

9

South Carolina

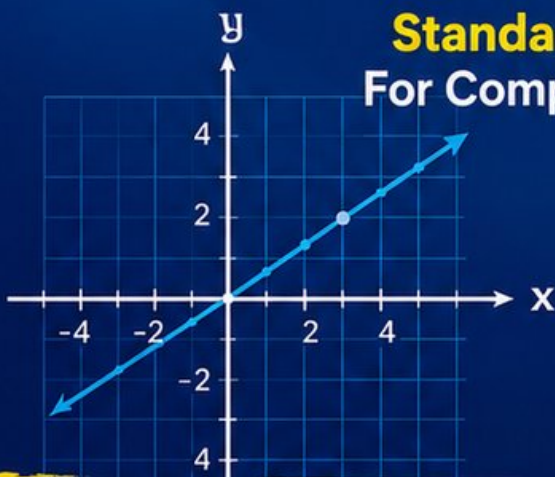
SC READY

Grade 8

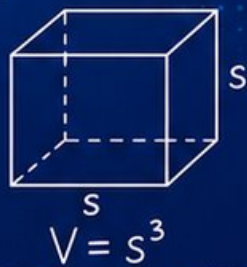
MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs



$$2x + 3y = 12$$
$$y = mx + b$$



9 PRINTED
TESTS

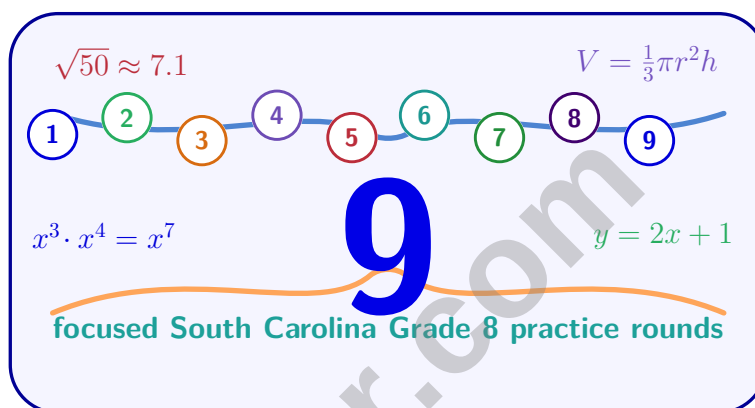


2 ONLINE
TESTS

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

9 South Carolina SC READY Grade 8 Math Practice Tests

Purposeful South Carolina Grade 8 Math Prep for Reasoning, Modeling, and Problem Solving



Nine 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!

Nine focused rounds for sharper SC READY math thinking

This book gives you nine 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 nine-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?

Nine SC READY tests, 360 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 7–9	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	_____	14
★ Practice Test 2	_____	30
★ Practice Test 3	_____	45
★ Practice Test 4	_____	60
★ Practice Test 5	_____	74
★ Practice Test 6	_____	90
★ Practice Test 7	_____	106
★ Practice Test 8	_____	122
★ Practice Test 9	_____	137
Practice Test Answer Keys	_____	153
Practice Test Answers and Explanations	_____	159

1) The line through $(a, 2)$ and $(3, 8)$ has slope 2. What is the value of a ?

☐ A. 0

☐ C. 2

☐ B. 1

☐ D. 6

2) A grain of sand has mass 6.4×10^{-5} g. What is this in decimal form?

☐ A. 64,000 g

☐ C. 0.64 g

☐ B. 0.0064 g

☐ D. 0.000064 g

3) To determine the solution region of an inequality, you can use a test point. Which is the most efficient test point to select?

