

South Carolina

SC READY

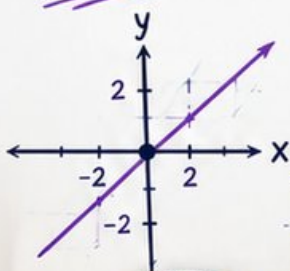
GRADE 8

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

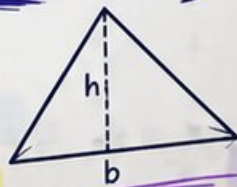
$$y = mx + b$$



**BUILD
CONFIDENCE.
SHARPEN SKILLS.
ACE YOUR
EXAM!**

Practice
Today
Succeed
Tomorrow!

$$A = \frac{1}{2}bh$$



7 PRINTED
TESTS



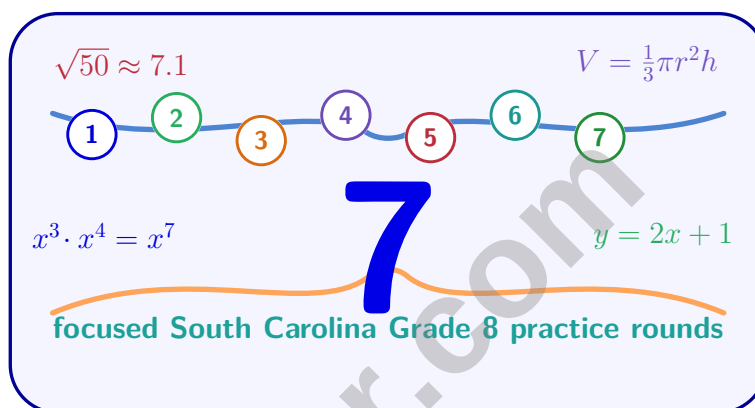
2 ONLINE
TESTS



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

7 South Carolina SC READY Grade 8 Math Practice Tests

SC READY Grade 8 Math Practice for Stamina, Skills, and Review



Seven 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!

Seven focused rounds for sharper SC READY math thinking

This book gives you seven 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 seven-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?

Seven SC READY tests, 280 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.
Test 7	Pythagorean reasoning, volume, data analysis, linear models, probability, mixed review, and stamina.
Answer Pages	Compact keys and explanations that show why each answer works.

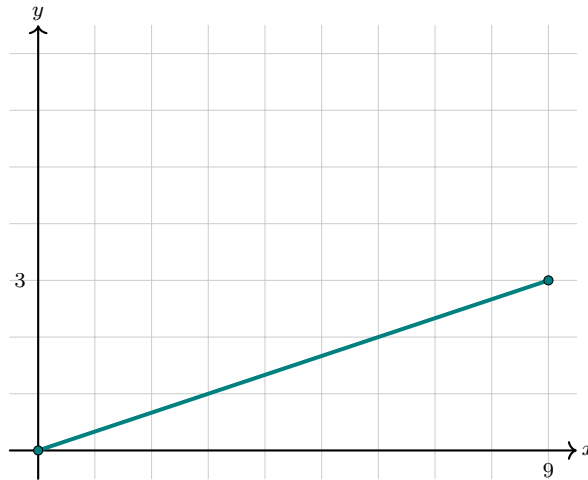
The tests are mixed on purpose. Grade 8 success means recognizing which idea is being tested even when the next question changes format.



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For more practice
& answers

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1)

The graph shows a proportional relationship. Find the equation.

☐ A. $y = 9x$

☐ C. $y = \frac{1}{3}x$

☐ B. $y = 3x$

☐ D. $y = x + 3$

2) For what value of c does the system $\begin{cases} y = 2x + 3 \\ y = 2x + c \end{cases}$ have no solution?

☐ A. $c = 3$ only

☐ C. Any $c \neq 3$

☐ B. $c = 0$ only

☐ D. c can be any value

3) A student claims the line through $(1, 3)$ and $(3, 6)$ has slope $\frac{2}{3}$. What error did the student make?

