

10

California CAASPP

GRADE
8
MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

10

PRINTED
TESTS



2

ONLINE
TESTS



Build Confidence



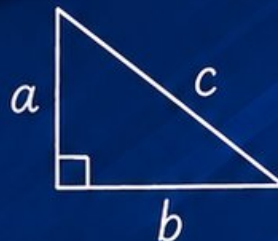
Master Key Math Skills



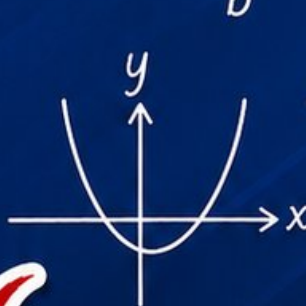
Answer Explanations for
Every Question



Test-Taking Strategies
That Work



$$y = mx + b$$



$$3x - 7 = 2(x + 5)$$
$$x = 17$$



USE THESE TWO
**ADDITIONAL ONLINE
PRACTICE TESTS**

FOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.

10 California CAASPP Grade 8 Math Practice Tests

California Grade 8 CAASPP Practice for coast-to-classroom readiness in functions, scientific notation, algebra, geometry, data analysis, and probability



Ten complete 40-question Grade 8 CAASPP practice rounds with linear relationships, scientific notation, real numbers, equations, functions, 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!

Ten focused rounds for sharper California CAASPP math thinking

This book gives you ten full Grade 8 CAASPP math practice tests. Each round is built to help you notice structure, compare quantities, use linear reasoning, handle real numbers, and explain your thinking with care.

Grade 8 standards focus: This page supports **Volume of Cylinders, Cones, and Spheres** (8.G.9): Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems. You will also meet **Solving Systems of Two Equations** (8.EE.8): Understand that solutions to a system of two linear equations correspond to points of intersection of their graphs. Solve systems algebraically and by graphing.

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 ten-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 a proportion, equation, diagram, number line, 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.

Grade 8 standards focus: Keep the routine connected to **Using a Linear Model** (8.SP.3): Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting slope and intercept. A second useful connection is **Linear vs. Nonlinear Functions** (8.F.3): Interpret $y = mx + b$ as defining a linear function. Give examples of functions that are not linear.

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?

Ten California CAASPP tests, 400 questions, and a complete review path

Part	What You Will Practice
Tests 1–3	Linear relationships, integer exponents, scientific notation, real-number reasoning, and careful reading.
Tests 4–6	Expressions, equations, inequalities, transformations, geometry, and multi-step problem solving.
Tests 7–9	Data analysis, probability, mixed review, stamina, and choosing efficient strategies.
Test 10	A final California round to show growth across the whole book.
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.

Grade 8 standards focus: Use these habits while practicing **Solving Linear Inequalities** (8.EE.7): Solve linear equations in one variable. It also prepares you for **Transformations on the Coordinate Plane** (8.G.3): Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.



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For more practice
& answers

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- 1) A square pyramid and a rectangular pyramid have the same volume (300 cm^3) and the same height (15 cm). If the square pyramid's base area is 60 cm^2 , what is the area of the rectangular pyramid's base?

☐ A. 30 cm^2 ☐ C. 100 cm^2
☐ B. 60 cm^2 ☐ D. 200 cm^2

- 2) A student calculates the lateral surface area of a square pyramid with base side 10 cm and altitude (height) 8 cm as: $\text{Lateral} = 4 \times \frac{1}{2}(10)(8) = 160 \text{ cm}^2$. What is the error?

☐ A. Used altitude instead of slant height ☐ C. Used diameter instead of radius
☐ B. Forgot to multiply by 4 triangles ☐ D. The calculation is correct

- 3) A basketball is a sphere with diameter 24 cm. What is its approximate volume? (Use $\pi \approx 3.14$.)