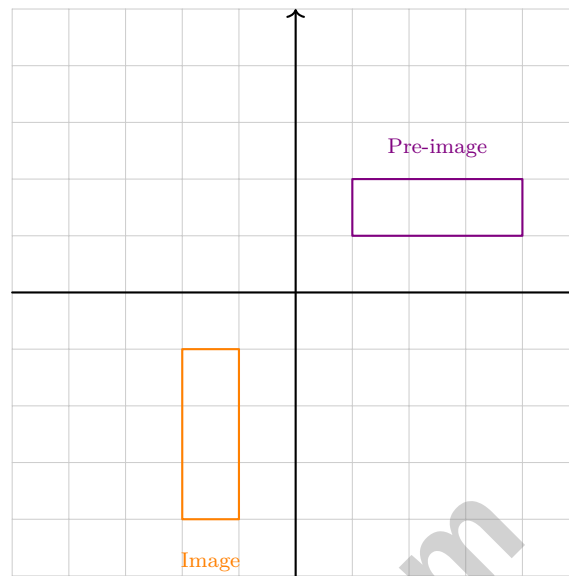
☐ A. A point on the boundary line

☐ C. Any point with negative coordinates

☐ B. The origin $(0, 0)$, provided it is not on the boundary

☐ D. A point in Quadrant III





4)

Which sequence of transformations was applied?

- ☐ A. Translate 5 units down, then rotate 90°
☐ B. Reflect across the x -axis, then rotate
☐ C. Rotate 90° counterclockwise, then translate 5 units down
☐ D. Dilate by scale factor 2, then translate
- 5) A borrower needs to repay \$1,000. She has time but limited monthly cash flow. Comparing the plans, which choice represents the BEST overall financial decision (lowest total cost + manageable payments)?

- ☐ A. \$50/month for 24 months (total \$1,200; low monthly cost)
☐ B. \$100/month for 12 months (total \$1,200; medium monthly cost)
☐ C. \$125/month for 8 months (total \$1,000; high monthly cost)
☐ D. \$83/month for 18 months (total \$1,494; expensive overall)



Scan me!
For more practice
& answers

6) Which value of x satisfies $x^2 = 100$?

☐ A. 8

☐ C. 10

☐ B. 9

☐ D. 11

7) $\frac{(4 \times 10^6) \times (3 \times 10^2)}{6 \times 10^4} = ?$

☐ A. 2×10^2

☐ C. 2×10^4

☐ B. 12×10^8

☐ D. 0.2×10^4

8) A bike travels at 12 miles per hour. The equation is $d = 12t$, where d is distance in miles and t is time in hours. How far does the bike travel in 3.5 hours?

☐ A. 30 miles

☐ C. 42 miles

☐ B. 36 miles

☐ D. 48 miles

9) Solve for x : $6x - 3(x + 2) = 3$

☐ A. $x = 3$

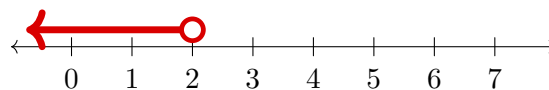
☐ C. $x = 1$

☐ B. $x = 2$

☐ D. $x = 9$

10) The line of best fit for a dataset is $y = -3x + 48$. At what value of x is y equal to 12?

11) Which inequality has the solution graphed below?



☐ A. $x < 2$

☐ C. $x \leq 2$

☐ B. $x > 2$

☐ D. $x \geq 2$



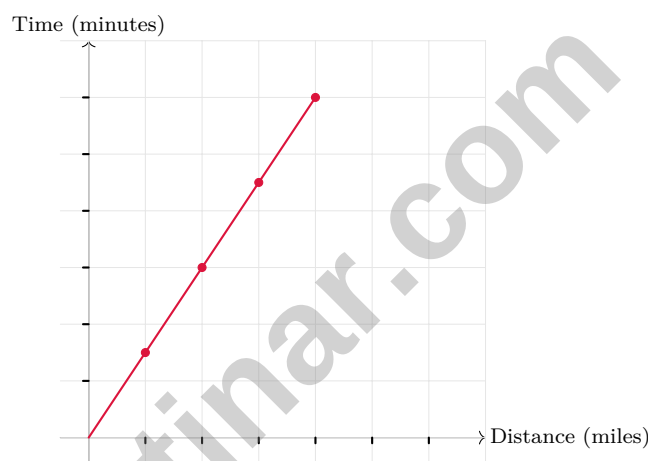
Decimal Classification	Terminating	Repeating
	0.25 0.5	0.33 0.142857

1)

Both categories shown contain rational numbers. Which is irrational?

