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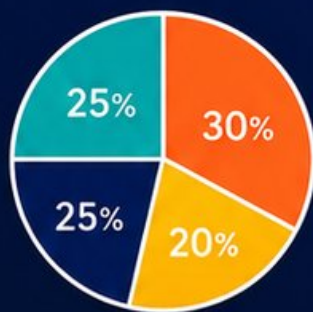
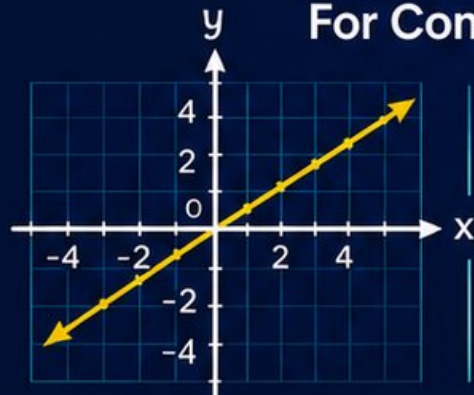
California CAASPP

GRADE 8

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

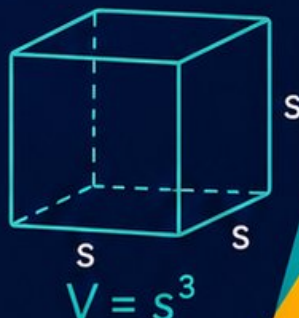


$$y = mx + b$$

$$2x - 3y = 6$$

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

$$A = bh$$



**4 PRINTED
TESTS**



**2 ONLINE
TESTS**



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



4 California CAASPP Grade 8 Math Practice Tests

Targeted CAASPP Review for Algebra, Geometry, and Data Confidence



Four 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!

Four focused rounds for sharper CAASPP math thinking

This book gives you four 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 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.

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?

Four CAASPP 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.

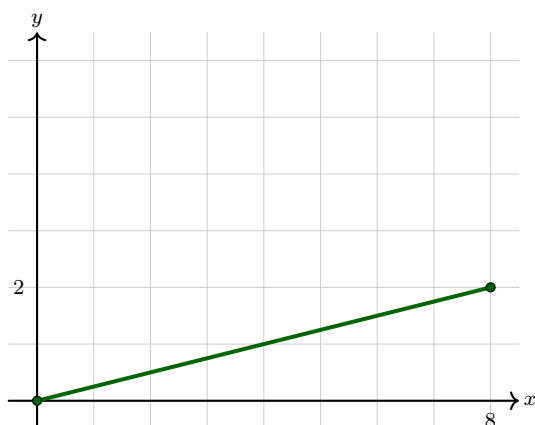


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1)

The constant of proportionality is:

☐ A. 4☐ C. 0.25☐ B. 2☐ D. 8

2) A cell phone plan costs \$20 per month plus \$0.10 per text message. If cost is graphed against number of texts sent (x-axis texts, y-axis cost in \$), what is the slope?

☐ A. \$20 per text☐ C. 20 texts per dollar☐ B. \$20.10 per text☐ D. \$0.10 per text

3) Compute $(2.5 \times 10^3) \times (4 \times 10^2)$ and write your answer in scientific notation.



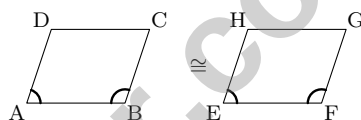
- 4) A movie theater offers two pricing schemes: Scheme A costs \$8 per ticket, Scheme B costs \$60 upfront plus \$3 per ticket. For how many tickets is Scheme A cheaper?

☐ A. Fewer than 12 tickets ☐ C. Fewer than 15 tickets
☐ B. Fewer than 10 tickets ☐ D. Fewer than 8 tickets

- 5) Plan A costs \$10 plus \$5 per hour. Plan B costs \$20 plus \$2 per hour. After how many hours are the costs equal?

☐ A. 3 hours ☐ C. 5 hours
☐ B. 4 hours ☐ D. $\frac{10}{3}$ hours

- 6) Two congruent quadrilaterals are shown. A student reasons: "Since two angles are equal, the quadrilaterals must be congruent." What is wrong with this reasoning?



- ☐ A. Two equal angles alone do NOT guarantee congruence ☐ C. The student's reasoning is correct; angle equality proves congruence
☐ B. Equal angles guarantee equal side lengths ☐ D. Congruent figures never have equal angles
- 7) A student plots study time versus test performance and finds that the regression line is nearly horizontal with a slope near zero. What does this suggest?

