

4

South Carolina

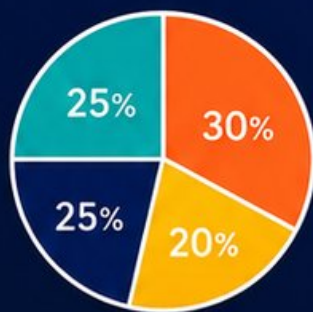
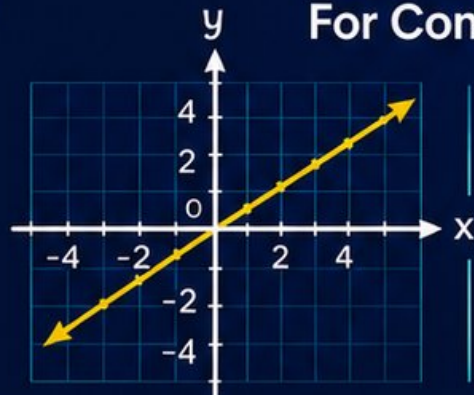
SC READY

GRADE 8

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

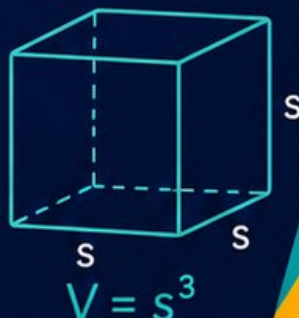


$$y = mx + b$$

$$2x - 3y = 6$$

$$\sqrt{x^2 + y^2}$$

$$A = bh$$

**4 PRINTED TESTS****2 ONLINE TESTS**

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



4 South Carolina SC READY Grade 8 Math Practice Tests

Four SC READY Math Rounds for Skill-Building and Test Confidence



Four 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!

Four focused rounds for sharper SC READY math thinking

This book gives you four 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 four-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?

Four SC READY tests, 160 questions, and a focused review path

Part	What You Will Practice
Tests 1–2	Real numbers, exponents, scientific notation, equations, and careful reading.
Tests 3–4	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.



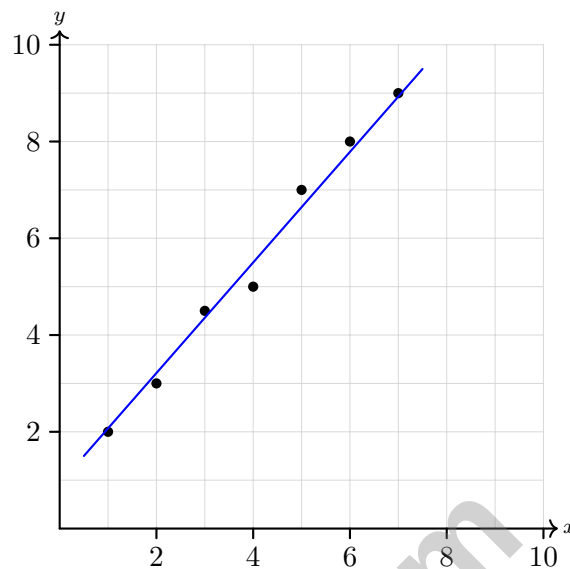
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- 1) Maria is currently 4 years older than her sister Emma. In 3 years, Maria will be twice Emma's age. How old is Emma now?
- ☐ A. 1 ☐ C. 3
☐ B. 2 ☐ D. 5
- 2) A store sells items for \$8 each and charges a flat shipping fee of \$12. The total cost C for n items is represented by which function?
- ☐ A. $C = 8n + 12$ ☐ C. $C = 20n$
☐ B. $C = 12n + 8$ ☐ D. $C = 8n - 12$
- 3) What are the coordinates of the image of point $(5, 0)$ after a reflection across the line $y = -x$?
- ☐ A. $(0, -5)$ ☐ C. $(5, 0)$
☐ B. $(-5, 0)$ ☐ D. $(0, 5)$
- 4) A student wants to find the volume of a triangular pyramid with a right-triangular base (legs 6 cm and 8 cm) and height 10 cm. The student calculates $V = \frac{1}{3} \times (6 \times 8) \times 10 = 160 \text{ cm}^3$. What is the error?
- ☐ A. The student used the wrong formula. ☐ C. The student should not have included the $\frac{1}{3}$ factor.
☐ B. The student forgot to divide the triangle base by 2. ☐ D. The height is incorrect.





5)

Which statement best explains why the trend line does NOT pass through every data point?

- ☐ A. The data is not perfectly linear; there is natural variation
☐ B. The trend line is drawn incorrectly
☐ C. Some data points are too far from the line
☐ D. The axes are not labeled correctly

6) An equilateral triangle has side length 5 cm. A similar equilateral triangle has perimeter 60 cm. What is the scale factor?