☐ A. Inverted the slope as $\frac{\Delta x}{\Delta y}$

☐ C. Used $(1, 3)$ twice

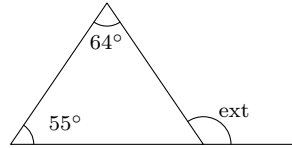
☐ B. Subtracted incorrectly

☐ D. Used the y -intercept as the slope

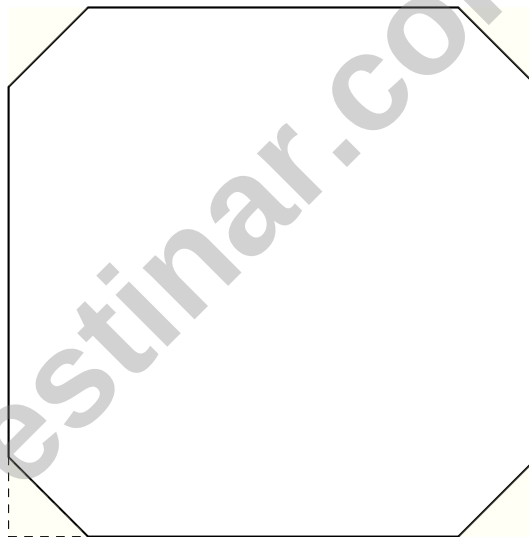


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- 4) An exterior angle of a triangle is formed by extending one side. If the two non-adjacent interior angles are 55° and 64° , what is the exterior angle?



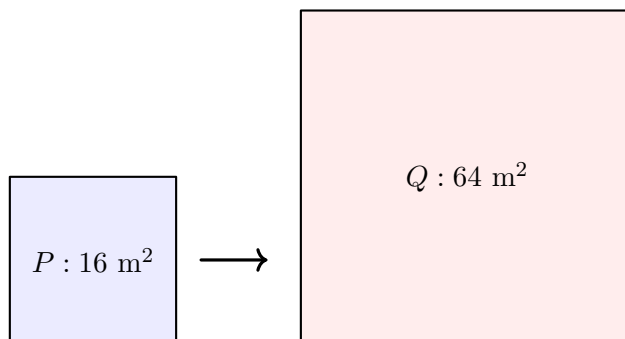
- ☐ A. 64° ☐ C. 109°
☐ B. 89° ☐ D. 119°
- 5) An art installation is a regular octagon formed by cutting isosceles right triangles from each corner of a 20 m by 20 m square (each cut triangle has legs 3 m). What is the area of the octagon?



- ☐ A. 282 m^2 ☐ C. 342 m^2
☐ B. 382 m^2 ☐ D. 400 m^2

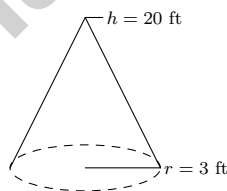


- 6) Figure P has area 16 m^2 and Figure Q (similar to P) has area 64 m^2 . What is the scale factor from P to Q ?



- ☐ A. 2
- ☐ B. 4
- ☐ C. 8
- ☐ D. 16
- 7) Solve: $\frac{x+5}{-2} \leq 3$
- ☐ A. $x \geq -11$
- ☐ B. $x \leq 1$
- ☐ C. $x \leq -11$
- ☐ D. $x \geq 1$

8)

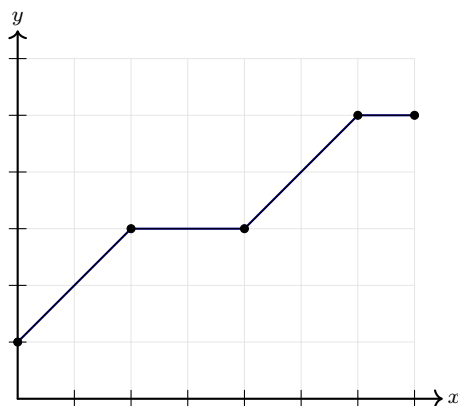


A cone has radius 3 ft and height 20 ft. What is its approximate volume? (Use $\pi \approx 3.14$.)

