

8

South Carolina

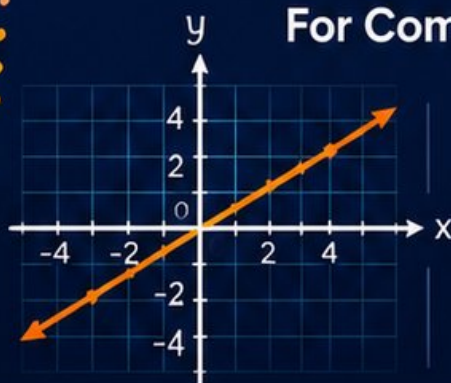
SC READY

GRADE 8

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs



$$A = \pi r^2$$

$$C = 2\pi r$$

$$V = \frac{1}{3}\pi r^2 h$$



8 PRINTED TESTS



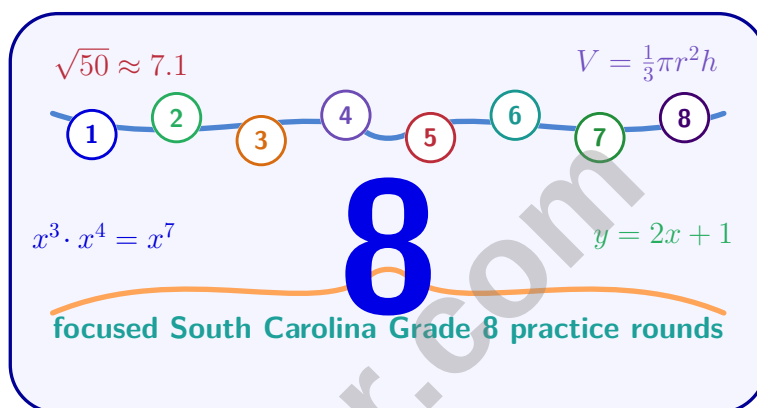
2 ONLINE TESTS



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

8 South Carolina SC READY Grade 8 Math Practice Tests

South Carolina Review for Functions, Geometry, and Data Skills



Eight 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



Copyright ©

Testinar Inc



Published by Testinar Inc

Testinar.com

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the author, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law, including Section 107 or 108 of the 1976 United States Copyright Act.

This publication is independently produced and has no official connection to any state, district, or national testing program.

Test names and organizational names used herein are the property of their respective trademark holders.



Copyright ©

Welcome, South Carolina Grade 8 Problem Solver!

Eight focused rounds for sharper SC READY math thinking

This book gives you eight 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

An eight-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?

Eight SC READY tests, 320 questions, and a complete review path

Part	What You Will Practice
Tests 1–3	Real and irrational numbers, integer exponents, scientific notation, equations, and careful reading.
Tests 4–6	Slope, systems of equations, functions, inequalities, transformations, congruence, and similarity.
Tests 7–8	Pythagorean reasoning, volume, data analysis, linear models, probability, mixed review, and stamina.
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.



Scan me!
For more practice
& answers

Table of Contents

★ Practice Test 1	_____	11
★ Practice Test 2	_____	26
★ Practice Test 3	_____	41
★ Practice Test 4	_____	57
★ Practice Test 5	_____	74
★ Practice Test 6	_____	91
★ Practice Test 7	_____	107
★ Practice Test 8	_____	123
Practice Test Answer Keys	_____	137
Practice Test Answers and Explanations	_____	142

1) Which representation does NOT show a function?

- ☐ A. A table where each x -value appears exactly once.
- ☐ B. A graph of $y = |x|$.
- ☐ C. A parabola opening to the right: $x = y^2$.
- ☐ D. The relation $\{(1, 1), (2, 2), (3, 3)\}$.

2) Which of the following is the BEST description of what a small residual means?

- ☐ A. The data point is far from the trend line
- ☐ B. The data point is very close to the trend line
- ☐ C. The slope of the line is steep
- ☐ D. There is no correlation in the data

3) A student has a 0.8 probability of passing math and 0.7 probability of passing English. If these are independent, what is the probability of passing both?

- ☐ A. 0.56
- ☐ B. 1.5
- ☐ C. 0.75
- ☐ D. 0.80

4) A square pyramid has a base edge of $\frac{1}{2}$ cm and a height of $\frac{3}{2}$ cm. What is its volume?

