

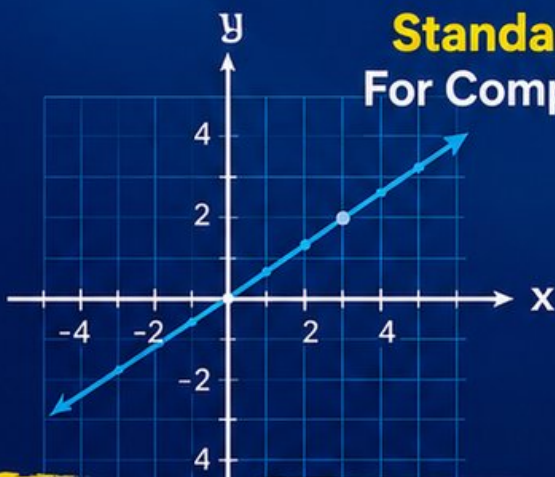
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Florida
FAST

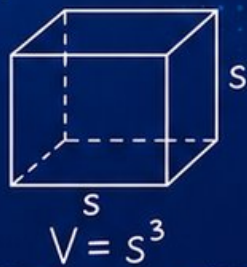
Grade 8

MATH

PRACTICE TESTS

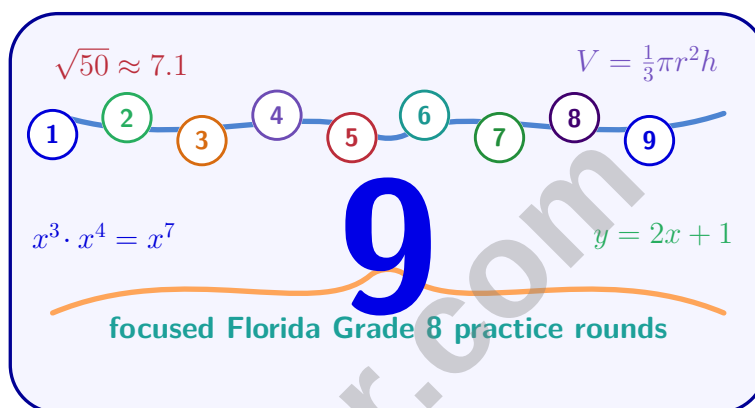
Standards Aligned Problem Solving
For Comprehensive Assessment Programs

$$2x + 3y = 12$$
$$y = mx + b$$

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

9 Florida FAST Grade 8 Math Practice Tests

Florida Standards Practice for Linear Relationships, Geometry, Data, and Volume



Nine 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!

Nine focused rounds for sharper FAST math thinking

This book gives you nine 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 nine-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?

Nine FAST tests, 360 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.
Tests 7–9	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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& answers

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1) A student claims $(4 \times 10^3) \times (5 \times 10^2) = 20 \times 10^5$. The arithmetic steps are correct, but is the final answer in proper scientific notation?

- ☐ A. Yes, it is in proper form.
- ☐ B. No; both coefficient and exponent are wrong.
- ☐ C. No; the exponent should be 10^6 instead.
- ☐ D. No; the coefficient 20 is too large. Should be 2×10^6 .

2) A horizontal line passes through the point $(2, 5)$. What is the equation of this line?

