

California CAASPP

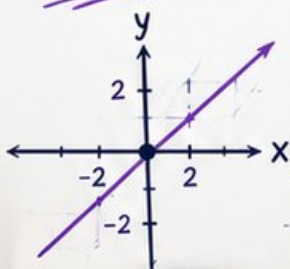
GRADE 8

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

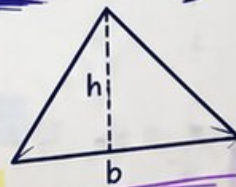
$$y = mx + b$$



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

Practice
Today
Succeed
Tomorrow!

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



7 PRINTED
TESTS



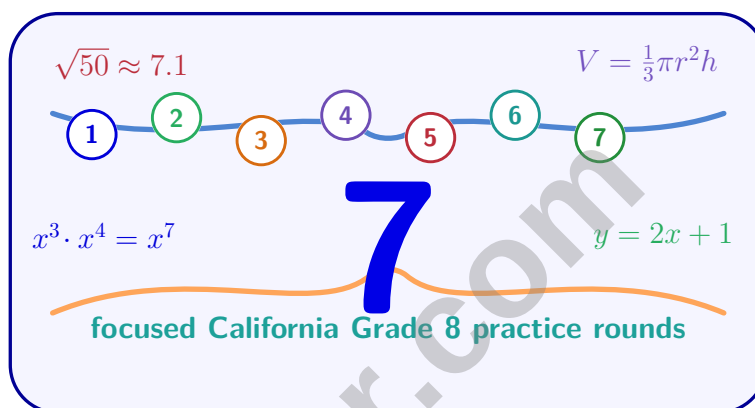
2 ONLINE
TESTS



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

7 California CAASPP Grade 8 Math Practice Tests

Seven CAASPP Tests for Algebra, Geometry, Statistics, and Readiness



Seven 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!

Seven focused rounds for sharper CAASPP math thinking

This book gives you seven 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 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.

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?

Seven CAASPP 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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Table of Contents

★ Practice Test 1	_____	13
★ Practice Test 2	_____	28
★ Practice Test 3	_____	44
★ Practice Test 4	_____	60
★ Practice Test 5	_____	77
★ Practice Test 6	_____	93
★ Practice Test 7	_____	108
Practice Test Answer Keys	_____	122
Practice Test Answers and Explanations	_____	127

1) To the nearest tenth, $\sqrt{35} \approx ?$

☐ A. 5.7

☐ C. 6.1

☐ B. 6.3

☐ D. 5.9

2) Which ordered pair satisfies both equations?

• $2x - y = 5$

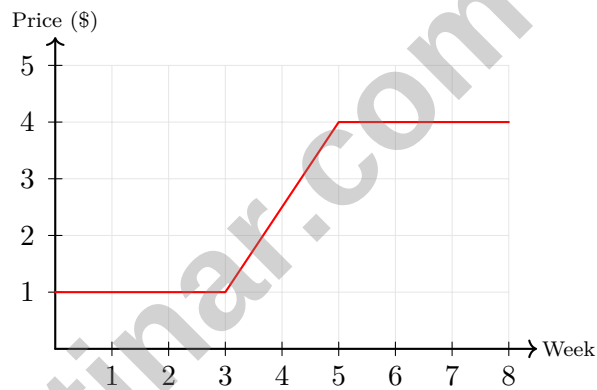
• $x + 2y = 5$

☐ A. (3, 1)

☐ C. (1, -3)

☐ B. (2, 0)

☐ D. (4, 3)



3)

An item's price over 8 weeks is shown. During which week does the price increase the fastest?