☐ A. Study time strongly predicts test performance ☐ C. Test performance decreases with study time
☐ B. There is little or no linear relationship between study time and test score ☐ D. The data contains no measurement error



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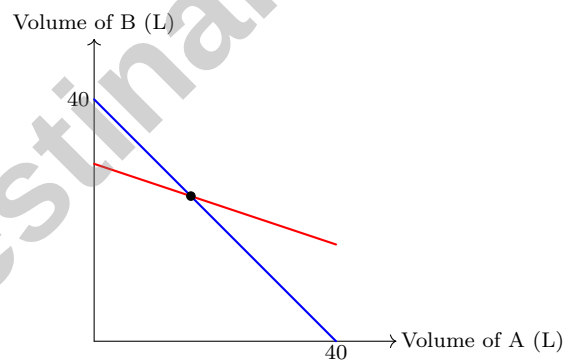
- 8) A photograph is 10 inches wide. A thumbnail is 0.5 inches wide. What is the scale factor from the photograph to the thumbnail?
- ☐ A. 20 ☐ C. 0.5
☐ B. 0.05 ☐ D. 2
- 9) If $f(x) = |x - 2|$, what is $f(5)$?
- ☐ A. 3 ☐ C. 7
☐ B. -3 ☐ D. -7
- 10) Which of the following is irrational?
- ☐ A. $\sqrt{49}$ ☐ C. $\sqrt{50}$
☐ B. $\frac{7}{8}$ ☐ D. 2.5
- 11) Which set contains only irrational numbers?
- ☐ A. $\{1, 2, 3\}$ ☐ C. $\{\sqrt{2}, 3, \sqrt{5}\}$
☐ B. $\{\sqrt{4}, \sqrt{9}, \sqrt{16}\}$ ☐ D. $\{\sqrt{2}, \sqrt{3}, \sqrt{5}\}$
- 12) Is $\sqrt{7} + 2$ greater than, less than, or equal to 4.6?
- ☐ A. Cannot be determined ☐ C. Exactly 4.6
☐ B. Less than 4.6 ☐ D. Greater than 4.6
- 13) The diameter of an atom is about 2×10^{-10} m. What is this in decimal form?
- ☐ A. 0.0000002 m ☐ C. 0.000000002 m
☐ B. 0.00000002 m ☐ D. 0.0000000002 m



$$\begin{array}{rcl}
 & x = 0.\overline{37} & \\
 & 10x = ? & 3.\overline{7} \\
 1) & 100x = ? & 37.\overline{7}
 \end{array}$$

Using the diagram, what is $100x - 10x$?

- ☐ A. $34.\overline{0}$
☐ C. 33
☐ B. 37
 ☐ D. 34
- 2) A stock price drops from \$45 to \$30 over 10 days. What is the slope (rate of change per day)?
- ☐ A. $-\$1.50$ per day
 ☐ C. $\$1.50$ per day
☐ B. $-\$3$ per day
 ☐ D. $\$0.50$ per day
- 3) A juice bar mixes two juices. Juice A is 25% apple. Juice B is 75% apple. The shop wants 40 liters of a 55% apple blend. The graph below shows the relationship between volumes of A and B.



Which point represents the solution?

- ☐ A. (10, 30)
 ☐ C. (16, 24)
☐ B. (20, 20)
 ☐ D. (30, 10)



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4) Which statement is true about the exterior angles of any convex polygon?

- ☐ A. Each exterior angle measures less than 90° . ☐ C. Exterior angles are always equal in any polygon.
- ☐ B. The sum of all exterior angles is always 360° . ☐ D. The sum depends on the number of sides.

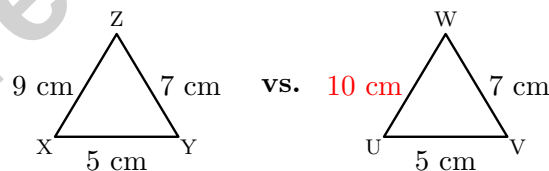
5) A student arranges 5 cards in a line. The first card can be any of the 5. The second can be any of the remaining, and so on. How many different arrangements are possible?

- ☐ A. $5^5 = 3,125$ ☐ C. $5 \times 4 \times 3 \times 2 \times 1 = 120$
- ☐ B. $5 + 4 + 3 + 2 + 1 = 15$ ☐ D. $\binom{5}{5} = 1$

6) An electrician charges \$50 for a service call and \$35 per hour. A customer's bill comes to \$225. How many hours did the electrician work?

- ☐ A. 4 hours ☐ C. 6 hours
- ☐ B. 5 hours ☐ D. 7 hours

7) Triangle XYZ is congruent to triangle UVW. The sides of triangle XYZ are 5 cm, 7 cm, and 9 cm. A student claims triangle UVW must have sides 5 cm, 7 cm, and 10 cm. Why is the student incorrect?