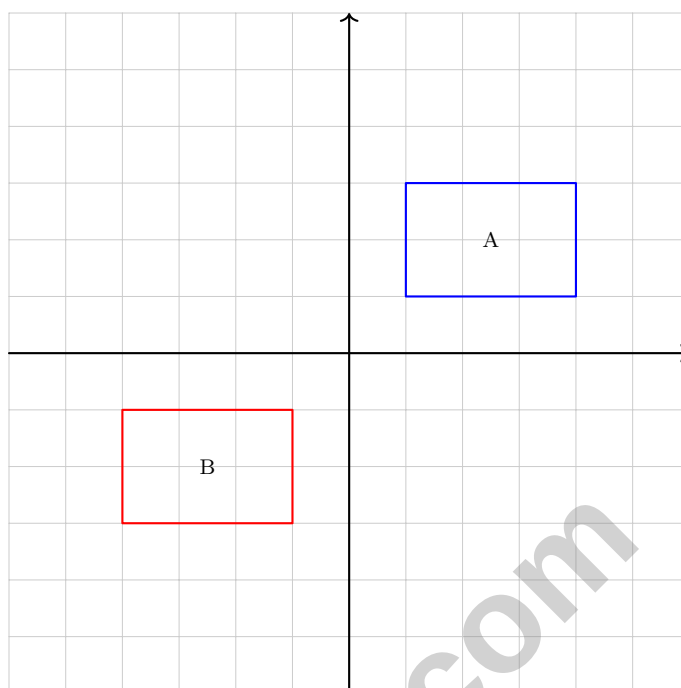
- ☐ A. $x = 2$
- ☐ B. $x = y$
- ☐ C. $y = 2x + 5$
- ☐ D. $y = 5$

3) Solve: $5 - x > 8$

- ☐ A. $x > -3$
- ☐ B. $x > 13$
- ☐ C. $x < -3$
- ☐ D. $x < 13$



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4)

Figure A is transformed to Figure B. Which single transformation is shown?

- ☐ A. Reflection across the x -axis only ☐ C. 180° rotation about the origin
☐ B. Reflection across the y -axis only ☐ D. Dilation by scale factor 2

5) Which is the best estimate of $2\sqrt{7}$?

- ☐ A. 3.5 ☐ C. 7.0
☐ B. 14.0 ☐ D. 5.2

6) To simplify $\frac{(w^4)^3}{w^6}$, which law should be applied first?

- ☐ A. Quotient rule ☐ C. Product rule
☐ B. Zero exponent rule ☐ D. Power of a power rule



- 7) A proportional relationship is described by $y = 4x$. What is the unit rate?
- ☐ A. 1 ☐ C. 4
☐ B. 2 ☐ D. 8
- 8) Two students solve $2x + 5 = 11$ and get different answers: Student A gets $x = 3$ and Student B gets $x = 4$. Without solving, how can you determine which student is correct?
- ☐ A. Substitute each value into the original equation to check which one works
☐ B. Solve the equation and see who matched your answer
☐ C. Check which value is smaller
☐ D. Divide 11 by 2 to see which is closer
- 9) Which system represents two lines that intersect at exactly one point?
- ☐ A. $x = 2$ and $x = 2$ ☐ C. $y = x + 1$ and $y = x + 3$
☐ B. $y = 4$ and $y = 4$ ☐ D. $y = 2x + 1$ and $y = -x + 7$



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1) A die shows 6 faces numbered 1 through 6. What is the probability of rolling an even number?

- ☐ A. $\frac{1}{6}$
☐ B. $\frac{1}{2}$

- ☐ C. $\frac{2}{3}$
☐ D. $\frac{1}{3}$

2) Two complementary angles are in the ratio 3 : 7. What is the measure of the smaller angle?

- ☐ A. 18°
☐ B. 21°

- ☐ C. 27°
☐ D. 30°

3) A regular polygon has an interior angle of 162° . How many sides does it have?

- ☐ A. 18
☐ B. 20

- ☐ C. 22
☐ D. 25

4) A retail store analyzes 500 transactions. 350 included a sale item and 150 did not. Of those with a sale item, 245 were from returning customers. What relative frequency (as a percent) of transactions with sale items are from returning customers?

- ☐ A. 49%
☐ B. 56%

- ☐ C. 70%
☐ D. 84%

5)

Value	7	9	11	13
Deviation	?	1	1	?

The table shows values and their deviations from the mean. What is the MAD?

- ☐ A. 1.5
☐ B. 2

- ☐ C. 2.5
☐ D. 3



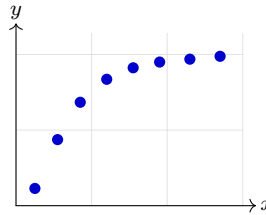
- 6) How many different 2-letter codes can be formed using the letters A, B, C, and D without repetition?