☐ A. 904.32 cm^3 ☐ C. 7234.56 cm^3
☐ B. 1809.56 cm^3 ☐ D. 14476.44 cm^3

- 4) Solve by elimination:
$$\begin{cases} 2x + 5y = 19 \\ 2x + y = 7 \end{cases}$$

☐ A. (1, 5) ☐ C. (3, 1)
☐ B. (2, 3) ☐ D. (4, -1)

- 5) A bank account earns 3% simple interest on a principal of \$2,000. How much interest will be earned in 4 years?



6) Multiply: $(3x - 2)(x - 4)$

☐ A. $3x^2 - 14x + 8$

☐ C. $3x^2 - 8$

☐ B. $3x^2 - 12x - 2x - 8$

☐ D. $3x^2 + 12x + 8$

7) Why is the vertical line test a valid way to determine if a graph is a function?

- ☐ A. Because vertical lines represent inputs, and if one vertical line intersects the graph more than once, one input has multiple outputs.
- ☐ B. Because functions must have vertical lines in their graphs.
- ☐ C. Because every function is a straight line.
- ☐ D. Because the y -intercept determines if it is a function.

8) Distance traveled: Function $d_1(t) = 55t$ miles (constant speed). Function d_2 at hours $(0, 0)$, $(3, 180)$. After 6 hours, which distance greater?

☐ A. d_1

☐ C. Same distance

☐ B. d_2

☐ D. Cannot determine

9) The table shows the distance traveled over time. Is this a linear relationship?

Time (h)	1	2	3	4
Distance (mi)	60	120	180	240

☐ A. No, time goes up to 4

☐ C. No, the distances double

☐ B. Yes, the first differences are constant (60 mi)

☐ D. Yes, the ratio of distance to time is not constant



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10) A student's test score shows: starts at 60, increases to 90 by question 5, then stays at 90 for questions 6-10, where 90 is the maximum possible score. Which is true?

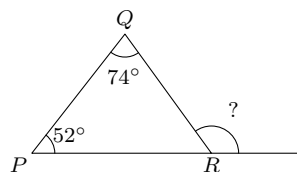
- ☐ A. The student answered 30 consecutive questions correctly
- ☐ B. The rate of improvement was constant throughout
- ☐ C. The student's score increased from question 5 to 10
- ☐ D. The student improved in the first half but was already at the ceiling in the second half

11) Point $D(4, 5)$ undergoes a dilation centered at the origin with scale factor 2. What is the distance from the origin to the dilated point D' ?

- ☐ A. $\sqrt{41}$
- ☐ B. $2\sqrt{41}$
- ☐ C. 18
- ☐ D. 9

12) Simplify $\frac{x^{10} \cdot x^{-3}}{x^4}$. What is the exponent on x in the final answer?

13) An exterior angle of triangle PQR is shown. If the two remote interior angles measure 52° and 74° , what is the exterior angle?



- ☐ A. 74°
- ☐ B. 126°
- ☐ C. 180°
- ☐ D. 206°



1) What is the relationship between an interior angle and its adjacent exterior angle of a polygon?

- ☐ A. They are equal.
 ☐ C. They sum to 360° .
☐ B. They sum to 180° .
 ☐ D. The interior angle is always larger.

2) A student dilates a triangle with scale factor 2 and claims the new triangle's perimeter is twice the original. Is this correct?

- ☐ A. No, the perimeter is multiplied by 4
☐ C. No, the area is multiplied by 2
☐ B. Yes, linear measurements scale by 2
☐ D. Only if the triangle is equilateral

3) A phone plan charges based on minutes used. The table shows the cost $C(m)$ for m minutes.

Minutes (m)	100	200	300	400
Cost ($C(m)$)	\$20	\$30	\$40	\$50

What is $C(200)$?

- ☐ A. \$20
 ☐ C. \$30
☐ B. \$40
 ☐ D. \$50

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

4)

Which number should be placed in the Rational section?

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



5) To the nearest tenth, which is the best estimate for $\sqrt{56}$?

