

7

Florida
FAST

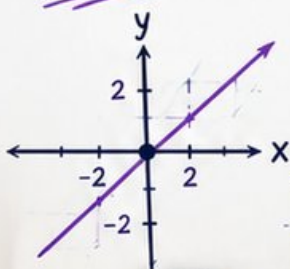
GRADE 8

MATH

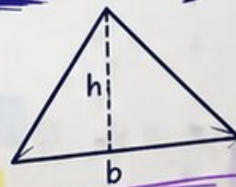
PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

$$y = mx + b$$

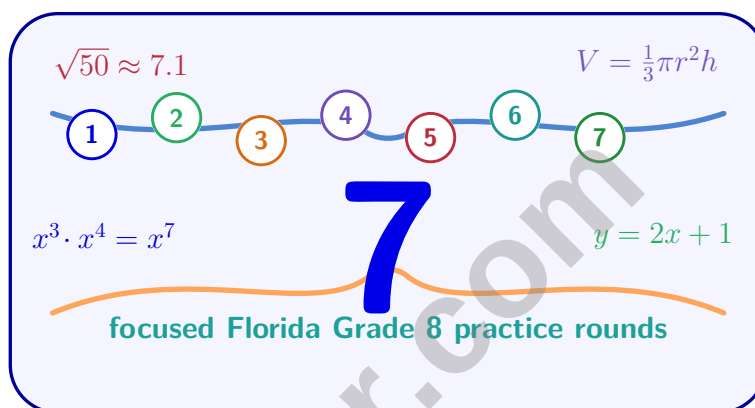
BUILD
CONFIDENCE.
SHARPEN SKILLS.
ACE YOUR
EXAM!Practice
Today
Succeed
Tomorrow!

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

7 PRINTED
TESTS2 ONLINE
TESTSUse these **two additional** online practice tests
for extra review after the printed tests in this book.

7 Florida FAST Grade 8 Math Practice Tests

Seven Standards-Based FAST Tests for Clear Grade 8 Progress



Seven 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!

Seven focused rounds for sharper FAST math thinking

This book gives you seven 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 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.

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?

Seven FAST 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.

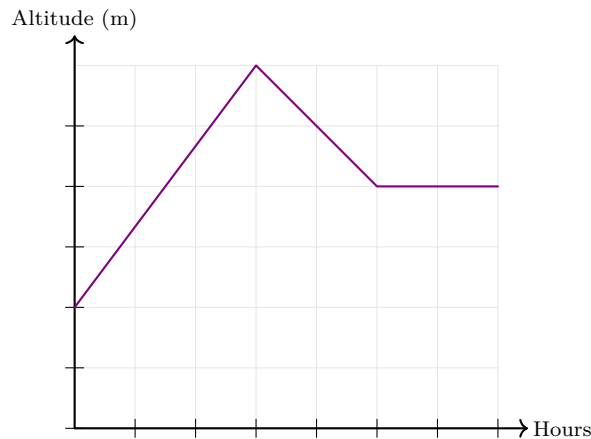
The tests are mixed on purpose. Grade 8 success means recognizing which idea is being tested even when the next question changes format.



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1)

A hiker's altitude over 7 hours: rises $[0,3]$, descends $[3,5]$, plateaus $[5,7]$. What is the altitude at hour 5?

- ☐ A. 1 meter ☐ C. 4 meters
☐ B. 3 meters ☐ D. 5 meters

2) Which equation does NOT represent a proportional relationship?

- ☐ A. $y = 3x$ ☐ C. $y = x$
☐ B. $y = -2x$ ☐ D. $y = 2x + 1$

3) Error Analysis: A student claims $y = 2^x$ is linear because x appears only once. What is wrong with this reasoning?

- ☐ A. The variable x can appear any number of times in a linear function ☐ C. The base 2 is raised to the power x , making it exponential/nonlinear
☐ B. Linear means the coefficient must be 1 ☐ D. The student forgot the constant term



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4) Which triangle is NOT a right triangle?