- ☐ A. $\frac{1}{4}$ cm³
- ☐ B. $\frac{1}{8}$ cm³
- ☐ C. $\frac{3}{8}$ cm³
- ☐ D. $\frac{1}{2}$ cm³

5) What is the sum of the interior angles of a 12-sided polygon?

- ☐ A. 2160°
- ☐ B. 1620°
- ☐ C. 2000°
- ☐ D. 1800°



Scan me!
For more practice
& answers

6) A coach recorded sprint times (in seconds): $\{8, 8, 8, 9, 10\}$. Mean = 8.6 seconds. What is the MAD?

☐ A. 0.4

☐ C. 0.6

☐ B. 0.72

☐ D. 1.2

7) A combination lock has 3 dials, each with digits 0–9. How many different combinations are possible?

☐ A. $10 + 10 + 10 = 30$

☐ C. 10^{10}

☐ B. $10 \times 10 \times 10 = 1,000$

☐ D. $3^{10} = 59,049$

8) Which pair correctly matches the repeating block length to the multiplier used in the conversion method?

☐ A. Block length $n \rightarrow$ multiply by $10n$.

☐ C. All blocks $\rightarrow$ multiply by 10

☐ B. 1-digit block $\rightarrow$ multiply by 100; regardless.

2-digit block $\rightarrow$ multiply by 10.

☐ D. 1-digit block $\rightarrow$ multiply by 10; 2-digit block $\rightarrow$ multiply by 100.

9) Which set contains only irrational numbers?

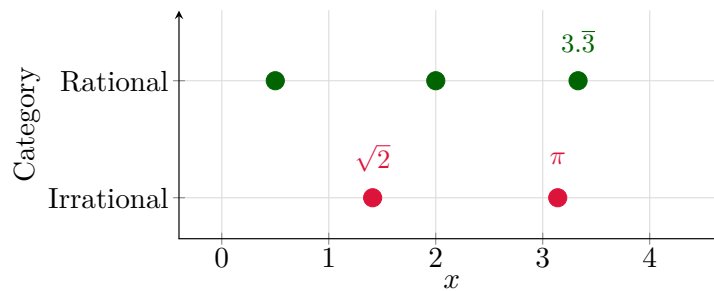
☐ A. $\{1, 2, 3\}$

☐ C. $\{\sqrt{2}, 3, \sqrt{5}\}$

☐ B. $\{\sqrt{4}, \sqrt{9}, \sqrt{16}\}$

☐ D. $\{\sqrt{2}, \sqrt{3}, \sqrt{5}\}$





10)

Which number should be plotted as irrational (height 0)?

☐ A. 0.5

☐ C. $3.\bar{3}$
☐ B. 2

☐ D. $\sqrt{5}$
11) Which is the best estimate of $\sqrt{99}$?
☐ A. 9.0

☐ C. 10.0

☐ B. 49.5

☐ D. 9.5

12) A principal of \$5,000 is invested at 6% compound interest annually for 2 years. What is the total amount?

☐ A. \$5,300

☐ C. \$5,618

☐ B. \$5,600

☐ D. \$5,900

13) The speed of light is about 3×10^8 m/s. How many times faster is this than the speed of sound, which is 3.4×10^2 m/s?

☐ A. Approximately 880 times

☐ C. Approximately 88,000 times

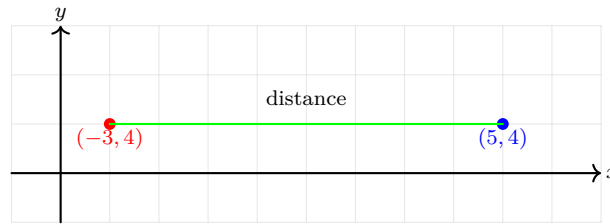
☐ B. Approximately 8,800 times

☐ D. Approximately 880,000 times


Scan me!

