqrt{15}, \sqrt{5}, \sqrt[3]{8}$

☐ C. $\sqrt{5}, \sqrt{15}, \sqrt[3]{8}$

☐ B. $\sqrt{5}, \sqrt[3]{8}, \sqrt{15}$

☐ D. $\sqrt[3]{8}, \sqrt{5}, \sqrt{15}$

8) Which number is irrational?

☐ A. $\sqrt{9}$

☐ C. $\sqrt{4}$

☐ B. 0.5

☐ D. $\sqrt{8}$

9) A rectangle's length is 4 cm more than its width. If the perimeter is 32 cm, what is the length?

10) Which is the correct scientific notation for the standard form 0.0031?

☐ A. 3.1×10^3

☐ C. 31×10^{-4}

☐ B. 3.1×10^{-2}

☐ D. 3.1×10^{-3}

11) A cubic metal box has an edge length of 6 cm. What is the surface area that needs to be painted?

☐ A. 36 cm^2

☐ C. 144 cm^2

☐ B. 72 cm^2

☐ D. 216 cm^2



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South Carolina SC READY Grade 8 Practice Test Answer Keys

How to use this section with a Grade 8 student:

1. check the answer first and circle any item that needs another look
2. retry the problem with fresh work before reading the explanation
3. write one short lesson learned from each missed or guessed item

A strong review routine turns every correction into a sharper plan for the next South Carolina SC READY practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** (8.PAFR.2.1) Substitute $x = 4 - y$ into $x + 3y = 8$: $(4 - y) + 3y = 8$, so $4 + 2y = 8$, giving $y = 2$. Then $x = 4 - 2 = 2$. Solution: $(2, 2)$.
- 2) **Choice B is correct.** (8.MGSR.1.1) Two triangular faces on the 5 m edges have total area $2 \times \frac{1}{2}(5)(8) = 40 \text{ m}^2$. Two triangular faces on the 3 m edges have total area $2 \times \frac{1}{2}(3)(7) = 21 \text{ m}^2$. Total lateral area is $40 + 21 = 61 \text{ m}^2$.
- 3) **Choice D is correct.** (8.PAFR.2.5) In the context of a linear equation, the slope represents the rate of change. Here, the fare increases by \$2 for each additional mile.
- 4) **Choice D is correct.** (8.PAFR.2.1) "A number increased by 6" is $x + 6$; "at most" means $\leq$. So $x + 6 \leq 15$.
- 5) **Choice D is correct.** (8.MGSR.1.2) Test $(3, 2)$: $3 + 2 = 5 \not\leq 4$ FALSE. The other points all satisfy $x + y \leq 4$.
- 6) **Choice C is correct.** (8.MGSR.3.1) A 90° counterclockwise rotation uses $(x, y) \rightarrow (-y, x)$. So $(3, -2) \rightarrow (-(-2), 3) = (2, 3)$.
- 7) **The correct answer is 100.** (8.PAFR.3.3) When dividing powers with the same base, subtract the exponents. $10^{5-3} = 10^2$, and $10^2 = 100$, so 10^5 is 100 times larger than 10^3 .
- 8) **Choice A is correct.** (8.DPSR.1.1) The slope is 1.1 (in units of \$100), so each 1°C increase adds $1.1 \times \$100 = \110 in sales.
- 9) **Choice C is correct.** (8.DPSR.2.2) Parents: \$1,500 (no interest). Credit union: $I = 1500 \times 0.06 \times 2 = \180 . Difference: $\$180 - \$0 = \$180$.
- 10) **Choice D is correct.** (8.PAFR.3.3) Numerator: $g^8 \cdot g^{-2} = g^6$. Then $\frac{g^6}{g^3} = g^3$.
- 11) **The correct answer is $\frac{2}{9}$.** (8.NR.1.1) Set $x = 0.\overline{2}$, so $10x = 2.\overline{2}$. Subtracting: $10x - x = 2$, giving $9x = 2$ and $x = \frac{2}{9}$.
- 12) **The correct answer is 12.96.** (8.NR.2.1) $(3.6)^2 = 12.96$, which is slightly less than 13.
- 13) **Choice C is correct.** (8.PAFR.3.1) A cube root asks what number cubed gives 100. Since $10^3 = 1000$, 10 is not the cube root of 100.
- 14) **Choice C is correct.** (8.PAFR.3.3) $3.5 \times 2 = 7$ and $10^{4+3} = 10^7$, giving 7×10^7 . The coefficient 7 is already in standard form $[1, 10]$, so no renormalization is needed.
- 15) **Choice C is correct.** (8.PAFR.2.3) Each value: $y = 5(1) = 5$, $y = 5(2) = 10$, $y = 5(3) = 15$. All match the equation $y = 5x$.
- 16) **The correct answer is 22.0.** (8.NR.2.1) Circumference $= \pi d \approx 3.14 \times 7 = 21.98 \approx 22.0 \text{ cm}$.
- 17) **Choice C is correct.** (8.PAFR.2.1) Expand the right side: $6x - 4 = 6x - 4$. Both sides are identical, so every value of x is a solution.
- 18) **Choice B is correct.** (8.PAFR.1.3) Each input value $(1, 2, 3, 4)$ corresponds to exactly one output value $(3, 6, 9, 12)$. The relationship is $y = 3x$, making it a function.
- 19) **The correct answer is A,C.** (8.NR.2.2) Statement A is true because rational numbers are closed under addition. Statement C is true because any terminating decimal, such as $0.75 = \frac{3}{4}$, is rational. Statement B is false because two irrational numbers can multiply to a rational number, for example $\sqrt{2} \times \sqrt{8} = 4$. Statement D is false because integers are rational. Statement E is false because perfect squares have rational square roots, not irrational ones.
- 20) **Choice A is correct.** (8.PAFR.1.3) First differences: $4 - 0 = 4$, $8 - 4 = 4$, $12 - 8 = 4$. Since x changes by 2 each step, slope $= \frac{4}{2} = 2$.
- 21) **Choice A is correct.** (8.PAFR.1.4) Rising segment = increasing speed (acceleration). Flat = constant speed. Falling = decreasing speed (braking).
- 22) **Choice B is correct.** (8.MGSR.2.2) Comparing the two squares: ABCD (lower left on the grid) and EFGH (upper right) have identical side lengths and the same orientation. The vertices align: A is at $(0,0)$ and E is at $(4,3)$, indicating a translation 4 units right and 3 units up. Translation is a rigid motion that preserves all distances and angles, so no rotation or reflection is needed.
- 23) **Choice C is correct.** (8.MGSR.2.1) When parallel lines are cut by a transversal, all angles are either 67° or $180 - 67 = 113^\circ$. Since $47^\circ \neq 67^\circ$ and $47^\circ \neq 113^\circ$, it does not appear.
- 24) **Choice A is correct.** (8.MGSR.1.3) From $1^2 + (\sqrt{3})^2 = c^2$, we get $1 + 3 = 4$, so $c = \sqrt{4} = 2$ (the 30-60-90 triangle leg ratios).



