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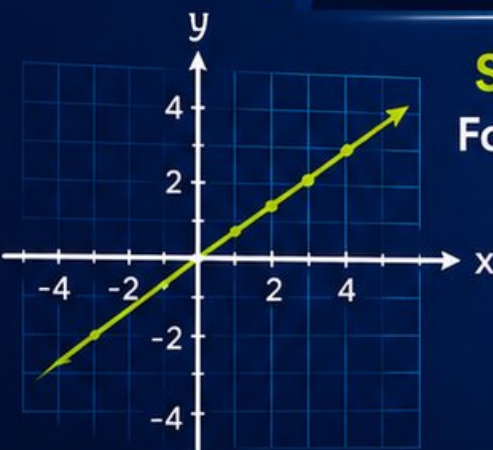
California CAASPP

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**

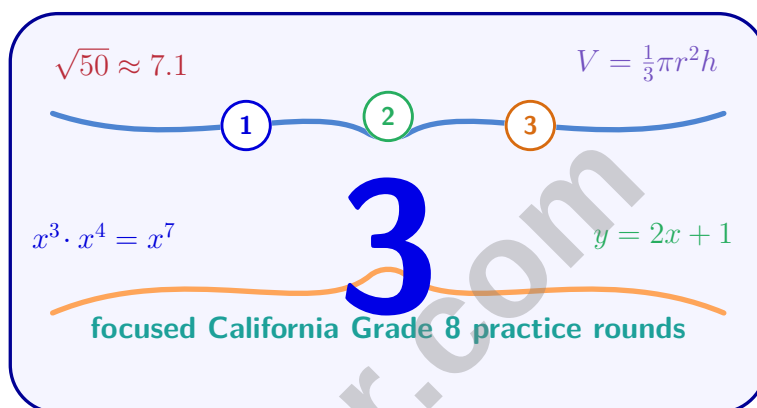
2

**ONLINE
TESTS**

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

3 California CAASPP Grade 8 Math Practice Tests

Three Complete California Practice Rounds for Grade 8 Readiness



Three complete 40-question Grade 8 CAASPP 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, California Grade 8 Problem Solver!

Three focused rounds for sharper CAASPP math thinking

This book gives you three full Grade 8 CAASPP 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 California 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.

California 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 CAASPP 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.

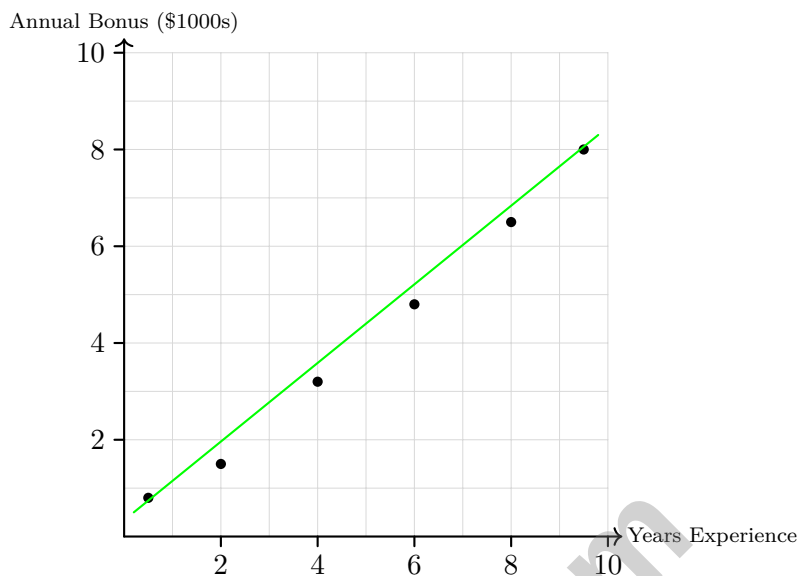


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Table of Contents

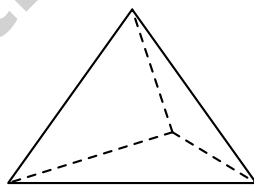


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1)

An employee compensation analysis shows experience versus bonuses. If the trend line predicts a \$3,000 bonus at 4 years of experience, and an employee with 4 years actually gets \$3,500, what is the residual?