- ☐ A. 3
☐ B. 4
☐ C. 12
☐ D. $\frac{1}{4}$

7) The table shows values of $f(x) = 3x - 2$. What is $f(5)$?

x	1	2	3	5
$f(x)$	1	4	7	?

- ☐ A. 13
☐ B. 15
☐ C. 12
☐ D. 17



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- 8) Points $(-1, 5)$ and $(2, 14)$ lie on a line. Find the slope.

Numbers	
Rational	Irrational
$\frac{1}{2}, 0.5$	$\sqrt{2}, \pi$

9)

Which number should be placed in the Rational section?

- ☐ A. $\sqrt{13}$
☐ C. $-\frac{9}{2}$
☐ B. $2 + \sqrt{5}$
☐ D. $\sqrt{\pi}$

- 10) What is $0.\overline{142}$ as a fraction?

- ☐ A. $\frac{1}{142}$
☐ C. $\frac{142}{1000}$
☐ B. $\frac{142}{100}$
☐ D. $\frac{142}{999}$

- 11) Which is larger: $\sqrt{11}$ or 3.5?

- ☐ A. They are equal
 ☐ C. $\sqrt{11}$
☐ B. Cannot be determined
 ☐ D. 3.5



1) Line A passes through $(0,0)$ and $(3,6)$. Line B passes through $(0,1)$ and $(2,7)$. Which line increases faster?

- ☐ A. Line A ☐ C. Both increase equally.
☐ B. Line B ☐ D. Cannot determine.

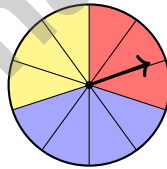
2) A cyclist travels at a constant speed. After 1.5 hours, they have traveled 22.5 miles. After 3 hours, they have traveled 45 miles. What is the slope (speed in mph)?

- ☐ A. 15 mph ☐ C. 30 mph
☐ B. 22.5 mph ☐ D. 45 mph

3) To solve the system $y = 2x - 3$ and $y = -x + 6$, which method is most efficient?

- ☐ A. Elimination ☐ C. Substitution
☐ B. Graphing ☐ D. Guess and check

4) A spinner has 10 equal sections: 3 red, 4 blue, and 3 yellow. What is the probability of landing on red OR blue?



3 red, 4 blue, 3 yellow

- ☐ A. $\frac{4}{10}$ ☐ C. $\frac{7}{10}$
☐ B. $\frac{12}{10}$ ☐ D. $\frac{3}{10}$



5) Evaluate $9x^2 - 16$ when $x = 2$.

6) A business selects 4 employees from 7 to form a team and arranges them in a specific order for a project. How many ways can this be done?

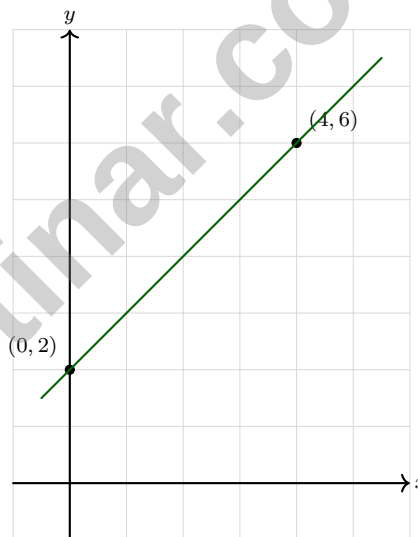
☐ A. $7 \times 6 \times 5 \times 4 = 840$

☐ C. $7^4 = 2,401$

☐ B. $\binom{7}{4} = 35$

☐ D. $7! = 5,040$

7) The graph shows a linear function. What are the slope and y -intercept?



☐ A. Slope = 1, intercept = 2

☐ C. Slope = 4, intercept = 6

☐ B. Slope = 2, intercept = 1

☐ D. Slope = $\frac{1}{2}$, intercept = 4



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1) What is the image of the point $(0, -7)$ after a reflection across the line $y = x$?

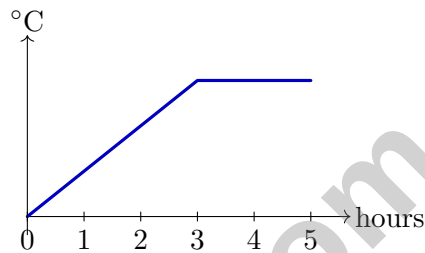
☐ A. $(0, 7)$

☐ C. $(-7, 0)$

☐ B. $(7, 0)$

☐ D. $(0, -7)$

2) A graph shows temperature rising for 3 hours at 5 degrees per hour, then stays constant for 2 hours. If the starting temperature is 10 degrees C, what is the temperature after 5 hours?