☐ A. Weeks 1-3

☐ C. Weeks 3-5

☐ B. Week 3

☐ D. Weeks 5-8



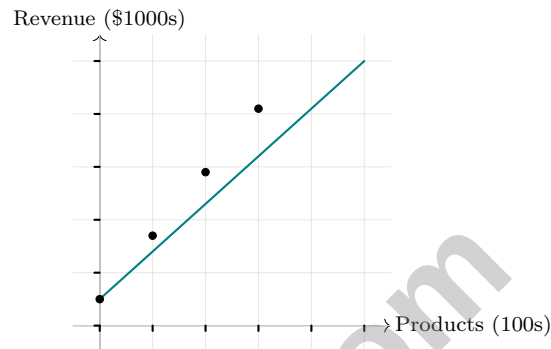
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- 4) Which pair of points has a distance of exactly 10 units?
- ☐ A. (0, 0) and (6, 8) ☐ C. (2, 3) and (3, 4)
- ☐ B. (1, 1) and (8, 8) ☐ D. (0, 5) and (5, 0)
- 5) A polygon has an interior angle sum of 1260° . How many sides does it have?
- ☐ A. 9 ☐ C. 7
- ☐ B. 8 ☐ D. 10
- 6) Pentagons $ABCDE$ and $FGHIJ$ are similar. Side $AB = 7$ cm and the corresponding side $FG = 14$ cm. If $BC = 9$ cm, what is the length of GH ?
- ☐ A. 4.5 cm ☐ C. 9 cm
- ☐ B. 18 cm ☐ D. 11.5 cm
- 7) Which equation represents a NONLINEAR function?
- ☐ A. $y = 2x + 3$ ☐ C. $y = x^2 + 1$
- ☐ B. $y = -x + 5$ ☐ D. $y = \frac{1}{2}x - 7$
- 8) A point Q is at the origin and undergoes three transformations: first a translation right 2, then a rotation 90° counterclockwise about the origin, then a reflection across the x -axis. Where does the point end up?
- ☐ A. (0, 2) ☐ C. (2, 0)
- ☐ B. (0, -2) ☐ D. (-2, 0)
- 9) Which set of side lengths does NOT form a right triangle?
- ☐ A. 9, 12, 15 ☐ C. 7, 9, 11
- ☐ B. 8, 6, 10 ☐ D. 20, 21, 29



- 10) A cone has the same radius and height as a cylinder whose volume is 720 cubic inches. What is the cone's volume?

☐ A. 120 in^3
☐ C. 480 in^3
☐ B. 240 in^3
☐ D. 720 in^3



11)

A company's revenue model is $R = 12x + 500$, where R is revenue and x is the number of products sold. If revenue is \$8,900, how many products were sold?

☐ A. 525
 ☐ C. 675
☐ B. 700
 ☐ D. 725

- 12) A through $(0, 2)$ and $(1, 5)$. B through $(0, -1)$ and $(1, 1)$. Which has greater rate?

☐ A. Function A
☐ C. Both same.
☐ B. Function B
☐ D. Cannot be determined.

- 13) 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. $C = 8n - 12$



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1) The temperature $T(h)$ in degrees Celsius at height h km above sea level is $T(h) = 25 - 6h$. What is $T(2)$?

☐ A. 37

☐ C. 19

☐ B. 13

☐ D. 50

2) Consider the equation $6x - 4 = 2(3x - 2)$. How many solutions does this have?

☐ A. One solution

☐ C. Infinitely many solutions

☐ B. No solution

☐ D. Two solutions

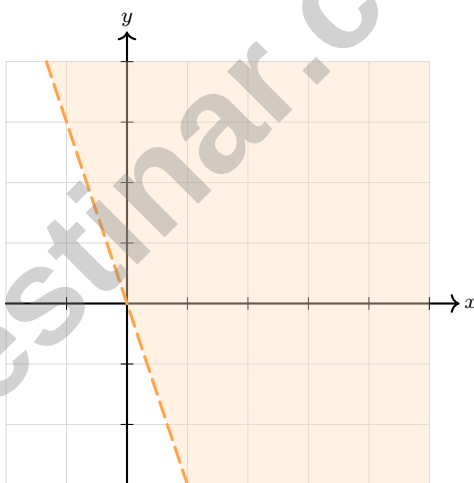
3) Solve: $3(x + 2) < 9$

☐ A. $x < 1$

☐ C. $x < 3$

☐ B. $x > 1$

☐ D. $x > 3$



4)

What inequality matches this graph?

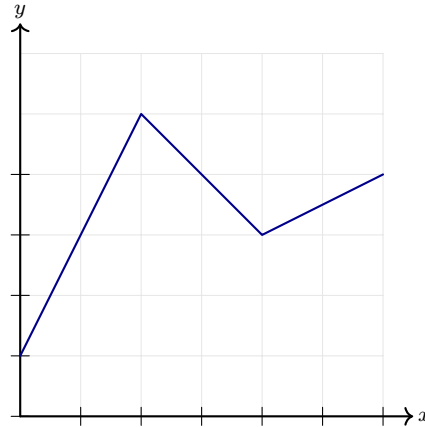
☐ A. $y > -3x$

☐ C. $y \geq -3x$

☐ B. $y < -3x$

☐ D. $y \leq -3x$





5)

Identify the maximum value and where it occurs.

☐ A. Max = 1 at $x = 4$
☐ C. Max = 3 at $x = 1$
☐ B. Max = 3 at $x = 2$
☐ D. Max = 4 at $x = 6$

6) Solve by substitution: $\begin{cases} y = 2x - 5 \\ 4x - y = 7 \end{cases}$

☐ A. (1, -3)

☐ C. (3, 1)

☐ B. (2, -1)

☐ D. (4, 3)

7) A student finds the hypotenuse of a 7-24-? right triangle. They calculate $c^2 = 7 + 24 = 31$. Is this method correct?