- ☐ A. Congruent triangles have equal corresponding sides ☐ C. The side lengths don't need to match
- ☐ B. UVW must have sides 7, 5, 9 in a different order ☐ D. The student counted incorrectly



1) $\frac{5 \times 10^{-2}}{2.5 \times 10^{-5}} = ?$

☐ A. 0.2×10^3

☐ C. 2×10^3

☐ B. 2.5×10^{-7}

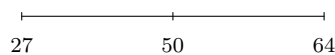
☐ D. 7.5×10^{-7}

2) Between which two consecutive integers does $\sqrt[3]{50}$ lie?

$3^3 = 27$

$4^3 = 64$

$\sqrt[3]{50} = ?$

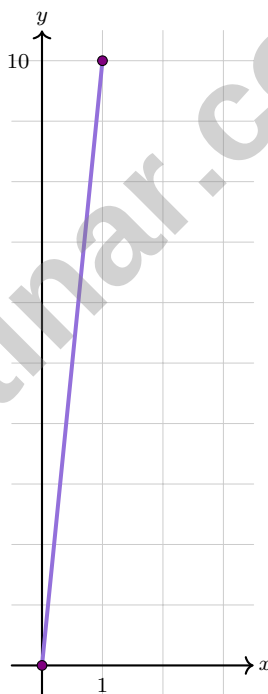


☐ A. 2 and 3

☐ C. 4 and 5

☐ B. 5 and 6

☐ D. 3 and 4



3)

The constant of proportionality is:

☐ A. 1

☐ C. 10

☐ B. 5

☐ D. 20



4) A line has a slope of $-\frac{1}{2}$ and passes through $(4, 6)$. What is the y -coordinate when $x = 8$?

☐ A. 4☐ C. 6☐ B. 8☐ D. 2

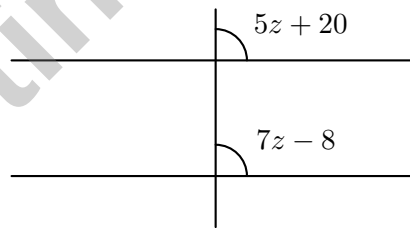
5) Tickets cost \$4 for children and \$7 for adults. The theater sold 200 tickets for a total of \$1,100. How many children's tickets were sold?

☐ A. 100☐ C. 50☐ B. 150☐ D. 120

6) A rectangle has dimensions 6 units by 4 units. If the rectangle is dilated by scale factor 2.5 centered at the origin, what is the perimeter of the dilated rectangle?



7)



Two parallel lines are cut by a transversal. The angles $7z - 8$ and $5z + 20$ are corresponding angles. Solve for z .