☐ A. $4 + 3 = 7$

☐ B. $4 \times 3 = 12$

☐ C. $\binom{4}{2} = 6$

☐ D. $4^2 = 16$



7)

A scatter plot shows years of experience (x-axis, 0–40 years) versus annual salary (y-axis, \$0–\$200k) for 100 workers. For the first 25 years, salaries increase steadily in a clear upward trend. After 25 years, salaries level off and stay relatively flat. What does this pattern indicate?

☐ A. The relationship is purely linear across all 40 years

☐ B. A single straight line can predict all salaries equally well

☐ C. The relationship changes: linear growth early, then levels off (plateau)

☐ D. Experience has no effect on salary after 25 years

- 8) Which best approximates $\sqrt{50}$?

☐ A. 6.5

☐ B. 7.5

☐ C. 5.0

☐ D. 7.1

- 9) Which is the best estimate of $\sqrt{50}$?

☐ A. 5.0

☐ B. 6.5

☐ C. 7.1

☐ D. 8.9



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1) Which of these functions is LINEAR?

☐ A. $y = 4x^2 - 1$

☐ C. $y = \frac{2}{x+3}$

☐ B. $y = 10x - 6$

☐ D. $y = 3^x$

2) A student states that the surface area of a cylinder with $r = 2$ and $h = 5$ is $SA = \pi r^2 + 2\pi rh = 4\pi + 20\pi = 24\pi$. What is the error?

☐ A. Used πr instead of πr^2 for one base

☐ C. The calculation is correct

☐ B. Forgot to count two circular bases

☐ D. Multiplied rh by 2 instead of 3

3) Which pair of points lies on the line $y = 3x + 2$?

☐ A. $(0, 2)$ and $(1, 4)$

☐ C. $(2, 9)$ and $(3, 11)$

☐ B. $(1, 5)$ and $(0, 3)$

☐ D. $(1, 5)$ and $(2, 8)$

4) What are the domain and range of the relation $\{(-2, 0), (0, 4), (2, 0), (4, 4)\}$?

☐ A. Domain: $\{-2, 2\}$; Range: $\{0\}$
☐ C. Domain: $\{0, 4\}$; Range:

☐ B. Domain: $\{-2, 0, 2, 4\}$; Range: $\{-2, 0, 2, 4\}$
 $\{0, 4\}$
☐ D. Domain: $\{-2, 0, 2\}$; Range: $\{4\}$

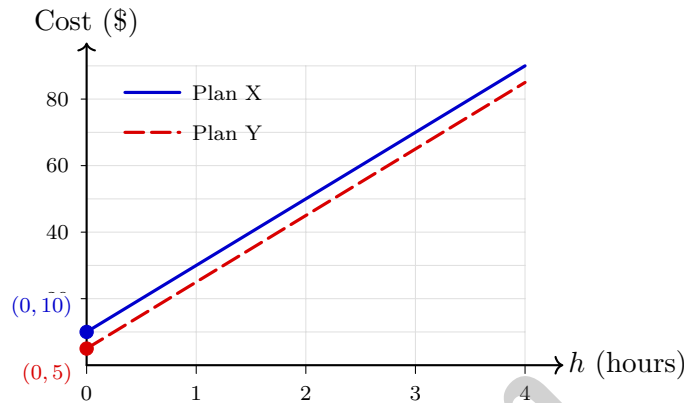
5) Function f : “starts at 5, increases by 3 each unit.” Function g given in table: $(0, 10)$, $(1, 12)$, $(2, 14)$. Which has the greater y -intercept?

x	0	1	2
$g(x)$	10	12	14

☐ A. Function f
☐ C. Both same.

☐ B. Function g
☐ D. Cannot compare.