3) Expand $(x - 3)^2$.

☐ A. $x^2 - 6x + 9$

☐ C. $x^2 + 6x + 9$

☐ B. $x^2 - 9$

☐ D. $x^2 - 6x - 9$

4) Plan A costs \$15 per month: $A(m) = 15 + 0.10m$. Plan B shown in table: $(0, \$20)$, $(100, \$25)$, $(200, \$30)$, $(300, \$35)$. Which plan has the higher base cost?

m	0	100	200	300
Plan B	\$20	\$25	\$30	\$35

☐ A. Plan A

☐ C. Both cost the same.

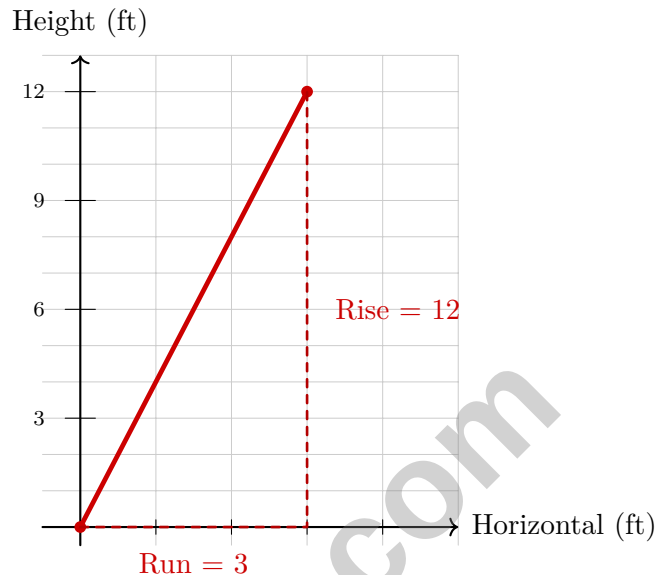
☐ B. Plan B

☐ D. Cannot be determined.



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- 5) A ladder against a building creates a line from $(0, 0)$ on the ground to $(3, 12)$ where coordinates are (horizontal distance in ft, height in ft). What is the slope?



- ☐ A. 4 feet per foot ☐ C. 3 feet per foot
☐ B. $\frac{1}{4}$ feet per foot ☐ D. 12 feet per foot
- 6) Train A travels at 60 mph. Train B travels at 75 mph. If Train B leaves 1 hour later but they meet after Train A has traveled for 5 hours, which equation is correct?
- ☐ A. $60 \cdot 5 = 75 \cdot 4$ ☐ C. $60 \cdot 4 = 75 \cdot 5$
☐ B. $60 \cdot 5 + 75 \cdot 4 = \text{total distance}$ ☐ D. $60 \cdot 5 = 75 \cdot 5$
- 7) Trapezoid MNOP has parallel sides of 8 cm and 14 cm. If trapezoid MNOP is congruent to trapezoid QRST, and side $QR = 8$ cm, find the length of the side that corresponds to the 14 cm side of MNOP.