For more practice
& answers

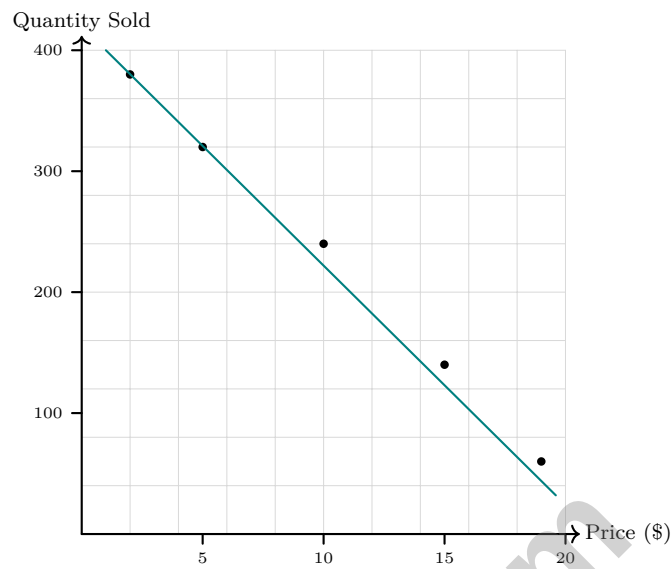
- 1) What is the horizontal distance between $(-3, 4)$ and $(5, 4)$?



- ☐ A. 4
- ☐ B. 8
- ☐ C. $\sqrt{63}$
- ☐ D. 1
- 2) Does the relation $\{(5, 10), (5, 15), (6, 12)\}$ represent a function?
- ☐ A. Yes, because all y -values are positive.
- ☐ B. No, because 5 is paired with two different outputs.
- ☐ C. Yes, because there are three ordered pairs.
- ☐ D. No, because 10 and 15 are both outputs.
- 3) Triangle PQR has sides of length 5 cm, 12 cm, and 13 cm. Triangle STU is congruent to triangle PQR. If side ST corresponds to side PQ , what is the length of side ST ?
- ☐ A. 5 cm
- ☐ B. 12 cm
- ☐ C. 13 cm
- ☐ D. 30 cm



Scan me!
For more practice
& answers



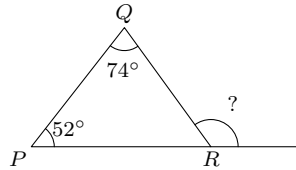
4)

A store analyzes the relationship between item price and quantity sold. Which interpretation is correct?

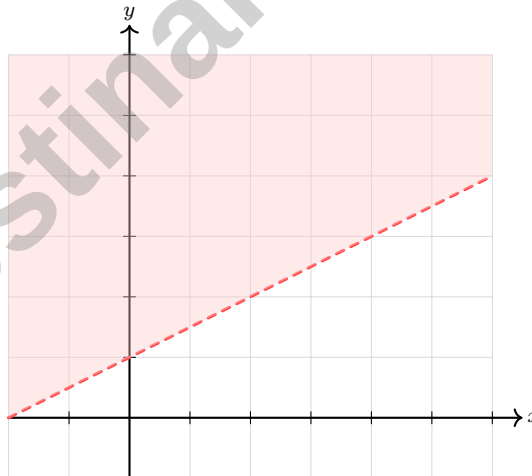
- ☐ A. As price increases, quantity sold tends to decrease
- ☐ B. Higher prices cause fewer items to sell
- ☐ C. Price is not related to quantity sold
- ☐ D. Quantity sold determines the price



- 1) An exterior angle of triangle PQR is shown. If the two remote interior angles measure 52° and 74° , what is the exterior angle?



- ☐ A. 74°
☐ C. 180°
☐ B. 126°
☐ D. 206°
- 2) Simplify: $\sqrt{36} + \sqrt[3]{8}$



3)

Based on the dashed line and shading above, the inequality is:

- ☐ A. $y > \frac{1}{2}x + 1$
☐ C. $y < \frac{1}{2}x + 1$
☐ B. $y \geq \frac{1}{2}x + 1$
☐ D. $y \leq \frac{1}{2}x + 1$



Scan me!
For more practice
& answers

- 4) A dust particle has a mass of 2×10^{-8} kg. If 500 such particles are stacked, what is the total mass in scientific notation?

- 5) A figure is first rotated 90° counterclockwise about the origin, then translated 3 units right. Which rule describes the image of the point (x, y) after both transformations?