☐ A. 0.1234567 (terminating)

☐ C. $\frac{22}{7}$
☐ B. 0.999... (repeating 9's)

☐ D. 0.3030030003... (non-repeating)


2)

Using the linear model, which distance-time pair should be predicted MOST reliably?

☐ A. 5 miles in about 7.5 minutes

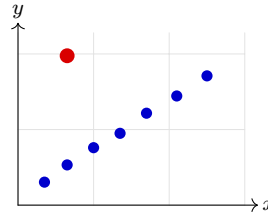
☐ C. 2.5 miles in about 3.75 minutes

☐ B. 0.5 miles in about 0.75 minutes

☐ D. 10 miles in about 15 minutes

3) A pyramid has a rectangular base of 7 m by 9 m and a height of 15 m. What is its volume?

☐ A. 315 m^3
☐ C. 630 m^3
☐ B. 420 m^3
☐ D. 945 m^3

4)

A scatter plot displays student class attendance versus final exam grade. The data shows a positive linear association with a strong correlation. One student attended class 80% of the time but scored a 40% on the exam. This point is:

- ☐ A. An outlier
 ☐ C. The mean of the data
☐ B. A typical data point
 ☐ D. An error in measurement

5) Among high-quality products in the table below, what relative frequency are premium-priced?

	Premium	Standard	Total
High Quality	240	80	320
Low Quality	48	112	160
Total	288	192	480

- ☐ A. $\frac{240}{480} = 0.50$
☐ C. $\frac{240}{320} = 0.75$
☐ B. $\frac{240}{288} \approx 0.83$
☐ D. $\frac{320}{480} = 0.60$

6) Which scenario would most likely result in a smaller MAD after removing an outlier?

- ☐ A. The outlier equals the mean
 ☐ C. The outlier is far from the mean
☐ B. The outlier is the only value
 ☐ D. The data set has one value



Scan me!
For more practice
& answers

1) If $x = 2$, evaluate $\frac{(x^3)^2}{x^4}$.

☐ A. 2

☐ C. 16

☐ B. 64

☐ D. 4

2) If 5 kilograms of rice cost \$15, what is the unit price (constant of proportionality) in dollars per kilogram?

3) A student calculates the surface area of a rectangular prism with dimensions $3 \text{ m} \times 4 \text{ m} \times 5 \text{ m}$ as: $SA = 2(3 \times 4) + 2(3 \times 5) + 2(4 \times 5) = 24 + 30 + 40 = 94 \text{ m}^2$. What is the error?

☐ A. The calculation is correct

☐ C. The student missed the bottom face

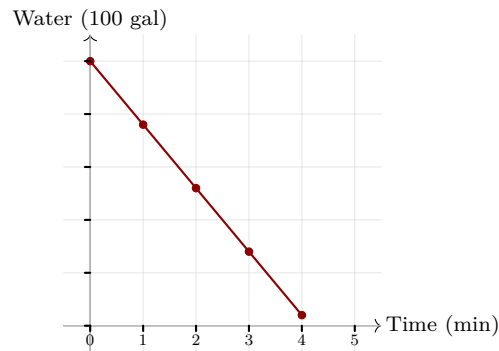
☐ B. The student forgot to add the second base

☐ D. The student mixed up length and width



Scan me!
For more practice
& answers

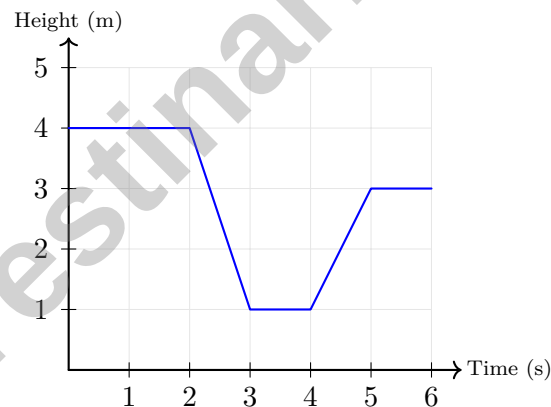
4)



A water tank drains following the model $w = 500 - 120t$, where w is water remaining in gallons and t is time in minutes. What is the practical meaning of the -120 coefficient?