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 A is correct.** **(8.PAFR.2.1)** Let e = Emma's current age. Then Maria's age is $e + 4$. In 3 years: Emma is $e + 3$, Maria is $e + 7$. The condition gives $e + 7 = 2(e + 3)$, so $e + 7 = 2e + 6$, thus $e = 1$.
- 2) **Choice A is correct.** **(8.PAFR.1.6)** Cost per item is \$8 (slope), flat shipping is \$12 (intercept). Total: $C = 8n + 12$.
- 3) **Choice A is correct.** **(8.MGSR.3.7)** Reflection across $y = -x$ maps $(x, y) \rightarrow (-y, -x)$. So $(5, 0) \rightarrow (0, -5)$.
- 4) **Choice B is correct.** **(8.MGSR.1.1)** For a right triangle, base area is $\frac{1}{2} \times 6 \times 8 = 24 \text{ cm}^2$ (not 48 cm^2). Correct volume: $V = \frac{1}{3} \times 24 \times 10 = 80 \text{ cm}^3$.
- 5) **Choice A is correct.** **(8.DPSR.1.1)** Real-world data rarely fits a perfect line. A trend line balances passing close to all points, even if it doesn't pass through every one.
- 6) **Choice B is correct.** **(8.MGSR.3.6)** Perimeter of first triangle is 15 cm. Scale factor is $\frac{60}{15} = 4$. Each side of the second is $5 \times 4 = 20$ cm.
- 7) **Choice A is correct.** **(8.PAFR.1.4)** Substitute $x = 5$: $f(5) = 3(5) - 2 = 15 - 2 = 13$.
- 8) **The correct answer is 3.** **(8.PAFR.2.4)** Slope = $\frac{14 - 5}{2 - (-1)} = \frac{9}{3} = 3$.
- 9) **Choice C is correct.** **(8.NR.2.2)** Only $-\frac{9}{2}$ is rational (a fraction of two integers). The others are irrational: $\sqrt{13}$ is a non-perfect-square root, $2 + \sqrt{5}$ is a sum involving an irrational, and $\sqrt{\pi}$ is the root of an irrational.
- 10) **Choice D is correct.** **(8.NR.1.1)** Let $x = 0.\overline{142}$. Then $1000x = 142.\overline{142}$. Subtracting: $999x = 142$, so $x = \frac{142}{999}$.
- 11) **Choice D is correct.** **(8.NR.2.1)** $(3.5)^2 = 12.25 > 11$, so $3.5 > \sqrt{11}$. Therefore 3.5 is larger.
- 12) **Choice D is correct.** **(8.NR.2.1)** $\sqrt{2} \times \sqrt{3} = \sqrt{6} \approx 2.45$.
- 13) **Choice D is correct.** **(8.PAFR.3.3)** 10^{24} is 1 septillion (each set of 3 powers of 10 adds one step up: million, billion, trillion, etc.).
- 14) **Choice A is correct.** **(8.MGSR.1.1)** Lateral surface area requires the slant height (from apex to midpoint of base edge), not the altitude (perpendicular distance from apex to base center). The altitude is 8 cm, but the slant height is $\sqrt{8^2 + 5^2} = \sqrt{89} \approx 9.4$ cm. Using altitude is a common error.
- 15) **Choice C is correct.** **(8.PAFR.2.5)** When $x = 0$, $y = -1$. The y -intercept is the y -coordinate when $x = 0$.
- 16) **Choice D is correct.** **(8.PAFR.2.1)** Subtract $3x$: $7 = 2$, which is false. No value of x satisfies this equation.
- 17) **The correct answer is 1.** **(8.PAFR.1.5)** Slope of f : 2. Other slope: $(7 - 1)/2 = 3$. Difference: $3 - 2 = 1$.
- 18) **The correct answer is B,C.** **(8.PAFR.1.5)** $(x + 6)^2 = (x + 6)(x + 6) = x^2 + 12x + 36$. Choice B is the expanded form, and choice C is the factored form. Choice A ignores the middle term. Choice D has an error. Choice E is a different factorization that does not equal $(x + 6)^2$.
- 19) **Choice D is correct.** **(8.PAFR.2.1)** Base (20) plus texts at 0.10 each ($0.10t$), total at most 35.
- 20) **Choice A is correct.** **(8.MGSR.1.2)** Dashed horizontal line at $y = 1$ with shading ABOVE (in the positive y direction) means $y > 1$.
- 21) **Choice C is correct.** **(8.MGSR.3.1)** A 180° rotation maps $(x, y) \rightarrow (-x, -y)$, placing the image on the opposite side of the origin. Single reflections across axes do not have this property.
- 22) **Choice B is correct.** **(8.MGSR.1.1)** $V = \frac{4}{3}\pi r^3 = \frac{4}{3} \times 3.14 \times 216 = 904.32 \text{ mm}^3$.
- 23) **Choice B is correct.** **(8.DPSR.1.1)** Residual = actual - predicted = $35 - 32 = 3$. The model underestimated by 3 points.
- 24) **Choice D is correct.** **(8.DPSR.2.2)** Correct: $I = 400 \times (0.12/12) \times 1 = \4 . She incorrectly applied 12% for 1 month (should use the monthly rate of 1%), mistaking APR as a monthly rate.
- 25) **Choice C is correct.** **(8.PAFR.3.3)** $10^{-2} = \frac{1}{10^2} = \frac{1}{100} = 0.01$.
- 26) **Choice D is correct.** **(8.PAFR.3.1)** Volume of a cube = $s^3 = 5^3 = 125 \text{ cm}^3$.
- 27) **Choice D is correct.** **(8.PAFR.3.3)** Multiply coefficients: $7.2 \times 1.5 = 10.8 = 1.08 \times 10^1$. Add exponents: $10^{5+3} = 10^8$. Combine: $1.08 \times 10^1 \times 10^8 = 1.08 \times 10^9$.



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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 4 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, ACHIEVE TOMORROW!

Give your child the confidence and skills they need with **4 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!

4



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.



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!



4 PRINTED TESTS

+



2 ONLINE TESTS



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