☐ A. 12° ☐ C. 16° ☐ B. 14° ☐ D. 18° 

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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 C is correct.** (8.EE.5) $k = \frac{2}{8} = \frac{1}{4} = 0.25$.
- 2) **Choice D is correct.** (8.EE.8) The slope is the rate of change of cost per additional text, which is \$0.10 per text. The \$20 is the y-intercept (fixed cost).
- 3) **The correct answer is 1×10^6 .** (8.EE.4) Multiply coefficients: $2.5 \times 4 = 10$. Add exponents: $10^{3+2} = 10^5$. Result: $10 \times 10^5 = 1 \times 10^6$.
- 4) **Choice A is correct.** (8.EE.7) Scheme A costs $8n$ for n tickets. Scheme B costs $60 + 3n$. Setting them equal: $8n = 60 + 3n$, so $5n = 60$, giving $n = 12$. For $n < 12$, Scheme A is cheaper.
- 5) **Choice D is correct.** (8.F.4) Plan A: $C_A = 5h + 10$. Plan B: $C_B = 2h + 20$. Set equal: $5h + 10 = 2h + 20$, so $3h = 10$ and $h = \frac{10}{3}$ hours.
- 6) **Choice A is correct.** (8.G.2) For quadrilaterals, having two equal angles is not sufficient to prove congruence. Many quadrilaterals can share two angles but have different side lengths and shapes. Congruence requires all corresponding sides and angles to be equal.
- 7) **Choice B is correct.** (8.SP.2) A near-zero slope indicates weak or no correlation between the variables.
- 8) **Choice B is correct.** (8.G.4) Scale factor is $\frac{0.5}{10} = 0.05$, a reduction.
- 9) **Choice A is correct.** (8.F.1) Substitute $x = 5$: $f(5) = |5 - 2| = |3| = 3$.
- 10) **Choice C is correct.** (8.NS.1) $\sqrt{50}$ is irrational because 50 is not a perfect square. The other values are rational: $\sqrt{49} = 7$, $\frac{7}{8} = 0.875$ (terminating decimal), and 2.5 is a terminating decimal.
- 11) **Choice D is correct.** (8.NS.2) A is all integers (rational). B contains perfect square roots (rational). C is mixed. D contains $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$, all irrational.
- 12) **Choice D is correct.** (8.NS.2) $\sqrt{7} \approx 2.646$, so $\sqrt{7} + 2 \approx 4.646 > 4.6$.
- 13) **Choice D is correct.** (8.EE.3) A negative exponent means move the decimal to the left. With 10^{-10} , move 10 places left: $2 \times 10^{-10} = 0.0000000002$ m.
- 14) **Choice D is correct.** (8.G.1) Let $x = 0.7$. Multiply by 10: $10x = 7.7$. Subtract: $10x - x = 7$, so $9x = 7$ and $x = \frac{7}{9}$.
- 15) **The correct answer is 540.** (8.G.5) Sum = $5 \times 108 = 540^\circ$. Alternatively: $(5 - 2) \times 180 = 3 \times 180 = 540^\circ$.
- 16) **Choice B is correct.** (8.G.9) Using $SA = 2(lw + lh + wh) = 2(40 + 24 + 15) = 2(79) = 158 \text{ m}^2$.
- 17) **Choice B is correct.** (8.G.1) The translation vector is $(-2, 4)$, so the distance moved is the magnitude: $\sqrt{(-2)^2 + 4^2} = \sqrt{4 + 16} = \sqrt{20} = 2\sqrt{5}$ units.
- 18) **Choice C is correct.** (8.EE.6) As x increases by 1, y increases by 3. Slope = $\frac{\Delta y}{\Delta x} = \frac{3}{1} = 3$.
- 19) **Choice C is correct.** (8.EE.7) Expand the left side: $5x + 10 = 5x + 10$. Both sides are identical, so this is an identity and every value of x is a solution.
- 20) **The correct answer is A,B.** (8.EE.2) When $x = 6$: $6^2 = 36$ (choice A is correct) and $6^3 = 216$ (choice B is correct). For choice C: $6^2 = 36 \neq 64$. For choice D: $6^3 = 216 \neq 144$. For choice E: $6^2 = 36 \neq 25$.
- 21) **Choice A is correct.** (8.EE.7) Multiply by -2 (FLIP): $x + 5 \geq -6$. Subtract 5: $x \geq -11$.
- 22) **Choice B is correct.** (8.G.8) 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 $(0, 1)$.
- 23) **Choice B is correct.** (8.G.9) $V = \frac{4}{3}\pi r^3 = \frac{4}{3} \times 3.14 \times 27 = \frac{4}{3} \times 84.78 = 113.04 \text{ in}^3$.
- 24) **Choice D is correct.** (8.EE.1) Simplify the numerator first: $(w^4)^3 = w^{12}$ (power of a power), then apply quotient rule.
- 25) **Choice A is correct.** (8.EE.8) Check $(3, 6)$ in both equations: $6 = 2(3) = 6$ ✓ and $6 = 3 + 3 = 6$ ✓. The solution is correct.
- 26) **Choice C is correct.** (8.EE.7) GCF is 2: $2x^2 + 10x + 8 = 2(x^2 + 5x + 4) = 2(x + 2)(x + 4)$.
- 27) **Choice A is correct.** (8.F.1) Each input $(1, 2, 3)$ maps to exactly one output (A, B, C) . The fact that outputs are letters instead of numbers is irrelevant.
- 28) **Choice A is correct.** (8.F.2) The slope of f is 4. For g : $\Delta y / \Delta x = 3 / 1 = 3$. Since $4 > 3$, f has the greater rate of change.



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Hi, Strategy Solver!

◇ Grade 8 math rewards students who think before they calculate. You practiced choosing strategies, not just hunting for answers. This carefully paced book gave you four steady Grade 8 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. ◇

★ **Remember this:** That matters because stronger math students do not use one method for every question. They notice the structure and choose the tool that fits. ★

Strategy Moves

- **Estimate:** Know the neighborhood of the answer.
- **Simplify:** Rewrite numbers in friendlier forms.
- **Model:** Draw what the words describe.
- **Verify:** Put the answer back into the problem.

Grade 8 test-day tip: Pause for ten seconds before hard questions. A short plan can save several minutes.

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

Jay Daie

Your Strategy Guide

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.