☐ A. Yes; $c = \sqrt{31}$ units

☐ C. Yes; the hypotenuse is 31 units

☐ B. No; they should add the squares:

☐ D. No; they forgot to multiply by 2

$c^2 = 49 + 576 = 625$, so $c = 25$



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1) Which is the best estimate of $\frac{\sqrt{30}}{\sqrt{3}}$?

☐ A. 2.8

☐ C. 3.9

☐ B. 5.0

☐ D. 3.2

2) A two-way table tracks 340 customers and purchase behavior:

	Online	In-Store	Total
Loyalty Member	136	119	255
Non-Member	57	28	85
Total	193	147	340

What percentage of online purchases are from non-members?

☐ A. $\approx 17\%$

☐ C. $\approx 30\%$

☐ B. $\approx 25\%$

☐ D. $\approx 33\%$

3)

Value	4	8	12
Freq.	2	3	5

Frequency table: mean = 9.2. Calculate MAD.

☐ A. 2.0 (forgot to weight by frequency)

☐ D. 4.2 (summed deviations without dividing by n)

☐ B. 2.8

☐ C. 3.4 (used unweighted average of deviations)

4) Which scenario requires permutation (order matters)?

☐ A. Selecting 2 students from a group of 10 to form a study pair.

☐ C. Picking 2 toppings from a pizza menu.

☐ B. Arranging 2 students from a group of 10 in a line (first and second position).

☐ D. Choosing 2 books to bring home from a library shelf.



- 5) A decorative square pyramid is filled with water. The base has side 2 m and the pyramid is 3 m tall. What is the volume of water (in cubic meters) when the pyramid is full?

- 6) Is $\sqrt{27}$ greater than or less than 5.2?

- ☐ A. Cannot be determined ☐ C. Less than
☐ B. Equal to ☐ D. Greater than

- 7) Which shows an error in classification?

- ☐ A. $\sqrt{36} = 6$ is classified as rational ☐ C. $0.\overline{27}$ is classified as irrational
☐ B. π is classified as irrational ☐ D. $\sqrt{50}$ is classified as irrational

- 8) Convert $0.\overline{142857}$ (6-digit repeat) to a fraction.

- ☐ A. $\frac{1}{6}$ ☐ C. $\frac{142857}{99999}$
☐ B. $\frac{142857}{100000}$ ☐ D. $\frac{142857}{999999} = \frac{1}{7}$

- 9) Multiply $(2 \times 10^3) \times (3 \times 10^2)$. Express in scientific notation.