- ☐ A. 188.4 ft^3
- ☐ B. 56.52 ft^3
- ☐ C. 226.08 ft^3
- ☐ D. 339.12 ft^3



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1)

Identify all intervals where the function is increasing.

☐ A. $[0, 2]$ only

☐ C. $[2, 4]$ and $[4, 6]$
☐ B. $[0, 2]$ and $[4, 6]$
☐ D. $[0, 2]$, $[4, 6]$, and $[6, 7]$
2) Evaluate 2^{-3} and express it as a decimal.
3) What is $\sqrt[3]{1000}$?
☐ A. 8

☐ C. 10

☐ B. 9

☐ D. 11

4) A recipe calls for 3 cups of flour per batch of cookies. How many batches can be made with 12 cups of flour? (Assume a proportional relationship.)

☐ A. 2 batches

☐ C. 4 batches

☐ B. 3 batches

☐ D. 6 batches


5) A line passes through $(-2, 1)$ and $(2, 9)$. What is the slope?

☐ A. $\frac{1}{2}$

☐ B. 8

☐ C. 4

☐ D. 2

6) Which ordered pair satisfies both equations?

- $2x - y = 5$

- $x + 2y = 5$

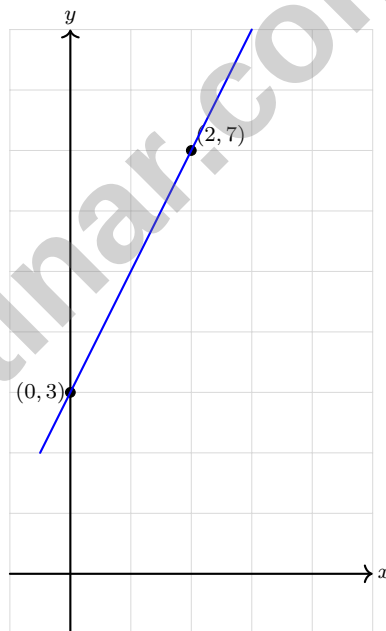
☐ A. $(3, 1)$

☐ B. $(2, 0)$

☐ C. $(1, -3)$

☐ D. $(4, 3)$

7) The graph shows a linear function passing through points $(0, 3)$ and $(2, 7)$.



What is the slope of the line?

☐ A. 2

☐ B. 3

☐ C. $\frac{1}{2}$

☐ D. $\frac{2}{7}$



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& answers

1) A cinema tracks 240 moviegoers:

	Action	Comedy	Total
Weekday	72	48	120
Weekend	84	36	120
Total	156	84	240

Among action-movie viewers, what is the relative frequency of weekday watchers?

- ☐ A. ≈ 0.30
☐ C. ≈ 0.50
☐ B. ≈ 0.46
☐ D. ≈ 0.60

2) Which scenario represents an error in calculating MAD?

- ☐ A. Finding $MAD = 3$ but forgetting to list all deviations
☐ B. Calculating deviations: $|2 - 5| = 3$
☐ C. Using $(\text{maximum} - \text{minimum})$ instead of mean absolute deviations
☐ D. Stating $MAD = 0$ when all values are identical

3) A schedule allows you to pick a morning activity and an afternoon activity from the list below. Morning: hiking or swimming. Afternoon: painting, music, or reading. How many different schedules are possible?

- ☐ A. $2 + 3 = 5$
☐ C. $3^2 = 9$
☐ B. $2 \times 3 = 6$
☐ D. $(2 + 3)^2 = 25$

4) What is $0.\overline{111}$ as a fraction?

- ☐ A. $\frac{1}{111}$
☐ C. $\frac{111}{1000}$
☐ B. $\frac{111}{100}$
☐ D. $\frac{111}{999} = \frac{1}{9}$



5) To the nearest hundredth, $\sqrt{19} \approx$?