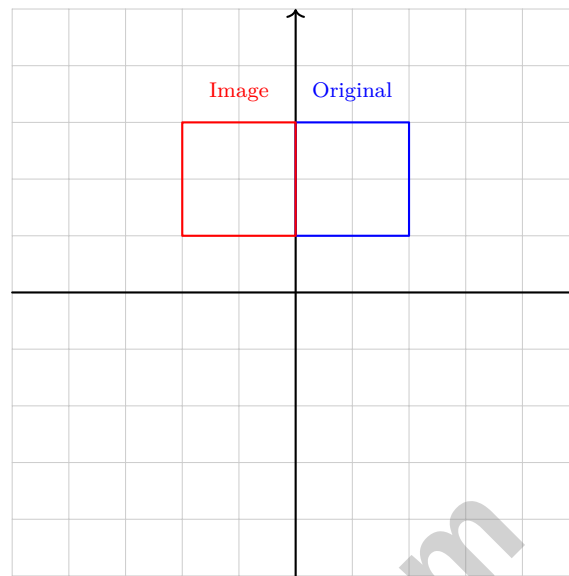
☐ A. -500☐ B. 500☐ C. 3000☐ D. 3500

Triangular pyramid

2)

A triangular pyramid (tetrahedron) has four triangular faces, each with area 10 cm^2 . What is the total surface area?

☐ A. 10 cm^2 ☐ B. 20 cm^2 ☐ C. 30 cm^2 ☐ D. 40 cm^2 



3)

What single transformation maps the blue figure to the red figure?

- ☐ A. Reflection across the line $x = 0$ (the y -axis)
- ☐ B. Translation 3 units left
- ☐ C. Rotation 180° about $(1, 2)$
- ☐ D. Dilation with center $(0, 2)$ and scale factor 2

4) A line passes through $(1, 3)$ and has slope -1 . What is the y -intercept?

- ☐ A. 2
- ☐ B. 3
- ☐ C. -1
- ☐ D. 4

5) A phone plan costs \$30 per month plus \$0.15 per text message. If Marcus paid \$45 last month, which equation represents the situation, where t is the number of texts?

- ☐ A. $30 + 0.15t = 45$
- ☐ B. $30t + 0.15 = 45$
- ☐ C. $45 + 30t = 0.15$
- ☐ D. $0.15t - 30 = 45$



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6) A rental car costs \$50 per day. If you have a budget of at most \$350, how many days can you rent?

☐ A. $d \leq 7$

☐ C. $d < 7$

☐ B. $d \geq 7$

☐ D. $d > 7$

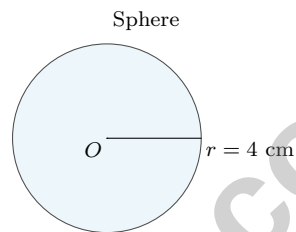
7) Which coordinate pair is in the solution region of $3x + y > 9$?

☐ A. (2, 2)

☐ C. (2, 4)

☐ B. (3, 0)

☐ D. (1, 6)



8)

A sphere with radius 4 cm is shown. What is its approximate volume? (Use $\pi \approx 3.14$.)

☐ A. 200.96 cm^3

☐ C. 534.88 cm^3

☐ B. 267.95 cm^3

☐ D. 803.84 cm^3

9) A person compares two loans for \$2,000:

Loan	APR	Term
X	5%	2 years
Y	4%	3 years

If the person wants to minimize total borrowing cost, which loan is better?

☐ A. Need more information

☐ C. They cost the same

☐ B. Loan Y

☐ D. Loan X



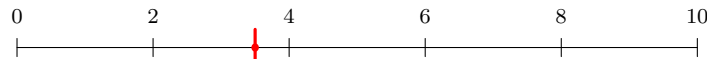
- 1) A student incorrectly wrote 56,200 in scientific notation as 56.2×10^3 . What is the correct form?

☐ A. 562×10^2

☐ C. 56.2×10^3

☐ B. 5.62×10^3

☐ D. 5.62×10^4



2)

Which value belongs at the red mark on the number line?

☐ A. $\sqrt{9}$

☐ C. $\sqrt{16}$

☐ B. $\sqrt{20}$

☐ D. $\sqrt{12}$

- 3) A chemist combines a 25% salt solution with an 80% salt solution to make 100 mL of a 50% solution. How many mL of the 25% solution are used?

- 4) Which is the best estimate of $3\sqrt{5}$?

☐ A. 4.5

☐ C. 6.7

☐ B. 6.0

☐ D. 9.8



5) Convert $0.\overline{037}$ to a fraction.