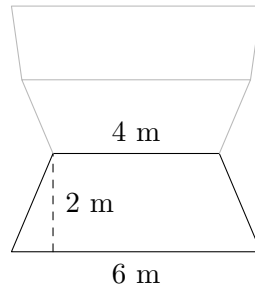
☐ A. sides 5, 12, 13

☐ C. sides 8, 15, 17

☐ B. sides 3, 4, 5

☐ D. sides 7, 8, 9

5) A composite figure is made of three trapezoids stacked vertically. The first trapezoid has bases 4 m and 6 m with height 2 m. What is just this trapezoid's area?



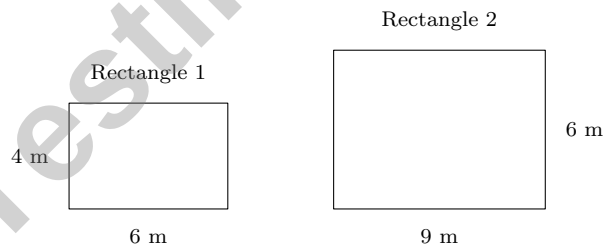
☐ A. 8 m^2

☐ C. 12 m^2

☐ B. 10 m^2

☐ D. 16 m^2

6) Two rectangles are shown with proportional dimensions. Which similarity statement is correct?



☐ A. Rectangle 1 $\sim$ Rectangle 2 with scale factor 1.5

☐ C. Rectangle 1 $\sim$ Rectangle 2 with scale factor 0.5

☐ B. The rectangles are not similar

☐ D. They are congruent



7) For a dashed boundary line, the inequality must use which symbol(s)?

☐ A. $\leq$ only

☐ C. $<$ or $>$

☐ B. $\geq$ only

☐ D. $\leq$ or $\geq$

8) Point $(1, 4)$ is reflected across the x -axis, then the image is reflected across the y -axis. What is the final image?

☐ A. $(1, 4)$

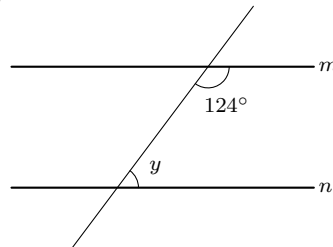
☐ C. $(-1, 4)$

☐ B. $(-1, -4)$

☐ D. $(1, -4)$

9) Solve the system $\begin{cases} 3x - 2y = 4 \\ x + 2y = 8 \end{cases}$ by elimination.

10) Lines m and n are parallel, cut by a transversal. If one co-interior angle is 124° , what is the other co-interior angle?



☐ A. 56°

☐ C. 124°

☐ B. 62°

☐ D. 180°



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- 1) Does the table show values from the equation $y = 5x$?

x	1	2	3
y	5	10	15

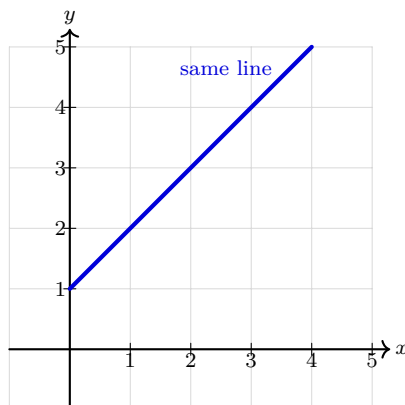
- ☐ A. No, should be $y = 5 + x$
- ☐ B. No, should be $y = x + 5$
- ☐ C. Yes, each y -value is 5 times the matching x -value.
- ☐ D. No, missing $x = 0$
- 2) Two equations are given: Equation 1: $2(x + 3) = 2x + 6$ and Equation 2: $2(x + 3) = 2x + 5$. Which statement is true?
- ☐ A. Both have exactly one solution
- ☐ B. Equation 1 has one solution; Equation 2 has infinitely many
- ☐ C. Both have no solution
- ☐ D. Equation 1 has infinitely many solutions; Equation 2 has no solution
- 3) Calculate $(8.5 \times 10^4) - (3.7 \times 10^4)$ in scientific notation.

- 4) Find the y -intercept of the line $3x + y = 12$.



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- 5) The graph below shows two lines. Does the system have a solution? If so, is it unique, or are there infinitely many?