☐ A. 4.35

☐ C. 4.37

☐ B. 4.38

☐ D. 4.36

1.2 **34** 3434...

34 repeats

6)

The decimal $1.2\overline{34}$ (where 34 repeats) is:

☐ A. Irrational

☐ C. Neither rational nor irrational

☐ B. Equal to π

☐ D. Rational

7) Which is the best estimate of 2π ?

☐ A. 3.28

☐ C. 6.28

☐ B. 5.14

☐ D. 8.56

8) A payday loan charges \$15 for every \$100 borrowed for 2 weeks. What is the APR equivalent?

☐ A. 15%

☐ C. 390%

☐ B. 30%

☐ D. 780%

9) A computer hard drive has a storage capacity of 1.5×10^{12} bytes. How many times larger is this than a USB stick with capacity 1.5×10^{10} bytes?

☐ A. 200 times

☐ C. 10,000 times

☐ B. 1,000 times

☐ D. 100 times



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& answers

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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& answers

Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- Choice C is correct. (8.PAFR.2.3) Slope $k = \frac{3}{9} = \frac{1}{3}$. Equation: $y = \frac{1}{3}x$.
- Choice C is correct. (8.PAFR.2.1) Both equations have slope 2. If $c \neq 3$, the lines are parallel and have no solution. If $c = 3$, the equations are identical and there are infinitely many solutions.
- Choice A is correct. (8.PAFR.1.6) Correct: $m = \frac{6-3}{3-1} = \frac{3}{2}$. The student used $\frac{\Delta x}{\Delta y} = \frac{2}{3}$ instead of $\frac{\Delta y}{\Delta x}$, so the rise and run were inverted.
- Choice D is correct. (8.MGSR.2.1) Exterior angle equals the sum of remote interior angles: $55 + 64 = 119^\circ$.
- Choice B is correct. (8.MGSR.3.5) The square area is $20 \times 20 = 400 \text{ m}^2$. Four corner triangles are removed, and each has area $\frac{1}{2} \times 3 \times 3 = 4.5 \text{ m}^2$. The octagon area is $400 - 4(4.5) = 382 \text{ m}^2$.
- Choice A is correct. (8.MGSR.3.6) If area ratio is $\frac{64}{16} = 4$, then the linear scale factor is $\sqrt{4} = 2$.
- Choice A is correct. (8.PAFR.2.1) Multiply by -2 (FLIP): $x + 5 \geq -6$. Subtract 5: $x \geq -11$.
- Choice A is correct. (8.MGSR.1.1) $V = \frac{1}{3}\pi r^2 h = \frac{1}{3} \times 3.14 \times 9 \times 20 = \frac{1}{3} \times 565.2 = 188.4 \text{ ft}^3$.
- Choice A is correct. (8.MGSR.2.4) Co-interior angles are supplementary when a transversal cuts parallel lines. So $y = 180 - 136 = 44^\circ$.
- Choice A is correct. (8.PAFR.1.3) Each input (1, 2, 3) maps to exactly one output (A, B, C). The fact that outputs are letters instead of numbers is irrelevant.
- Choice B is correct. (8.PAFR.1.4) The constant segments at $y = 2$ and $y = 5$ stay below and above $y = 4$. The increasing segment must cross $y = 4$ exactly once.
- The correct answer is 12. (8.PAFR.2.5) Set $x = 0$: $3(0) + y = 12$, so $y = 12$. Alternatively, solve for y : $y = -3x + 12$, so $b = 12$.
- The correct answer is $m = 25$. (8.PAFR.2.1) Add 2 to both sides: $\frac{m}{5} = 5$. Multiply both sides by 5: $m = 25$. Verify: $\frac{25}{5} - 2 = 5 - 2 = 3 \checkmark$.
- Choice B is correct. (8.MGSR.2.2) Add 3 to each x -coordinate and subtract 2 from each y -coordinate: $(1 + 3, 1 - 2) = (4, -1)$, $(4 + 3, 1 - 2) = (7, -1)$, $(2 + 3, 3 - 2) = (5, 1)$.
- Choice C is correct. (8.MGSR.3.7) Under 180° rotation, $(x, y) \rightarrow (-x, -y)$: $(1, 0) \rightarrow (-1, 0)$, $(3, 0) \rightarrow (-3, 0)$, $(2, 3) \rightarrow (-2, -3)$.