☐ A. 7.0

☐ C. 8.0

☐ B. 6.0

☐ D. 7.5

6) Which is the best estimate of $\pi + \sqrt{10}$?

☐ A. $3.1 + 3.1 = 6.2$

☐ C. $4 + 4 = 8$

☐ B. $\pi + 10 = 13.14$

☐ D. $3.14 + 3.16 = 6.30$

7) The elevation rises 500 feet over a horizontal distance of 2000 feet. What is the slope?

8) Which value is equivalent to 7.5×10^6 ?

☐ A. 7.5,000

☐ C. 75,000,000

☐ B. 750,000

☐ D. 7,500,000

9) Which equals $0.\overline{285714}$ (6-digit repeat)?

☐ A. $\frac{1}{3}$

☐ C. $\frac{285714}{99999}$

☐ B. $\frac{285714}{100000}$

☐ D. $\frac{285714}{999999} = \frac{2}{7}$

10) A cube with edge 2 m is attached to a rectangular prism with dimensions $4 \times 2 \times 2$ m (where the cube shares a 2×2 face). If we ignore the shared face, what is the total surface area of the composite solid?

☐ A. 40 m^2

☐ C. 64 m^2

☐ B. 56 m^2

☐ D. 72 m^2



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1) An equilateral triangle has sides of 6 cm. It is reflected across one of its altitudes. What is true about the resulting triangle?

- ☐ A. The resulting triangle has sides of 3 cm
- ☐ B. The resulting triangle is congruent to the original
- ☐ C. The resulting triangle is no longer equilateral
- ☐ D. The angles increase to 90°

2) A rectangular garden has an area of 200 square meters. If it is a square, what is the approximate side length?

- ☐ A. 13 meters
- ☐ B. 16.2 meters
- ☐ C. 15 meters
- ☐ D. 14.1 meters

3) $(3 \times 10^8) + (5 \times 10^6) = ?$

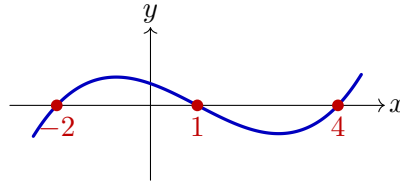
- ☐ A. 8×10^{14}
- ☐ B. 30.5×10^6
- ☐ C. 8×10^6
- ☐ D. 3.05×10^8

4) Two runners train with proportional relationships. Runner A: $y = 6x$ (miles per hour y at time x in hours). Runner B: $y = 8x$. Who runs faster?

- ☐ A. Runner A
- ☐ B. Cannot determine from the equations
- ☐ C. They run at the same speed
- ☐ D. Runner B



- 5) A graph of a function crosses the x -axis at $x = -2$, $x = 1$, and $x = 4$. How many sign intervals do these intercepts create?



- 6) A car travels 120 miles in 3 hours at a constant speed. What is the slope (speed)?
- ☐ A. 120 miles per hour ☐ C. 30 miles per hour
☐ B. 60 miles per hour ☐ D. 40 miles per hour
- 7) A river flows at 3 mph. A boat travels 4 hours downstream and 6 hours upstream for the same distance. What is the boat's speed in still water?
- ☐ A. 10 mph ☐ C. 15 mph
☐ B. 12 mph ☐ D. 18 mph
- 8) In triangle PQR , angle $P = (4x)^\circ$, angle $Q = (2x + 10)^\circ$, and angle $R = (3x - 10)^\circ$. Find angle P .
- ☐ A. 40° ☐ C. 80°
☐ B. 60° ☐ D. 100°