- ☐ A. $(x, y) \rightarrow (-y + 3, x)$ ☐ C. $(x, y) \rightarrow (x + 3, -y)$
☐ B. $(x, y) \rightarrow (-y, x + 3)$ ☐ D. $(x, y) \rightarrow (-y - 3, x)$

- 6) A lab experiment measures the growth of bacteria. At 2 hours, there are 48 bacteria. The growth is proportional. What is the unit rate (bacteria per hour)?

- ☐ A. 12 bacteria/hour ☐ C. 24 bacteria/hour
☐ B. 20 bacteria/hour ☐ D. 30 bacteria/hour

- 7) Which line is perpendicular to $y = \frac{1}{2}x - 3$?

- ☐ A. $y = \frac{1}{2}x + 4$ ☐ C. $y = -2x + 5$
☐ B. $y = 2x + 1$ ☐ D. $y = -\frac{1}{2}x - 2$

- 8) Solve for x : $5(x - 2) = 3(x + 2)$

- ☐ A. $x = 8$ ☐ C. $x = 1$
☐ B. $x = -8$ ☐ D. $x = 10$



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.



Scan me!
For more practice
& answers

Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** **(8.PAFR.1.3)** A parabola opening right fails the vertical line test because vertical lines intersect it twice (except at the vertex). The other options all represent functions.
- 2) **Choice B is correct.** **(8.DPSR.1.1)** A small residual (absolute value close to zero) means the data point lies near the trend line, indicating a good fit at that point.
- 3) **Choice A is correct.** **(8.DPSR.2.2)** $P(\text{both}) = 0.8 \times 0.7 = 0.56$.
- 4) **Choice B is correct.** **(8.MGSR.1.1)** $B = \left(\frac{1}{2}\right)^2 = \frac{1}{4} \text{ cm}^2$. $V = \frac{1}{3} \times \frac{1}{4} \times \frac{3}{2} = \frac{3}{24} = \frac{1}{8} \text{ cm}^3$.
- 5) **Choice D is correct.** **(8.MGSR.2.3)** For a 12-sided polygon: $(12 - 2) \times 180 = 10 \times 180 = 1800^\circ$.
- 6) **Choice B is correct.** **(8.DPSR.1.2)** The deviations from 8.6 are 0.6, 0.6, 0.6, 0.4, and 1.4. Their sum is 3.6, so the MAD is $3.6 \div 5 = 0.72$.
- 7) **Choice B is correct.** **(8.NR.1.1)** Each dial has 10 settings. Total combinations: $10 \times 10 \times 10 = 1,000$.
- 8) **Choice D is correct.** **(8.NR.1.1)** The multiplier is 10^n where n is the block length. For $n = 1$: $10^1 = 10$; for $n = 2$: $10^2 = 100$.
- 9) **Choice D is correct.** **(8.NR.2.1)** A is all integers (rational). B contains perfect square roots (rational). C is mixed. D contains $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$, all irrational.
- 10) **Choice D is correct.** **(8.NR.2.2)** Only $\sqrt{5}$ is irrational (a square root of a non-perfect square). The others are rational: $0.5 = \frac{1}{2}$, 2 is an integer, and $3.\overline{3} = \frac{10}{3}$.
- 11) **Choice D is correct.** **(8.NR.2.1)** $\sqrt{99} \approx 9.95$ (very close to 10). Since $9.9^2 = 98.01$ and $10^2 = 100$, estimate is $9.95 \approx 9.5$ when rounded to tenths. Tests proximity to perfect square 100.
- 12) **Choice C is correct.** **(8.DPSR.2.2)** $A = 5000(1.06)^2 = 5000 \times 1.1236 = \$5,618$.
- 13) **Choice D is correct.** **(8.PAFR.3.3)** Divide: $\frac{3 \times 10^8}{3.4 \times 10^2} = \frac{3}{3.4} \times 10^6 \approx 0.88 \times 10^6 = 8.8 \times 10^5 \approx 880,000$.
- 14) **Choice D is correct.** **(8.PAFR.3.1)** Volume of a cube $= e^3 = 4^3 = 64$ cubic units.
- 15) **Choice C is correct.** **(8.PAFR.3.3)** Divide: $\frac{9 \times 10^{-6}}{3 \times 10^{-8}} = \frac{9}{3} \times 10^{-6-(-8)} = 3 \times 10^2$.