- ☐ A. 120 gallons of water remain at time 0 ☐ C. The tank holds 500 gallons total
☐ B. 120 gallons drain per minute ☐ D. The tank is empty after 12 minutes

5)



A toy platform follows the height-time graph shown. Which description is accurate?

- ☐ A. The object goes up constantly, then down, then flat ☐ C. The object increases, then decreases throughout
☐ B. The object stays level, drops, stays level, rises, stays level ☐ D. The object decreases in height initially



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 A is correct.** (8.PAFR.2.5) Using slope formula: $2 = \frac{8-2}{3-a}$, so $2(3-a) = 6$, giving $6-2a = 6$, thus $a = 0$.
- 2) **Choice D is correct.** (8.PAFR.3.3) Move the decimal 5 places left: $6.4 \times 10^{-5} = 0.000064$ g.
- 3) **Choice B is correct.** (8.MGSR.1.2) The origin is easy to test computationally and gives quick results. If the boundary line passes through $(0, 0)$, choose another convenient point like $(1, 0)$ or $(0, 1)$.
- 4) **Choice C is correct.** (8.MGSR.3.1) A 90° counterclockwise rotation sends the rectangle to a vertical position. Translating that rotated image 5 units down matches the orange image.
- 5) **Choice A is correct.** (8.DPSR.2.2) Option C has zero interest (lowest cost) but requires \$125/month. Option A costs \$200 extra but is affordable at \$50/month. For someone with limited cash flow, Option A balances cost and affordability.
- 6) **Choice C is correct.** (8.PAFR.3.1) $10 \times 10 = 100$, so $x = 10$ (taking the positive root).
- 7) **Choice C is correct.** (8.PAFR.3.3) Numerator: $(4 \times 3) \times 10^{6+2} = 12 \times 10^8$. Then divide: $\frac{12 \times 10^8}{6 \times 10^4} = 2 \times 10^4$.
- 8) **Choice C is correct.** (8.PAFR.2.3) Substitute $t = 3.5$: $d = 12(3.5) = 42$ miles. The proportional relationship scales with time.
- 9) **Choice A is correct.** (8.PAFR.2.1) Distribute: $6x - 3x - 6 = 3$. Combine: $3x - 6 = 3$. Add 6: $3x = 9$. Divide by 3: $x = 3$.
- 10) **The correct answer is 12.** (8.DPSR.1.1) Set $y = 12$: $12 = -3x + 48 \Rightarrow -3x = -36 \Rightarrow x = 12$.
- 11) **Choice A is correct.** (8.PAFR.2.1) The open circle at 2 means 2 is not included. The ray points left to smaller values, so $x < 2$.
- 12) **The correct answer is 7.1.** (8.NR.2.2) Since $7^2 = 49$ and $7.1^2 = 50.41$, we have $\sqrt{50}$ between 7.0 and 7.1, closer to 7.1. More precisely, $7.07^2 \approx 49.98 \approx 50$. To the nearest tenth, $\sqrt{50} \approx 7.1$.
- 13) **Choice D is correct.** (8.PAFR.1.3) Multiple inputs can map to the same output. Since each distinct input (a, b, c, d) appears exactly once, the relation is a function.
- 14) **Choice C is correct.** (8.PAFR.1.3) Only $y = 6x - 9$ is in the form $y = mx + b$. Options A, B, and D involve exponents, reciprocals, or square roots, making them nonlinear.
- 15) **Choice B is correct.** (8.PAFR.1.4) From $x = 2$ to $x = 4$: change is from 3 to 1, a drop of 2 over 2 units (slope = -1). From 0 to 2: rise of 3. From 4 to 6: rise of 3. The only decreasing segment is 2 to 4.
- 16) **Choice B is correct.** (8.MGSR.2.1) Co-interior angles are supplementary; their sum is always 180° .
- 17) **Choice A is correct.** (8.MGSR.1.2) $d = \sqrt{(2 - (-6))^2 + (-7 - 1)^2} = \sqrt{8^2 + (-8)^2} = \sqrt{64 + 64} = \sqrt{128} = 8\sqrt{2}$ units.
- 18) **Choice D is correct.** (8.PAFR.3.3) $\frac{5^6}{5^2} = 5^{6-2} = 5^4 = 625$.
- 19) **Choice D is correct.** (8.PAFR.2.1) The second equation is exactly 2 times the first: $4x - 2y = 10$ is $2(2x - y = 5)$. They represent the same line, so there are infinitely many solutions.
- 20) **The correct answer is A,B.** (8.MGSR.1.3) A: $3^2 + 4^2 = 9 + 16 = 25 = 5^2$ ✓. B: $5^2 + 12^2 = 25 + 144 = 169 = 13^2$ ✓. C: $36 + 49 = 85 \neq 64$. D: $49 + 576 = 625 \neq 676$. E: $64 + 100 = 164 \neq 144$.
- 21) **Choice A is correct.** (8.PAFR.1.5) FOIL: $(3x - 2)(x - 4) = 3x^2 - 12x - 2x + 8 = 3x^2 - 14x + 8$.
- 22) **Choice A is correct.** (8.PAFR.1.5) Slope of u : $(3 - (-1))/(2 - 0) = 4/2 = 2 > 0$. Slope of v : $-1 < 0$. Only u is positive.
- 23) **Choice A is correct.** (8.PAFR.1.6) Using $y = mx + b$ with $m = 3$ and point $(1, 7)$: $7 = 3(1) + b \Rightarrow b = 4$. Equation: $y = 3x + 4$.
- 24) **Choice B is correct.** (8.MGSR.2.2) Congruent figures have equal corresponding sides. The side corresponding to PQ in pentagon $UVWXY$ is UV , and it must equal 8 cm.
- 25) **Choice B is correct.** (8.MGSR.3.7) Start at $(0, 0)$. After translation right 2: $(2, 0)$. After rotation 90° counterclockwise: $(-0, 2) = (0, 2)$. After reflection across x -axis: $(0, -2)$.
- 26) **Choice C is correct.** (8.MGSR.3.5) Triangle = $\frac{1}{2} \times 6 \times 8 = 24$ in². Rectangle = $6 \times 2 = 12$ in². Total = $24 + 12 = 36$ in².
- 27) **The correct answer is $(6, 7)$.** (8.NR.2.1) $6^2 = 36$ and $7^2 = 49$. Since $36 < 45 < 49$, we have $6 < \sqrt{45} < 7$.