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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 B is correct.** (8.G.9) Both have the same volume and height, so they must have the same base area. The rectangular pyramid's base area is also 60 cm^2 .
- 2) **Choice A is correct.** (8.G.9) 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 $\sqrt{8^2 + 5^2} = \sqrt{89} \approx 9.4 \text{ cm}$. Using altitude is a common error.
- 3) **Choice C is correct.** (8.G.9) Radius $r = 12 \text{ cm}$. $V = \frac{4}{3}\pi r^3 = \frac{4}{3} \times 3.14 \times 1728 = 7234.56 \text{ cm}^3$.
- 4) **Choice C is correct.** (8.EE.8) Subtract the second from the first: $(2x + 5y) - (2x + y) = 19 - 7$, so $4y = 12$, giving $y = 1$. Substitute: $2x + 1 = 7$, so $x = 3$. Solution: $(3, 1)$.
- 5) **The correct answer is \$240.** (8.G.7) $I = Prt = 2000 \times 0.03 \times 4 = \240 .
- 6) **Choice A is correct.** (8.EE.7) FOIL: $(3x - 2)(x - 4) = 3x^2 - 12x - 2x + 8 = 3x^2 - 14x + 8$.
- 7) **Choice A is correct.** (8.F.1) Each vertical line at $x = a$ represents all points with that x -coordinate. If the line intersects the graph more than once, the input a has multiple outputs, violating the function definition.
- 8) **Choice B is correct.** (8.F.2) $d_1(6) = 55(6) = 330 \text{ miles}$. Slope of d_2 : $180/3 = 60 \text{ mph}$, so $d_2(6) = 0 + 60(6) = 360 \text{ miles}$. Since $360 > 330$, d_2 is greater.
- 9) **Choice B is correct.** (8.F.3) The differences are $120 - 60 = 60$, $180 - 120 = 60$, $240 - 180 = 60$. Constant differences mean this is a linear relationship with a speed of 60 mi/h .
- 10) **Choice D is correct.** (8.F.5) The score improves (60 to 90) in the first 5 questions, then plateaus at 90 for the rest. This indicates hitting the maximum possible score. C is false (no increase after Q5), A is unclear/false, B is false (two different rates).
- 11) **Choice B is correct.** (8.G.3) $D' = (8, 10)$. Distance: $\sqrt{8^2 + 10^2} = \sqrt{64 + 100} = \sqrt{164} = 2\sqrt{41}$.
- 12) **The correct answer is 3.** (8.EE.1) Numerator: $x^{10} \cdot x^{-3} = x^{10+(-3)} = x^7$. Then $\frac{x^7}{x^4} = x^{7-4} = x^3$. The exponent is 3.
- 13) **Choice B is correct.** (8.G.5) By the exterior angle theorem, the exterior angle equals the sum of the two remote interior angles: $52 + 74 = 126^\circ$.
- 14) **Choice B is correct.** (8.G.6, 8.G.7) The diagonal is $d = \sqrt{70^2 + 24^2} = \sqrt{5476} = 74 \text{ m}$. Walking along the length and width is $70 + 24 = 94 \text{ m}$, so the diagonal is $94 - 74 = 20 \text{ m}$ shorter.
- 15) **The correct answer is -4 .** (8.EE.7) Solving gives $x \geq -4$, so the boundary value is -4 .
- 16) **Choice A is correct.** (8.G.8) By the Pythagorean Theorem, $c^2 = 6^2 + 8^2 = 36 + 64 = 100$. Taking the square root: $c = \sqrt{100} = 10$.
- 17) **Choice A is correct.** (8.G.7) Angles on a straight line sum to 180° . So $x + 2x + 3x = 180$, which gives $6x = 180$ and $x = 30^\circ$.
- 18) **Choice C is correct.** (8.G.7) Rectangle $= 10 \times 3 = 30 \text{ in}^2$. Trapezoid $= \frac{1}{2}(6 + 10) \times 4 = 32 \text{ in}^2$. Add the two parts: $30 + 32 = 62 \text{ in}^2$.
- 19) **The correct answer is A,C.** (8.G.7) A is correct: $P(\text{heads}) = \frac{1}{2}$. C is correct: $P(\text{heads and } 4) = \frac{1}{2} \times \frac{1}{6} = \frac{1}{12}$. B is wrong: $P(4) = \frac{1}{6}$. D is wrong: total outcomes $= 12$. E is wrong: $P(\text{not heads}) = \frac{1}{2}$.
- 20) **Choice B is correct.** (8.SP.1) High correlation between ice cream and drowning likely reflects a common cause: warm weather increases both ice cream sales and swimming activity. Correlation alone cannot prove that one variable causes changes in another.
- 21) **Choice B is correct.** (8.SP.3) The data shown covers speeds 1–5 mph. Predicting at 60 mph is extreme extrapolation, where the linear model's assumptions break down.
- 22) **Choice A is correct.** (8.G.8) Absolute deviations: $|2 - 5| = 3$ (three times), $|4 - 5| = 1$ (twice), $|6 - 5| = 1$, $|8 - 5| = 3$ (twice). Sum $= 9 + 2 + 1 + 6 = 14$. MAD $= 14/8 = 1.75$.
- 23) **Choice D is correct.** (8.EE.2) $17 \times 17 = 289$, so $\sqrt{289} = 17$.
- 24) **Choice D is correct.** (8.EE.4) Divide coefficients: $8 \div 2 = 4$. Subtract exponents: $10^{8-3} = 10^5$. Result: 4×10^5 .
- 25) **Choice C is correct.** (8.EE.5) Slope $k = \frac{3}{9} = \frac{1}{3}$. Equation: $y = \frac{1}{3}x$.