- Choice B is correct. (8.MGSR.1.3) From $(\sqrt{32})^2 + (\sqrt{4})^2 = c^2$, we get $32 + 4 = 36$, so $c = \sqrt{36} = 6$.
- Choice A is correct. (8.MGSR.1.2) Since both points have the same x -coordinate, the distance is simply the difference in y -coordinates: $|9 - 1| = 8$.
- Choice B is correct. (8.MGSR.1.1) $V_A = \frac{1}{3} \times 25 \times 6 = 50 \text{ cm}^3$. $V_B = \frac{1}{3} \times 25 \times 12 = 100 \text{ cm}^3$. Difference: $100 - 50 = 50 \text{ cm}^3$.
- Choice C is correct. (8.MGSR.2.3) Each exterior angle of a regular hexagon: $\frac{360}{6} = 60^\circ$.
- The correct answer is A,B. (8.PAFR.3.1) $81 = 9^2$ and $100 = 10^2$, so both are perfect squares. The other choices are not perfect squares or perfect cubes.
- Choice C is correct. (8.DPSR.1.4) Joint frequency: intersection cell (45) divided by grand total (120). This answers 'what fraction of all respondents are rural car-owners?' $= \frac{45}{120} \approx 0.375$.
- Choice A is correct. (8.DPSR.1.2) Deviations: $|50 - 60| = 10$, $|60 - 60| = 0$, $|55 - 60| = 5$, $|65 - 60| = 5$, $|70 - 60| = 10$. Sum = 30. MAD = $30/5 = 6$.
- Choice B is correct. (8.DPSR.2.2) There are 4 tens and 13 hearts, but the 10 of hearts is counted in both groups. The number of favorable cards is $4 + 13 - 1 = 16$, so the probability is $\frac{16}{52}$.
- Choice B is correct. (8.NR.1.1) The factorial symbol $!$ means multiply all whole numbers from that number down to 1. So $3! = 3 \times 2 \times 1 = 6$.
- Choice D is correct. (8.DPSR.1.1) The data shows steep growth early, flattening near age 15–16. This reflects human biology: rapid growth during childhood and early teens, then plateauing as growth ends in adulthood.
- Choice D is correct. (8.NR.1.1) Let $x = 0.\bar{6}$. Then $10x = 6.\bar{6}$. Subtracting: $9x = 6$, so $x = \frac{6}{9} = \frac{2}{3}$.



The Power of Showing Work

Hi, Organized Solver!

◇ You practiced Grade 8 skills that often require more than one step. That means your written work matters. ◇

★ **Remember this:** Showing work is not extra. It is how you track your thinking, find errors, and prove that your answer did not happen by luck. You practiced across 7 full Grade 8 practice tests, and that repeated effort matters. ★

Organized Work Habits

- **One Line Per Step:** Keep the path readable.
- **Box the Answer:** Make the final result easy to find.
- **Use Labels:** Tell what each value represents.
- **Check the Path:** Follow your steps backward if needed.

Grade 8 test-day tip: When a problem has several steps, write less on each line. Space makes checking easier.

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

Jay Daie

Your Organized-Work Coach

PRACTICE TODAY SUCCEED TOMORROW!

Give your child the confidence and skills they need with **7 full-length Grade 8 Math** practice tests that reflect real test formats and cover all key math standards. Perfect for building skills, strengthening problem-solving abilities, and achieving success on test day!

GRADE 8

Practice
Today
Succeed
Tomorrow!

Algebra

Geometry

Statistics

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! |



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