

6 Florida FAST

GRADE 8 MATH PRACTICE TESTS

Standards Aligned Problem Solving For
Comprehensive Assessment Programs



6 PRINTED
TESTS



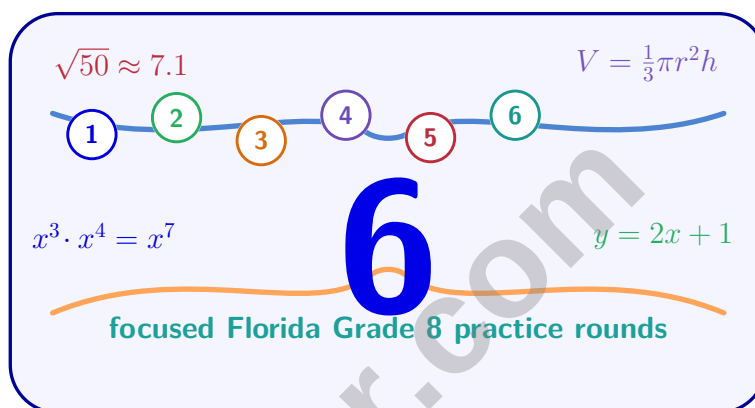
2 ONLINE
TESTS



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

6 Florida FAST Grade 8 Math Practice Tests

Focused Practice for Grade 8 Readiness, Review, and Test Confidence



Six complete 40-question Grade 8 FAST 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, Florida Grade 8 Problem Solver!

Six focused rounds for sharper FAST math thinking

This book gives you six full Grade 8 FAST 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 Florida 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 six-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.

Florida 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?

Six FAST tests, 240 questions, and a complete review path

Part	What You Will Practice
Tests 1–3	Real numbers, exponents, scientific notation, equations, and careful reading.
Tests 4–6	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) Solve by substitution:
$$\begin{cases} x = y - 4 \\ 2x + 3y = 2 \end{cases}$$

☐ A. (2, 6)

☐ B. (0, 4)

☐ C. (1, 5)

☐ D. (-2, 2)



Which number can be written as a terminating decimal?

☐ A. $\sqrt{5}$

☐ B. $1 + \pi$

☐ C. $\sqrt{e}$ (where $e \approx 2.718$)

☐ D. $\frac{5}{8}$

3) Which value is irrational?

☐ A. $\sqrt{16}$

☐ B. $\sqrt{9}$

☐ C. $\sqrt{7}$

☐ D. $\sqrt{25}$

4) Is the product $\sqrt{3} \times \sqrt{12}$ closer to 5 or 6?

☐ A. Closer to 5

☐ B. Exactly 7

☐ C. Exactly 5

☐ D. Closer to 6

5) A mortgage for \$200,000 at 4% simple interest over 30 years. What is the total interest paid?

☐ A. \$80,000

☐ B. \$120,000

☐ C. \$160,000

☐ D. \$240,000



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6) Simplify $\frac{(k^2)^3 \cdot k^{-1}}{k^5}$.

☐ A. k^{-5}

☐ B. k^2

☐ C. k^{10}

☐ D. $k^0 = 1$

7) A cube has an edge length of 4 units. What is its volume?

☐ A. 16 cubic units

☐ B. 24 cubic units

☐ C. 48 cubic units

☐ D. 64 cubic units

8) What is 9.0×10^{-5} in standard form?

☐ A. 90,000

☐ B. 0.9

☐ C. 0.00009

☐ D. 0.000009

9) $(4.5 \times 10^{-6}) \times (2 \times 10^{-4}) = ?$

☐ A. 9×10^{-2}

☐ B. 6.5×10^{-10}

☐ C. 9×10^{-10}

☐ D. 9×10^{24}

10) The area model below represents $(x + 2)(x + 4)$:

	x	2
x	x^2	$2x$
4	$4x$	8

What is the total area?

☐ A. $x^2 + 6x + 8$

☐ B. $x^2 + 8$

☐ C. $x^2 + 4x + 2$

☐ D. $2x^2 + 6x + 8$



- 11) Two trend-line slopes are 1.2 and 1.1. What is their difference?