Scan me!
For more practice
& answers

Hi, Math Communicator!

◇ Grade 8 math is not only about getting a number. It is about explaining relationships and making your reasoning visible. ◇

★ **Remember this:** When you show steps, label diagrams, and write clear answers, you are joining the conversation that math is trying to have. You practiced across 9 full Grade 8 practice tests, and that repeated effort matters. ★

Communication Skills

- **Use Words:** Explain what the answer means.
- **Use Symbols:** Keep equations accurate.
- **Use Diagrams:** Show relationships visually.
- **Use Units:** Connect math to context.

Grade 8 test-day tip: For open-ended questions, answer in a complete thought: value, unit, and reason.

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

Jay Daie

Your Math Communication Coach

CONFIDENCE TODAY, SUCCESS TOMORROW!

GRADE

8

Help your child excel in math with **9 full-length Grade 8 practice tests** designed to reflect real test formats and cover all key math standards.

With a wide variety of questions and real-world applications, this book builds the skills and confidence students need to achieve their best!



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 | ✓ Statistics & Probability |
| ✓ Expressions & Equations | ✓ Pythagorean Theorem |
| ✓ Ratios & Proportional Relationships | ✓ Volume & Surface Area |
| ✓ Linear Equations | ✓ Transformations |
| ✓ Functions | ✓ Inequalities |
| ✓ Geometry | ✓ Data Analysis & Graphing |
| ✓ Measurement & Data | ✓ 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.**