- 16) **Choice C is correct.** **(8.PAFR.2.3)** Equation: $y = 20x$. For $x = 8$: $y = 20(8) = 160$ plants.
- 17) **Choice A is correct.** **(8.PAFR.2.5)** Substitute: $-3 = -\frac{3}{4}(4) + b$, so $-3 = -3 + b$, thus $b = 0$.
- 18) **Choice D is correct.** **(8.PAFR.2.1)** Check: $5(3) - 8 = 15 - 8 = 7 \neq 12$. Correct solution: Add 8: $5x = 20$. Divide by 5: $x = 4$.
- 19) **The correct answer is A,C.** **(8.MGSR.2.2)** Both rotation and translation are rigid motions, so the resulting triangle is congruent to the original (A), which means all angles remain the same (C). The side lengths do not double (B), the shape remains a triangle (D), and the area does not change (E).
- 20) **Choice A is correct.** **(8.PAFR.1.3)** For a linear function, the differences between consecutive y -values are constant. Here: $7 - 3 = 4$, $11 - 7 = 4$, $15 - 11 = 4$. A constant first difference indicates linearity.
- 21) **Choice D is correct.** **(8.PAFR.3.3)** 2^3 has 3 factors, 2^4 has 4 factors. Total: $3 + 4 = 7$ factors. This illustrates the product rule: $2^3 \times 2^4 = 2^7$.
- 22) **Choice C is correct.** **(8.PAFR.2.1)** A horizontal line $y = 2$ and a vertical line $x = 2$ intersect at exactly one point: $(2, 2)$.
- 23) **Choice C is correct.** **(8.PAFR.1.5)** FOIL: $(2x + 1)(x + 3) = 2x^2 + 6x + x + 3 = 2x^2 + 7x + 3$.
- 24) **Choice A is correct.** **(8.PAFR.1.5)** $A(20) = 2.99 + 0.50(20) = 12.99$. B slope: $(6 - 1)/10 = 0.5$, so $B(20) = 1 + 0.5(20) = 11$. Since $12.99 > 11$, Plan A costs more.
- 25) **Choice A is correct.** **(8.PAFR.1.6)** Initial water is 120 gallons (intercept). Drains 3 gallons per minute (negative slope). Equation: $W = -3t + 120$.
- 26) **The correct answer is $(-6, -4)$.** **(8.MGSR.3.7)** Using $(x, y) \rightarrow (-y, x)$: $(-4, 6) \rightarrow (-6, -4)$.
- 27) **Choice B is correct.** **(8.MGSR.2.1)** Corresponding angles are congruent: $9t - 15 = 4t + 10 \implies 5t = 25 \implies t = 5$.
- 28) **Choice B is correct.** **(8.MGSR.3.5)** Rectangle $= 8 \times 5 = 40 \text{ cm}^2$. Triangle $= \frac{1}{2} \times 8 \times 3 = 12 \text{ cm}^2$. Total $= 40 + 12 = 52 \text{ cm}^2$.



You Know More Than You Think

Hi, Skilled Learner!

◇ After working through Grade 8 practice, you now have more tools than you may realize: models, formulas, graphs, equations, and reasoning habits. ◇

★ **Remember this:** The next step is learning when to use each tool. That comes from practice, review, and the courage to try a method even when you are unsure. This version gave you 8 opportunities to rehearse test-day habits. ★

Tools You Can Use

- **Models:** Make relationships visible.
- **Equations:** Represent unknowns clearly.
- **Graphs:** Show change and location.
- **Formulas:** Organize measurement problems.

Grade 8 test-day tip: Before solving, name the tool you plan to use. That small choice makes your work more intentional.

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

Jay Daie

Your Skill-Building Coach

PRACTICE TODAY, SUCCEED TOMORROW!

Give your child the confidence and skills they need with **8 full-length Grade 8** Math practice tests that mirror real test formats and cover all key math standards. Perfect for building skills, strengthening problem-solving abilities, and achieving 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.