☐ A. $\frac{37}{1000}$

☐ B. $\frac{37}{99}$

☐ C. $\frac{37}{999}$

☐ D. $\frac{1}{37}$

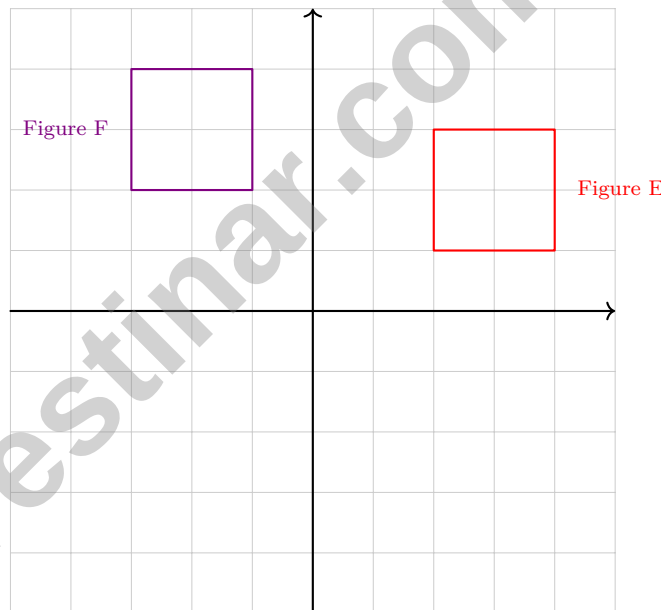
6) A camping tent is shaped like a triangular prism with a triangular base having a base of 6 feet and height 4 feet. The tent extends 8 feet in length. The two slant edges of the triangular face are each 5 feet. If the tent is completely enclosed (including the floor), what is the total surface area of fabric needed?

☐ A. 88 sq. ft.

☐ B. 112 sq. ft.

☐ C. 128 sq. ft.

☐ D. 152 sq. ft.



7)

Figures E and F are congruent. If Figure E was transformed to Figure F, which transformation(s) could have been applied?

☐ A. Only a translation

☐ B. Only a reflection

☐ C. A reflection and a translation

☐ D. A rotation and a dilation



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1) If each interior angle of a regular polygon is 150° , how many sides does it have?

☐ A. 11

☐ C. 13

☐ B. 12

☐ D. 14

2) A scale factor of 0.75 applied to a figure means the new figure is:

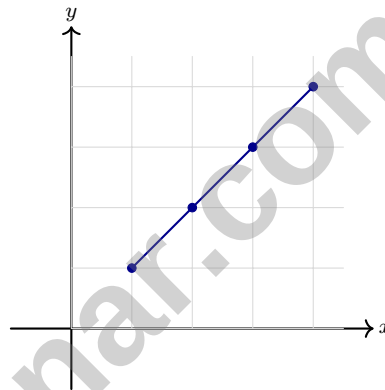
☐ A. Larger than the original

☐ C. 25% of the original size

☐ B. 75% of the original size

☐ D. 75% larger than the original

3) The graph shows function h . Which of the following is true?



☐ A. $h(2) = 3$

☐ C. $h(3) = 2$

☐ B. $h(1) = 1$

☐ D. $h(4) = 3$

4) A car travels 180 miles in 3 hours. What is the slope (speed in miles per hour)?



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5) If a is rational and b is irrational, which must be true?

☐ A. $a + b$ is rational

☐ C. $b - a$ is rational

☐ B. $a \times b$ is rational

☐ D. $a + b$ is irrational

6) A line passes through the points $(2, 5)$ and $(6, 17)$. Find the slope of the line.

7) Which is larger: $\sqrt{15}$ or $\sqrt{14}$?

☐ A. They are equal

☐ C. $\sqrt{14}$

☐ B. Cannot compare

☐ D. $\sqrt{15}$

8) Which estimate has the largest error (furthest from the true value)?

Expression	Estimate
$\sqrt{9}$	3
$\sqrt{10}$	3.2
$\sqrt{11}$	3.3
$\sqrt{12}$	3.6

☐ A. $\sqrt{9} = 3$

☐ C. $\sqrt{11} \approx 3.3$

☐ B. $\sqrt{10} \approx 3.2$

☐ D. $\sqrt{12} \approx 3.6$

9) If $5.7 \times 10^? = 57,000$, what is the exponent?