- 6) Plan X: $C_X = 20h + 10$. Plan Y: $C_Y = 20h + 5$. Both have the same hourly rate of \$20. Which plan is cheaper initially?



- ☐ A. Plan X is cheaper initially.
 ☐ D. Cannot be determined from the equations.
- ☐ B. Plan Y is cheaper initially.
- ☐ C. Both cost the same initially.
- 7) A car's fuel consumption shows: rapid decrease at first, then slowing. Which behavior does this match?
- ☐ A. Draining a pool with a pump
 ☐ C. Linear fuel burn
- ☐ B. Radioactive decay (initial sharp drop, then levels off)
 ☐ D. Exponential growth
- 8) What are the coordinates of the image of point $(5, 0)$ after a reflection across the line $y = -x$?
- ☐ A. $(0, -5)$
☐ C. $(5, 0)$
- ☐ B. $(-5, 0)$
☐ D. $(0, 5)$



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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.NSO.1.5)** $4 \times 5 = 20$ and $10^{3+2} = 10^5$, so the arithmetic is correct. However, 20×10^5 violates the standard form requirement that the coefficient be between 1 and 10. Proper form: 2×10^6 .
- 2) **Choice D is correct.** **(MA.8.AR.3.5)** A horizontal line has slope 0 and is represented by $y = c$ where c is constant. Here, $c = 5$.
- 3) **Choice C is correct.** **(MA.8.AR.2.2)** Subtract 5: $-x > 3$. Multiply by -1 (FLIP): $x < -3$.
- 4) **Choice C is correct.** **(MA.8.GR.2.3)** A 180° rotation maps each point (x, y) to $(-x, -y)$, which sends Figure A directly onto Figure B. The size is unchanged, so no dilation is involved.
- 5) **Choice D is correct.** **(MA.8.NSO.1.2)** $\sqrt{7} \approx 2.646$, so $2\sqrt{7} \approx 5.29$.
- 6) **Choice D is correct.** **(MA.8.AR.1.1)** Simplify the numerator first: $(w^4)^3 = w^{12}$ (power of a power), then apply quotient rule.
- 7) **Choice C is correct.** **(MA.8.AR.3.1)** In $y = kx$, the constant of proportionality k is the unit rate. Here $k = 4$, so the unit rate is 4 units of y per 1 unit of x .
- 8) **Choice A is correct.** **(MA.8.AR.2.1)** Substitution is the definitive test: $2(3) + 5 = 11$ ✓ and $2(4) + 5 = 13 \neq 11$ ✗. Student A is correct.
- 9) **Choice D is correct.** **(MA.8.AR.4.2)** The first two systems are lines with different equations but the same form (both are $x = 2$ or $y = 4$, not two distinct lines). Option C has parallel lines (same slope, different intercepts). Option D has different slopes, so the lines intersect at exactly one point.
- 10) **Choice B is correct.** **(MA.8.AR.4.2)** The solid line (boundary included) with shading ABOVE indicates $y \geq x + 1$. Verify: $(3, 5)$ gives $5 \geq 3 + 1 = 4$ ✓ TRUE.
- 11) **The correct answer is 100.** **(MA.8.NSO.1.4)** When dividing powers with the same base, subtract the exponents. $10^{5-3} = 10^2$, and $10^2 = 100$, so 10^5 is 100 times larger than 10^3 .
- 12) **Choice A is correct.** **(MA.8.F.1.1)** Option A has each input mapping to exactly one output. Option B has input 1 mapping to two outputs. Option C has input 5 mapping to two outputs. Option D has input 2 mapping to two outputs.
- 13) **Choice B is correct.** **(MA.8.F.1.2)** A rate: 0.15. B rate: $(80 - 55)/(200 - 100) = 25/100 = 0.25$. Since $0.25 > 0.15$, B is higher.
- 14) **Choice A is correct.** **(MA.8.AR.3.5)** At constant speed with no initial distance, the slope is 60 mph and the intercept is 0. Equation: $d = 60h$.
- 15) **Choice A is correct.** **(MA.8.F.1.3)** Rising = increasing distance (driving away). Flat = constant distance (stopped). Falling = decreasing distance (returning home).