- 12) $S(m) = 500 + 25m$ and table $(0, \$600)$, $(3, \$675)$, $(6, \$750)$. Which starts with more money?

m	0	3	6
Table function	\$600	\$675	\$750

- ☐ A. S
☐ C. Both same.
- ☐ B. Table function
 ☐ D. Cannot be determined.
- 13) Rectangle MNOP has length 15 cm and width 8 cm. Rectangle M'N'O'P' is congruent to MNOP. Which of the following is NOT a possible pair of dimensions for M'N'O'P'?
- ☐ A. Length 15 cm, width 8 cm
 ☐ C. Length 16 cm, width 8 cm
- ☐ B. Length 8 cm, width 15 cm
 ☐ D. Length 15 cm, width 8 cm (rotated)
- 14) A store's revenue is $\$200 + \15 per item sold. What is the slope of revenue versus items sold?
- ☐ A. \$200
 ☐ C. \$215
- ☐ B. \$30
 ☐ D. \$15
- 15) A restaurant has 50 tables. Small tables seat 2 people; large tables seat 4 people. To seat at least 160 people, how many large tables are needed at minimum?
- ☐ A. 20
 ☐ C. 30
- ☐ B. 25
 ☐ D. 35



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1) 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

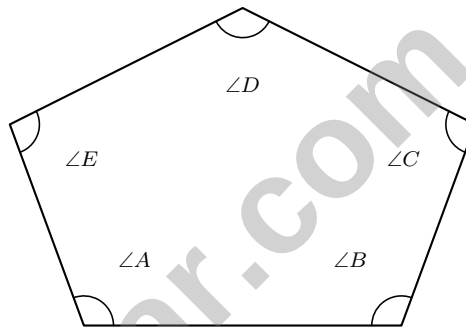
2) An equilateral triangle has side length 5 cm. A similar equilateral triangle has perimeter 60 cm. What is the scale factor?

☐ A. 3

☐ C. 12

☐ B. 4

☐ D. $\frac{1}{4}$



3)

The figure shows a pentagon with interior angles. If $\angle A = 100^\circ$, $\angle B = 120^\circ$, $\angle C = 110^\circ$, and $\angle D = 130^\circ$, what is $\angle E$?

☐ A. 80°

☐ C. 120°

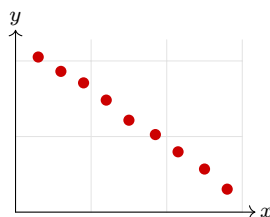
☐ B. 100°

☐ D. 140°

4) A point on a coordinate grid is at distance $\sqrt{50}$ from the origin. If one coordinate is 5, what is the other coordinate?



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5)

A scatter plot shows a clear downward trend from upper left to lower right. The points cluster tightly around the trend line. Which conclusion is correct?

- | | |
|--|--|
| ☐ A. As one variable increases, the other tends to increase | ☐ C. As one variable increases, the other tends to decrease |
| ☐ B. This is a weak negative relationship | ☐ D. The relationship is curved, not linear |

6) A student calculates the MAD and gets a negative value. What error did the student make?

- | | |
|---|---|
| ☐ A. Divided by the wrong number | ☐ C. Used the median instead of the mean |
| ☐ B. Forgot to use absolute values in deviations | ☐ D. Calculated range instead of MAD |

Explain: Why is a negative MAD impossible?



1) A line passes through $(1, 5)$ with slope $\frac{1}{2}$. What is the y -intercept?

☐ A. 4

☐ C. 5

☐ B. $\frac{3}{2}$
☐ D. $\frac{9}{2}$

2) A scientist collects data on plant height over weeks. The table shows:

Week	0	1	2	3
Height (cm)	5	8	12	17

Is the growth linear or nonlinear?

☐ A. Linear; first difference is constant at 5

☐ C. Linear; the plant always grows

☐ D. Nonlinear; cannot predict height

☐ B. Nonlinear; differences are 3, 4, 5 (not constant)

3) If a right triangle has a hypotenuse of 85 and one leg is 13, what is the other leg?

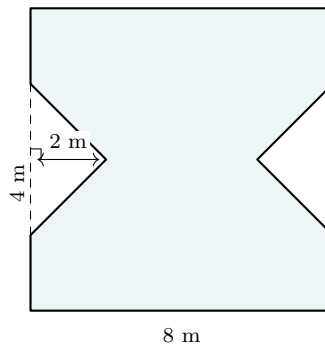
☐ A. 72

☐ C. 98

☐ B. 84

☐ D. 7225

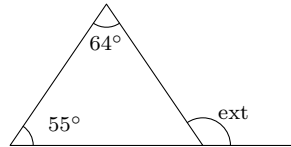
4) A composite figure has a square (8 m by 8 m) with two opposite triangular notches cut out (each 4 m base, 2 m height). What is the remaining area?


☐ A. 56 m^2
☐ C. 64 m^2
☐ B. 60 m^2
☐ D. 72 m^2


5) A figure is dilated by a scale factor of 3. How does the length of each side change?

- ☐ A. Divided by 3 ☐ C. Unchanged
☐ B. Multiplied by 3 ☐ D. Increased by 3 inches

6) An exterior angle of a triangle is formed by extending one side. If the two non-adjacent interior angles are 55° and 64° , what is the exterior angle?