- ☐ A. 60×10^5 ☐ C. 5×10^5
☐ B. 6×10^6 ☐ D. 6×10^5



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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 D is correct.** **(8.NS.2)** $5.9^2 = 34.81$ and $6^2 = 36$. Since 35 is closer to 34.81 than to 36, $\sqrt{35} \approx 5.9$.
- 2) **Choice A is correct.** **(8.EE.8)** Check (3, 1): $2(3) - 1 = 5$ ✓ and $3 + 2(1) = 5$ ✓. Both equations are satisfied.
- 3) **Choice C is correct.** **(8.F.5)** From week 3 to 5, the price jumps from \$1 to \$4 in 2 weeks, a rate of \$1.50/week. All other segments are flat.
- 4) **Choice A is correct.** **(8.G.8)** Distance = $\sqrt{6^2 + 8^2} = \sqrt{36 + 64} = \sqrt{100} = 10$ units.
- 5) **Choice A is correct.** **(8.G.5)** Set $(n - 2) \times 180 = 1260$. Then $n - 2 = 7$, so $n = 9$ (a nonagon).
- 6) **Choice B is correct.** **(8.G.4)** Scale factor is $\frac{14}{7} = 2$. So $GH = BC \times 2 = 9 \times 2 = 18$ cm.
- 7) **Choice C is correct.** **(8.F.3)** A linear function has the form $y = mx + b$ (no powers of x other than 1). $y = x^2 + 1$ has a squared variable, making it nonlinear.
- 8) **Choice B is correct.** **(8.G.3)** Start at (0, 0). After translation right 2: (2, 0). After rotation 90° counterclockwise: $(-0, 2) = (0, 2)$. After reflection across x -axis: (0, -2).
- 9) **Choice C is correct.** **(8.G.6, 8.G.7)** Check C: $7^2 + 9^2 = 49 + 81 = 130 \neq 121 = 11^2$. All others satisfy the Pythagorean Theorem (A: 9-12-15 is 3-4-5 scaled by 3; B: 6-8-10 is 3-4-5 scaled by 2; D: 20-21-29 is a Pythagorean triple).
- 10) **Choice B is correct.** **(8.G.9)** Since $V_{\text{cone}} = \frac{1}{3}V_{\text{cyl}}$, the cone's volume is $\frac{1}{3} \times 720 = 240$ in³.
- 11) **Choice B is correct.** **(8.SP.3)** Set $R = 8900$: $8900 = 12x + 500 \Rightarrow 12x = 8400 \Rightarrow x = 700$.
- 12) **Choice A is correct.** **(8.F.2)** Rate of A: $(5 - 2)/(1 - 0) = 3$. Rate of B: $(1 - (-1))/(1 - 0) = 2$. Since $3 > 2$, A is greater.
- 13) **Choice A is correct.** **(8.F.4)** Cost per item is \$8 (slope), flat shipping is \$12 (intercept). Total: $C = 8n + 12$.
- 14) **Choice C is correct.** **(8.G.2)** Both reflection and rotation are rigid motions that preserve distances and angles. Any sequence of rigid motions produces a congruent figure.
- 15) **Choice C is correct.** **(8.G.5)** Since a and b are corresponding angles with parallel lines, $b = a = 52^\circ$. If c is supplementary to b , then $c = 180 - 52 = 128^\circ$.
- 16) **Choice A is correct.** **(8.G.7)** Complementary angles sum to 90° . So $B = 90 - 38 = 52^\circ$.
- 17) **Choice B is correct.** **(8.G.9)** The student forgot the $\frac{1}{3}$ factor. Correct: $V = \frac{1}{3} \times 50 \times 12 = 200$ ft³.
- 18) **Choice B is correct.** **(8.G.7)** Trapezoid area = $\frac{1}{2}(b_1 + b_2) \times h = \frac{1}{2}(4 + 6) \times 2 = 10$ m².
- 19) **Choice C is correct.** **(8.SP.1)** The points form an upward trend. As age increases, income increases, showing a positive correlation. Perfect would mean all points lie exactly on a line.
- 20) **The correct answer is A,D.** **(8.EE.7)** A: Multiplying by 4 gives $2x - 3 = 20$, then $2x = 23$, so $x = 11.5$ (correct). B: Dividing by 2 before clearing the denominator is wrong. C: Changing only the numerator is not a legal move. D: Multiply by 4 $\Rightarrow 2x - 3 = 20$, add 3 $\Rightarrow 2x = 23$, divide by 2 $\Rightarrow x = 11.5$ (correct). E: Subtracting 4 and multiplying by the numerator is invalid. Correct answers: A and D.
- 21) **Choice B is correct.** **(8.SP.4)** Among high-income households (total 60), those without internet = 5. Relative frequency = $\frac{5}{60} \approx 0.083$.
- 22) **Choice B is correct.** **(8.G.8)** Absolute deviations: $|20 - 27.5| = 7.5$, $|25 - 27.5| = 2.5$, $|30 - 27.5| = 2.5$, $|35 - 27.5| = 7.5$. Sum = 20. MAD = $20/4 = 5$.
- 23) **Choice B is correct.** **(8.NS.2)** Each of the 4 morning branches splits into 3 afternoon branches: $4 \times 3 = 12$ final outcomes.
- 24) **Choice B is correct.** **(8.SP.2)** $MAD = \frac{|-3| + |2| + |-1| + |4| + |-2|}{5} = \frac{3 + 2 + 1 + 4 + 2}{5} = \frac{12}{5} = 2.4$.
- 25) **Choice D is correct.** **(8.NS.1)** $\sqrt{2} \times \sqrt{8} = \sqrt{16} = 4$, which is rational. The other products: $\sqrt{3} \times \sqrt{5} = \sqrt{15}$, $\sqrt{6} \times \sqrt{10} = \sqrt{60} = 2\sqrt{15}$, and $\sqrt{7} \times \sqrt{11} = \sqrt{77}$ are all irrational.
- 26) **Choice D is correct.** **(8.G.1)** Let $x = 0.5\bar{3} = 0.5333\dots$. Then $10x = 5.\bar{3}$ and $100x = 53.\bar{3}$. Subtracting: $90x = 48$, so $x = \frac{48}{90} = \frac{8}{15}$.
- 27) **Choice D is correct.** **(8.EE.3)** Move the decimal 8 places left to get 1.2; the exponent is 8.



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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 7 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!

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! |



2 EXTRA ONLINE PRACTICE TESTS INCLUDED!

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

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