- ☐ A. No solution
 ☐ C. Infinitely many solutions
☐ B. Unique solution at (2, 3)
 ☐ D. Two distinct solutions
- 6) Which table would represent a NONLINEAR function with constant second differences?

x	0	1	2	3
1st diff.	—	1	3	5
2nd diff.	—	—	2	2

- ☐ A. It is linear because first differences exist
 ☐ C. It is cubic because second differences are positive
☐ B. It is quadratic because second differences are constant
 ☐ D. It is exponential because differences vary



- 1) A sphere has a volume of approximately 523.33 m^3 . What is its radius? (Use $\pi \approx 3.14$.)

☐ A. 4 m

☐ C. 10 m

☐ B. 5 m

☐ D. 20 m

- 2) Two parallel lines are cut by a transversal. One angle measures 73° . Write and solve an equation to find the measure of its co-interior angle.

- 3)

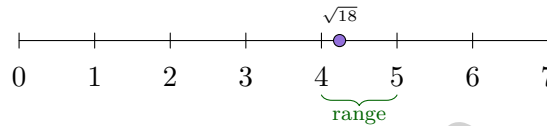
Value	4	8	12
Freq.	2	3	5

Frequency table: mean = 9.2. Calculate MAD.

- ☐ A. 2.0 (forgot to weight by frequency)
- ☐ B. 2.8
- ☐ C. 3.4 (used unweighted average of deviations)
- ☐ D. 4.2 (summed deviations without dividing by n)
- 4) A bag contains 15 marbles: 5 red, 4 blue, 3 green, and 3 yellow. If one marble is drawn at random, what is the probability of drawing a red or green marble?
- ☐ A. $\frac{4}{15}$
- ☐ B. $\frac{3}{15}$
- ☐ C. $\frac{5}{15}$
- ☐ D. $\frac{8}{15}$

- 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)

Between which two whole numbers does $\sqrt{18}$ lie?

- ☐ A. 3 and 4
 ☐ C. 5 and 6
☐ B. 6 and 7
 ☐ D. 4 and 5

- 7) Convert $0.4\overline{18}$ to a fraction in simplest form.

- ☐ A. $\frac{4}{18}$
☐ C. $\frac{418}{999}$
☐ B. $\frac{418}{1000}$
☐ D. $\frac{414}{990} = \frac{23}{55}$

- 8) If $a < \sqrt{n} < a + 1$ where a is a positive integer, then which statement is true?

- ☐ A. $n = a^2$
☐ C. $a^2 < n < (a + 1)^2$
☐ B. $n = (a + 1)^2$
☐ D. n is rational

- 9) Which is equivalent to 8.2×10^{-2} ?