- ☐ A. 64° ☐ C. 109°
☐ B. 89° ☐ D. 119°

7) A square pyramid has a volume of 192 m^3 and a height of 12 m. What is the side length of the square base?

- ☐ A. 4 m ☐ C. $4\sqrt{3}$ m
☐ B. 8 m ☐ D. 24 m

8) A car's fuel consumption model is $M = -0.05d + 35$, where M is miles per gallon and d is driving distance in hundreds of miles. What does the slope of -0.05 tell you?

- ☐ A. The car uses 0.05 gallons per mile ☐ C. For every 100 miles driven (1 unit of d), MPG decreases by 0.05
☐ B. The car starts with 35 gallons at $d = 0$ ☐ D. The car loses 0.05 MPG for every gallon used



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Florida FAST 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 Florida FAST practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice D is correct.** **(MA.8.AR.4.2)** Substitute $x = y - 4$ into $2x + 3y = 2$: $2(y - 4) + 3y = 2$, so $2y - 8 + 3y = 2$, giving $5y = 10$ and $y = 2$. Then $x = 2 - 4 = -2$. Solution: $(-2, 2)$.
- 2) **Choice D is correct.** **(MA.8.NSO.1.1)** $\frac{5}{8} = 0.625$, a terminating decimal. This is rational. The others are irrational: $\sqrt{5}$ is a non-perfect-square root, $\sqrt{e}$ is irrational, and $1 + \pi$ is an irrational sum.
- 3) **Choice C is correct.** **(MA.8.NSO.1.2)** $\sqrt{16} = 4$, $\sqrt{9} = 3$, and $\sqrt{25} = 5$ are all rational. Only $\sqrt{7}$ cannot be expressed as a ratio of integers.
- 4) **Choice D is correct.** **(MA.8.NSO.1.2)** $\sqrt{3} \times \sqrt{12} = \sqrt{36} = 6$ exactly.
- 5) **Choice D is correct.** **(MA.8.AR.3.5)** Interest: $I = 200000 \times 0.04 \times 30 = \$240,000$.
- 6) **Choice D is correct.** **(MA.8.AR.1.1)** $(k^2)^3 = k^6$; then $k^6 \cdot k^{-1} = k^5$; then $\frac{k^5}{k^5} = k^0 = 1$.
- 7) **Choice D is correct.** **(MA.8.NSO.1.7)** Volume of a cube $= e^3 = 4^3 = 64$ cubic units.
- 8) **Choice C is correct.** **(MA.8.NSO.1.4)** Move the decimal 5 places to the left: $9.0 \times 10^{-5} = 0.00009$.
- 9) **Choice C is correct.** **(MA.8.NSO.1.5)** Multiply coefficients: $4.5 \times 2 = 9$. Add exponents: $10^{-6+(-4)} = 10^{-10}$. Result: 9×10^{-10} .
- 10) **Choice A is correct.** **(MA.8.AR.1.2)** Sum of areas: $x^2 + 2x + 4x + 8 = x^2 + 6x + 8$.
- 11) **The correct answer is 0.1.** **(MA.8.DP.1.3)** Compute $1.2 - 1.1 = 0.1$.
- 12) **Choice B is correct.** **(MA.8.F.1.2)** $S(0) = 500$. Table shows 600 at $m = 0$. Since $600 > 500$, table function starts higher.
- 13) **Choice C is correct.** **(MA.8.GR.2.1)** Congruent rectangles have the same dimensions. M'N'O'P' must have dimensions 15 cm and 8 cm (possibly rotated). A rectangle with dimensions 16 cm and 8 cm is NOT congruent.
- 14) **Choice D is correct.** **(MA.8.AR.3.2)** The slope is the rate of change of revenue per item, which is \$15 per item. The \$200 is the y -intercept, not the slope.
- 15) **Choice C is correct.** **(MA.8.AR.4.3)** Let l = large tables, so $50 - l$ tables are small. The seating capacity is $4l + 2(50 - l) = 100 + 2l$. Solve $100 + 2l \geq 160$, giving $2l \geq 60$ and $l \geq 30$.
- 16) **Choice A is correct.** **(MA.8.F.1.1)** Substitute $x = -2$: $h(-2) = 3(-2) = -6$.
- 17) **Choice D is correct.** **(MA.8.GR.2.3)** Two triangular bases: $2 \times \frac{1}{2}(8)(6) = 48 \text{ cm}^2$. The hypotenuse is 10 cm, so the triangle's perimeter is $8 + 6 + 10 = 24$ cm. The lateral area is $4(24) = 96 \text{ cm}^2$. Total surface area $= 48 + 96 = 144 \text{ cm}^2$.
- 18) **The correct answer is A, C.** **(MA.8.GR.2.2)** Correct: (A) Corresponding angles are congruent — definition of similarity. (C) Corresponding sides are proportional — they scale by a constant factor k . Incorrect: (B) Equal length is congruence, not similarity. (D) Congruence requires equality; similarity allows scaling. (E) Scale factor can be any positive number; $k < 1$ is a reduction, still similarity.
- 19) **Choice C is correct.** **(MA.8.AR.2.2)** Subtract 5: $-2x \geq 6$. Divide by -2 (and FLIP the inequality): $x \leq -3$.
- 20) **Choice B is correct.** **(MA.8.GR.2.3)** Reflection across the x -axis uses $(x, y) \rightarrow (x, -y)$. The point $(3, 1)$ reflects to $(3, -1)$.
- 21) **Choice A is correct.** **(MA.8.AR.3.5)** Slope $= \frac{3-0}{0-(-1)} = 3$. When $x = 0$, $y = 3$, so $b = 3$. Thus $y = 3x + 3$.
- 22) **Choice D is correct.** **(MA.8.AR.2.1)** Add 2: $\frac{x}{4} = 5$. Multiply by 4: $x = 20$. Check: $\frac{20}{4} - 2 = 5 - 2 = 3$ ✓. (Distractor A: not multiplying by 4; C: arithmetic error; D: forgetting to add 2.)
- 23) **Choice B is correct.** **(MA.8.AR.4.2)** For $y < x + 2$, the y values are LESS than the line, so shade BELOW. The dashed line is correct for the strict inequality $<$.
- 24) **Choice B is correct.** **(MA.8.GR.1.5)** Cylinder: $V_{\text{cyl}} = \pi r^2 h$; Cone: $V_{\text{cone}} = \frac{1}{3} \pi r^2 h = \frac{1}{3} V_{\text{cyl}}$.
- 25) **The correct answer is $\frac{1}{7}$.** **(MA.8.DP.2.1)** Total: 15 tokens. $P(\text{black first}) = \frac{6}{15}$; $P(\text{black second} \mid \text{black first}) = \frac{5}{14}$. Product: $\frac{6}{15} \times \frac{5}{14} = \frac{1}{7}$.
- 26) **Choice A is correct.** **(MA.8.DP.1.3)** The y -intercept (68) is the predicted value when $m = 0$. Since month 0 is outside the observed summer data range, this is an extrapolation used to define the line mathematically.