- 16) **The correct answer is 3.** **(MA.8.NSO.1.1)** Each radicand is between 4 and 9, so each square root is between 2 and 3.
- 17) **Choice D is correct.** **(MA.8.GR.2.3)** Reverse the translation: $(x, y) \rightarrow (x - 3, y + 5)$. So $(4, -2) \rightarrow (4 - 3, -2 + 5) = (1, 3)$.
- 18) **The correct answer is A, E.** **(MA.8.GR.1.5)** A is true because $V = 3.14(4^2)(10) = 502.4 \text{ cm}^3$. E is true because a cone's volume is one-third the volume of a cylinder with the same base and height. B is false because the sphere's volume is about 267.95 cm^3 , not the cylinder volume. C is false because the cone's volume with height 10 cm is about 167.47 cm^3 . D is false because a cylinder with height 6 cm has volume 301.44 cm^3 , which is greater than the sphere volume.
- 19) **Choice A is correct.** **(MA.8.GR.1.5)** Angle 1 (63°) and angle 2 (95°) form a triangle with angle 3. The angle corresponding to angle 1 (by the parallel line property) is 63° . Then by triangle angle sum: angle 3 = $180 - 63 - 95 = 22^\circ$.
- 20) **Choice A is correct.** **(MA.8.GR.1.2)** $d = \sqrt{(4 - 0)^2 + (0 - 3)^2} = \sqrt{16 + 9} = \sqrt{25} = 5$.
- 21) **Choice B is correct.** **(MA.8.GR.1.6)** Rectangle = $12 \times 6 = 72 \text{ ft}^2$. Each isosceles right triangle = $\frac{1}{2} \times 6 \times 6 = 18 \text{ ft}^2$. Two triangles = 36 ft^2 . Total = $72 + 36 = 108 \text{ ft}^2$.
- 22) **Choice D is correct.** **(MA.8.AR.3.5)** During promotional 0% APR, no interest accrues. Amount owed remains \$800 after 12 months.
- 23) **Choice A is correct.** **(MA.8.NSO.1.7)** Check each: A is correct. B: $\sqrt{64} = 8 \neq 7$. C: $\sqrt{100} = 10 \neq 5$. D: $\sqrt[3]{64} = 4 \neq 8$.
- 24) **Choice C is correct.** **(MA.8.AR.1.2)** FOIL: $(3x + 4)(2x - 1) = 6x^2 - 3x + 8x - 4 = 6x^2 + 5x - 4$.
- 25) **Choice D is correct.** **(MA.8.F.1.2)** A straight line indicates a linear function, regardless of slope or intercept. This graph clearly shows a straight line.



A Note for a Careful Thinker

Hi, Careful Thinker!

◇ This high-stamina book gave you nine substantial Grade 8 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. This book gave you room to practice the kind of thinking eighth graders need: modeling linear relationships, solving systems, connecting algebra and geometry, and interpreting data. ◇

★ **Remember this:** The goal was never just to finish pages. The goal was to become the kind of student who knows how to begin, how to adjust, and how to check. ★

Your Careful-Thinking Toolkit

- **Read Twice:** First for the story, second for the math.
- **Label Values:** Give each number a job.
- **Check Signs:** Negatives and inequalities deserve attention.
- **Use Evidence:** Let the work prove the answer.

Grade 8 test-day tip: On test day, underline the question before solving. It keeps your answer aimed at the right target.

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

Jay Daie

Your Math Practice Coach

CONFIDENCE TODAY, SUCCESS TOMORROW!

GRADE

8

Help your child excel in math with **9 full-length Grade 8 practice tests** designed to reflect real test formats and cover all key math standards.

With a wide variety of questions and real-world applications, this book builds the skills and confidence students need to achieve their best!



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 |
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