- ☐ A. 820
 ☐ C. 0.82
☐ B. 82
 ☐ D. 0.082



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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 B is correct.** (MA.8.F.1.3) The graph reaches approximately 3m at hour 5 (the endpoint of the descending segment). This is where the plateau begins.
- 2) **Choice D is correct.** (MA.8.AR.3.1) A proportional equation is $y = kx$ (no constant term). Choice D has +1, so it's linear but not proportional.
- 3) **Choice C is correct.** (MA.8.F.1.2) In $y = 2^x$, x is an exponent (not the variable being exponentiated). This is an exponential function, not linear. Linear requires $y = mx + b$ form.
- 4) **Choice D is correct.** (MA.8.GR.1.1) Check option D: $7^2 + 8^2 = 49 + 64 = 113 \neq 81 = 9^2$. The other options are all known Pythagorean triples.
- 5) **Choice B is correct.** (MA.8.GR.1.6) Trapezoid area = $\frac{1}{2}(b_1 + b_2) \times h = \frac{1}{2}(4 + 6) \times 2 = 10 \text{ m}^2$.
- 6) **Choice A is correct.** (MA.8.GR.2.2) Ratio of corresponding sides: $\frac{9}{6} = 1.5$ and $\frac{6}{4} = 1.5$. Constant ratio confirms similarity.
- 7) **Choice C is correct.** (MA.8.AR.4.2) Dashed lines correspond to STRICT inequalities ($<$ and $>$), which do not include the boundary. The symbols $\leq$ and $\geq$ use solid lines.
- 8) **Choice B is correct.** (MA.8.GR.2.3) Reflect across x -axis: $(1, 4) \rightarrow (1, -4)$. Then reflect across y -axis: $(1, -4) \rightarrow (-1, -4)$.
- 9) **The correct answer is $(3, \frac{5}{2})$.** (MA.8.AR.4.2) Add the equations to eliminate y : $(3x - 2y) + (x + 2y) = 4 + 8$, so $4x = 12$, giving $x = 3$. Substitute: $3 + 2y = 8$, so $2y = 5$ and $y = \frac{5}{2}$.
- 10) **Choice A is correct.** (MA.8.GR.1.5) Co-interior angles (same-side interior angles) are supplementary: $124 + y = 180$, so $y = 56^\circ$.
- 11) **Choice C is correct.** (MA.8.GR.1.5) Radius $r = 8 \text{ mm}$. $V = \frac{4}{3}\pi r^3 = \frac{4}{3} \times 3.14 \times 512 = 2143.57 \text{ mm}^3$.
- 12) **The correct answer is -4 .** (MA.8.AR.2.2) Solving gives $x \geq -4$, so the boundary value is -4 .
- 13) **Choice B is correct.** (MA.8.GR.1.1) For a right triangle, base area is $\frac{1}{2} \times 6 \times 8 = 24 \text{ cm}^2$ (not 48 cm^2). Correct volume: $V = \frac{1}{3} \times 24 \times 10 = 80 \text{ cm}^3$.
- 14) **Choice C is correct.** (MA.8.DP.1.3) Substitute $n = 100$: $C = 2(100) + 50 = 200 + 50 = \250 .
- 15) **Choice B is correct.** (MA.8.DP.1.2) This is a column-conditional frequency. Among phone owners (253 total), ages 13–17 number 175. Relative frequency: $\frac{175}{253} \approx 0.69$.
- 16) **Choice A is correct.** (MA.8.F.1.1) Option A fails the function test: input 3 maps to both 1 and 2. The other options each have unique input-output pairs.
- 17) **Choice A is correct.** (MA.8.AR.3.5) Slope is $m = \frac{212-32}{100-0} = \frac{180}{100} = 1.8$. Be careful to use change in F over change in C .
- 18) **Choice A is correct.** (MA.8.GR.1.2) $d = \sqrt{(8-2)^2 + (13-5)^2} = \sqrt{6^2 + 8^2} = \sqrt{36 + 64} = \sqrt{100} = 10$.
- 19) **Choice B is correct.** (MA.8.GR.1.4) Corresponding angles are congruent when a transversal cuts parallel lines. So $x = 78^\circ$.
- 20) **Choice C is correct.** (MA.8.GR.1.6) Set $(n-2) \times 180 = 900$. Then $n-2 = 5$, so $n = 7$ (a heptagon).
- 21) **Choice B is correct.** (MA.8.DP.1.1) 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.
- 22) **The correct answer is A,D.** (MA.8.AR.2.1) 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.
- 23) **Choice A is correct.** (MA.8.GR.1.2) Absolute deviations: $|2-4| = 2$, $|4-4| = 0$, $|6-4| = 2$. Sum = 4. MAD = $4/3 \approx 1.33$.
- 24) **Choice C is correct.** (MA.8.DP.2.1) With replacement, first draw has 6 choices, second draw has 6 choices. Total: $6 \times 6 = 36$ outcomes.



Hi, Persistent Problem Solver!

◇ Some Grade 8 questions ask you to hold several ideas in your mind at once. That can feel hard, and that is exactly why practice matters. ◇

★ **Remember this:** You showed persistence by continuing through the set. That habit is powerful because difficult problems often open after one more good attempt. You practiced across 7 full Grade 8 practice tests, and that repeated effort matters. ★

Persistence Tools

- **Try a Smaller Case:** Use an easier number to see the pattern.
- **Draw It:** Make the situation visible.
- **Restate It:** Say the question in your own words.
- **Check One Step:** Fix the first unclear place.

Grade 8 test-day tip: When stuck, do not restart everything. Find the first step you trust, then rebuild from there.

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

Jay Daie

Your Persistence 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! |



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