Hi, Progress Maker!

◇ You have done more than complete a set of tests. You have rehearsed the habits that make Grade 8 math feel less surprising. ◇

★ **Remember this:** Progress is not always loud. Sometimes it looks like fewer careless errors, clearer work, better pacing, and more confidence when a problem is unfamiliar. You practiced across 10 full Grade 8 practice tests, and that repeated effort matters. ★

Signs of Growth

- **Clear Work:** Your steps are easier to follow.
- **Better Pacing:** You know when to move on and return.
- **Stronger Checks:** You catch mistakes earlier.
- **Calmer Thinking:** You know what to try next.

Grade 8 test-day tip: Keep one short list of mistakes you often make, then check that list before each practice session.

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

Jay Daie

Your Growth Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **10** full-length Math practice tests and **2** online tests to help Grade 8 students build confidence, strengthen skills, and excel on standardized assessments.

Each practice test is carefully crafted to reflect the latest standards and includes a variety of question types, realistic test conditions, and detailed answer explanations.

Perfect for classroom use, homework, test preparation, and extra practice at home.



THIS BOOK INCLUDES:

10

Full-Length
Printed Tests

2

Online
Practice Tests



Detailed Answers
& Explanations



MORE PRACTICE. GREATER RESULTS.

Give your child the tools to build strong math skills, confidence, and a positive attitude toward learning.

WHAT YOU'LL GAIN



Build Confidence

Practice regularly to feel prepared and test-ready.



Master Key Skills

Develop strong math skills and problem solving abilities.



Improve Understanding

Learn with clear explanations and step-by-step solutions.



Test Strategies

Learn proven strategies to approach every question with confidence.



Boost Performance

Apply your knowledge and achieve your best score!

TOPICS COVERED

- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Inequalities
- ✓ Functions
- ✓ Geometry
- ✓ Ratios & Proportions
- ✓ Statistics & Probability
- ✓ Data Analysis
- ✓ Measurement
- ✓ Pythagorean Theorem
- ✓ Surface Area & Volume
- ✓ And More!



2 ONLINE TESTS

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



2 EXTRA ONLINE TEST ACCESS CODE IS INSIDE THE BOOK!

Don't lose it—your extra practice and success start here!



PRACTICE
REGULARLY



STAY
FOCUSED



SOLVE
CONFIDENTLY



SUCCEED
BRIGHTLY