Hi, Grade 8 Math Star!

◇ You finished this practice set with real effort. Grade 8 math asks you to connect ideas, explain your thinking, and stay steady through multi-step problems. ◇

★ **Remember this:** Every page you completed helped build stronger habits: reading carefully, choosing a method, showing work, and checking whether the answer makes sense. You practiced across 3 full Grade 8 practice tests, and that repeated effort matters. ★

What You Built

- **Focus:** You stayed with challenging questions.
- **Accuracy:** You learned to slow down when details matter.
- **Reasoning:** You practiced explaining why a method works.
- **Readiness:** You are more prepared than when you started.

Grade 8 test-day tip: Before test day, review the questions that made you pause. Those are the best teachers.

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

Jay Daie

Your Grade 8 Math Friend

PRACTICE TODAY, ACHIEVE TOMORROW!

GRADE
8

Give your child the edge they need with **3 full-length** Grade 8 Math practice tests that reflect real test formats and cover all key math standards. Perfect for building skills, boosting confidence, and preparing for success on test day!



WHAT'S INSIDE?



Standards-Aligned Practice

Questions designed to cover essential Grade 8 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

- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Ratios & Proportional Relationships
- ✓ Linear Equations
- ✓ Functions
- ✓ Geometry
- ✓ Measurement & Data
- ✓ Statistics & Probability
- ✓ Pythagorean Theorem
- ✓ Volume & Surface Area
- ✓ Transformations
- ✓ Inequalities
- ✓ Data Analysis & Graphing
- ✓ And More!



2 Extra Online Practice Tests Included!

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

testinar.com/math8

PRACTICE. PREPARE. SUCCEED.



Testinar

More Practice. More Confidence.
Better **Results.**