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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 deep and steady book gave you six full 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.

6

Give your child the confidence and skills they need with **6 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!

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.



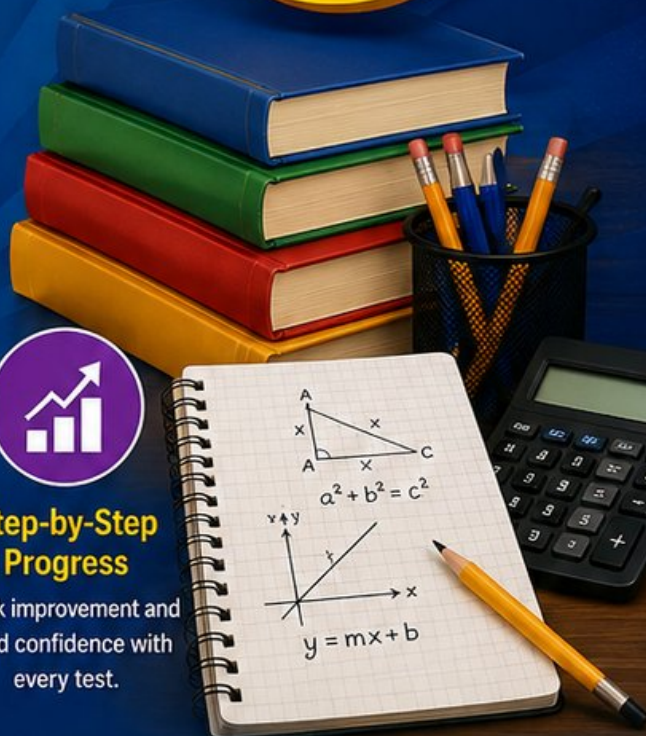
Real-World Applications

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 | ✓ Statistics & Probability |
| ✓ Expressions & Equations | ✓ Pythagorean Theorem |
| ✓ Ratios & Proportional Relationships | ✓ Volume & Surface Area |
| ✓ Linear Equations | ✓ Transformations |
| ✓ Functions | ✓ Inequalities |
| ✓ Geometry | ✓ Data Analysis & Graphing |
| | ✓ And More! |



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