☐ A. 3

☐ C. 5

☐ B. 2

☐ D. 4



California CAASPP 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 California CAASPP practice test.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** (8.SP.2) Residual = actual – predicted = $3500 - 3000 = 500$.
- 2) **Choice D is correct.** (8.G.9) A triangular pyramid has 4 triangular faces (one base, three lateral). If each has area 10 cm^2 , total surface area = $4 \times 10 = 40 \text{ cm}^2$.
- 3) **Choice A is correct.** (8.G.1) The image is the mirror of the original across the y -axis. A point at $(2, 1)$ maps to $(-2, 1)$, confirming the reflection.
- 4) **Choice D is correct.** (8.EE.6) Using $y = mx + b$: $3 = -1(1) + b$, so $3 = -1 + b$, thus $b = 4$.
- 5) **Choice A is correct.** (8.EE.7) Base cost is \$30. Each text adds \$0.15. Total is \$45, so $30 + 0.15t = 45$.
- 6) **Choice A is correct.** (8.EE.7) Set up: $50d \leq 350$. Divide by 50: $d \leq 7$ days.
- 7) **Choice C is correct.** (8.G.8) Test $(2, 4)$: $3(2) + 4 = 10 > 9$ TRUE. Others fail: $(2, 2)$: $8 \not> 9$; $(3, 0)$: $9 \not> 9$; $(1, 6)$: $9 \not> 9$.
- 8) **Choice B is correct.** (8.G.9) $V = \frac{4}{3}\pi r^3 = \frac{4}{3} \times 3.14 \times 4^3 = \frac{4}{3} \times 3.14 \times 64 \approx 267.95 \text{ cm}^3$.
- 9) **Choice D is correct.** (8.G.7) Loan X costs \$200 in interest; Loan Y costs \$240. Loan X is cheaper overall.
- 10) **Choice D is correct.** (8.EE.1) Numerator: $g^8 \cdot g^{-2} = g^6$. Then $\frac{g^6}{g^3} = g^3$.
- 11) **Choice D is correct.** (8.EE.8) The first two systems are lines with different equations but the same form (both are $x = 2$ or $y = 4$, not two distinct lines). Option C has parallel lines (same slope, different intercepts). Option D has different slopes, so the lines intersect at exactly one point.
- 12) **The correct answer is 0.00047.** (8.EE.3) Move the decimal 4 places to the left: $4.7 \times 10^{-4} = 0.00047$.
- 13) **Choice A is correct.** (8.EE.7) $(x - 3)^2 = (x - 3)(x - 3) = x^2 - 3x - 3x + 9 = x^2 - 6x + 9$.
- 14) **Choice A is correct.** (8.F.1) Option A repeats input 2 with two different outputs, 3 and 5. That means it contains a repeated input with different outputs.
- 15) **The correct answer is $\frac{37}{300}$.** (8.G.1) Set $x = 0.12\overline{3} = 0.12333\dots$. Then $100x = 12.\overline{3}$ and $1000x = 123.\overline{3}$. Subtracting: $900x = 111$, so $x = \frac{111}{900} = \frac{37}{300}$.
- 16) **Choice B is correct.** (8.F.2) Slope = $(8 - 4)/(3 - 1) = 4/2 = 2$.
- 17) **Choice B is correct.** (8.F.3) When second differences are constant, the function is quadratic (nonlinear). Linear functions have constant first differences, not second.
- 18) **The correct answer is A, C.** (8.NS.1) 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.
- 19) **Choice A is correct.** (8.F.5) The graph is flat at 5 liters from hour 3 to hour 5, a duration of 2 hours.
- 20) **Choice A is correct.** (8.G.3) Point $(1, 2)$ maps to $(4, 2)$, so the translation is right 3 with no vertical shift: $(x, y) \rightarrow (x + 3, y)$.
- 21) **Choice D is correct.** (8.G.5) Use the triangle angle sum: $50 + 30 + \angle ACB = 180$. So $\angle ACB = 180 - 50 - 30 = 100^\circ$.
- 22) **Choice B is correct.** (8.G.6, 8.G.7) The 3-4-5 Pythagorean triple is among the most common. $3^2 + 4^2 = 9 + 16 = 25$, so $c = 5$.
- 23) **Choice A is correct.** (8.G.8) $d = \sqrt{2^2 + 3^2} = \sqrt{4 + 9} = \sqrt{13}$. Check: (B) $\sqrt{9 + 9} = \sqrt{18}$; (C) $\sqrt{4 + 4} = \sqrt{8}$; (D) $\sqrt{16 + 1} = \sqrt{17}$.
- 24) **Choice B is correct.** (8.G.7) Alternate interior angles formed by a transversal cutting parallel lines are congruent. So $z = 62^\circ$.
- 25) **Choice B is correct.** (8.G.9) $B = \left(\frac{1}{2}\right)^2 = \frac{1}{4} \text{ cm}^2$. $V = \frac{1}{3} \times \frac{1}{4} \times \frac{3}{2} = \frac{3}{24} = \frac{1}{8} \text{ cm}^3$.
- 26) **Choice B is correct.** (8.G.7) Decompose: rectangle plus triangular roof. Rectangle area = $12 \times 8 = 96 \text{ ft}^2$. Triangle area = $\frac{1}{2} \times 12 \times 4 = 24 \text{ ft}^2$. Total area = $96 + 24 = 120 \text{ ft}^2$.
- 27) **Choice C is correct.** (8.SP.1) A downward trend from upper left to lower right shows negative correlation: as the x -variable increases, the y -variable decreases. The tight clustering around the trend line indicates strong correlation.



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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.

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PRACTICE. PREPARE. SUCCEED.



Testinar

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