

FLORIDA FAST

GRADE 8 MATH

PRACTICE TESTS

5

PRINTED
TESTS



2

 ONLINE
TESTS

**Standards Aligned
Problem Solving For
Comprehensive Assessment Programs**



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

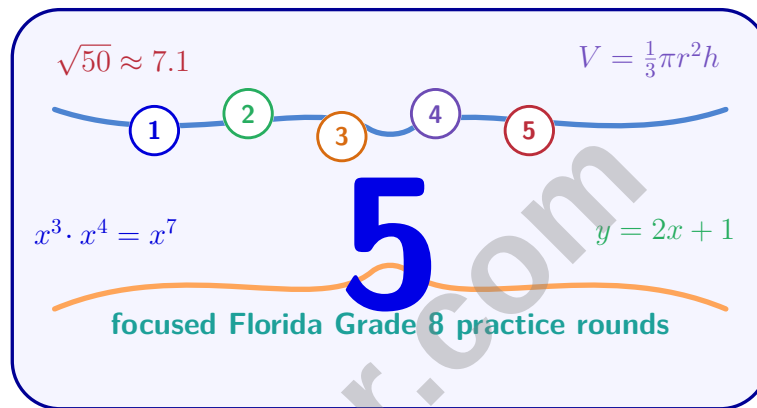


$$a^2 + b^2 = c^2$$



5 Florida FAST Grade 8 Math Practice Tests

Sharp FAST Review for Equations, Graphs, and Reasoning



Five 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!

Five focused rounds for sharper FAST math thinking

This book gives you five 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 five-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?

Five FAST tests, 200 questions, and a focused review path

Part	What You Will Practice
Tests 1–2	Real numbers, exponents, scientific notation, equations, and careful reading.
Tests 3–5	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) The table shows a linear function $m(x)$:

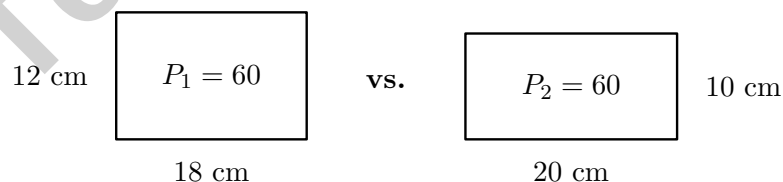
x	0	2	4	6
$m(x)$	5	11	?	23

What is $m(4)$?

- ☐ A. 15 ☐ C. 17
☐ B. 16 ☐ D. 18
- 2) A bakery produces 50 cookies per hour. After 4 hours, how many cookies have been produced?

- 3) Factor $x^2 - 8x + 15$.

- ☐ A. $(x - 3)(x - 5)$ ☐ C. $(x - 15)(x + 1)$
☐ B. $(x + 3)(x + 5)$ ☐ D. $(x - 2)(x - 8)$
- 4) A student claims that two rectangles are congruent because they both have a perimeter of 60 cm. Is the student correct?



- ☐ A. Yes, equal perimeters means congruence ☐ C. Yes, both are rectangles with $P = 60$
☐ B. No, the rectangles have different dimensions ☐ D. Cannot be determined without coordinates



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

- 6) A ladder leans against a wall. The slope of the ladder line is undefined. What does this indicate?

- ☐ A. The ladder is horizontal ☐ C. The ladder is at a 45° angle
☐ B. The ladder is on the ground ☐ D. The ladder is vertical

- 7) Sarah is 5 years older than Tom. In 5 years, the sum of their ages will be 45. How old is Tom now?

- ☐ A. 12 ☐ C. 15
☐ B. 18 ☐ D. 20

- 8) Which table represents a LINEAR function?

x	0	2	4	6
y	10	16	22	28

- ☐ A. No, y is always greater than x ☐ C. No, because x increases by 2
☐ B. Yes, the first difference is constant ☐ D. Yes, because all points are positive
(3 per unit change in x)



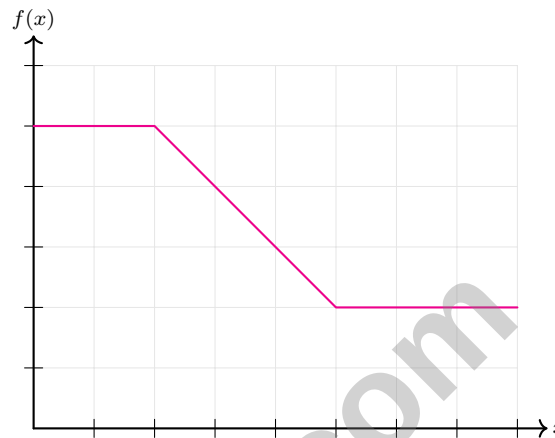
9) A line has slope -2 and y -intercept 5 . Which equation represents this line?

☐ A. $y = -2x + 5$

☐ C. $y = 5x - 2$

☐ B. $y = 2x + 5$

☐ D. $y = -2x - 5$



10)

Over the interval $[0, 3]$, is the function increasing, decreasing, or constant?

☐ A. Constant

☐ C. Increasing

☐ B. Both increasing and constant

☐ D. Decreasing

11) If a segment has length 15 units and is dilated by scale factor $\frac{2}{3}$, what is the length of the dilated segment?

☐ A. 10 units

☐ C. 22.5 units

☐ B. 15 units

☐ D. 20 units

12) In a right triangle, one acute angle measures 38° . What is the measure of the other acute angle?

☐ A. 38°

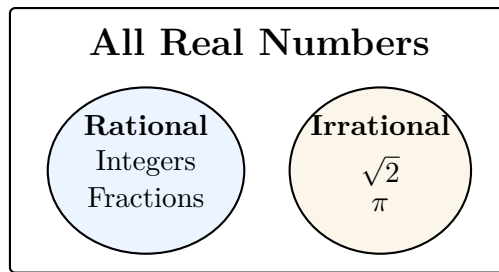
☐ C. 52°

☐ B. 42°

☐ D. 90°



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1)

Which statement is true?

- ☐ A. All square roots are irrational ☐ D. Every irrational number can be written as a fraction
☐ B. All integers are rational
☐ C. Some repeating decimals are irrational

2) Factor $x^2 - 11x + 24$.

- ☐ A. $(x - 3)(x - 8)$ ☐ C. $(x - 2)(x - 12)$
☐ B. $(x - 4)(x - 6)$ ☐ D. $(x + 3)(x + 8)$

3) Plan A costs \$15 per month: $A(m) = 15 + 0.10m$. Plan B shown in table: (0, \$20), (100, \$25), (200, \$30), (300, \$35). Which plan has the higher base cost?

m	0	100	200	300
Plan B	\$20	\$25	\$30	\$35

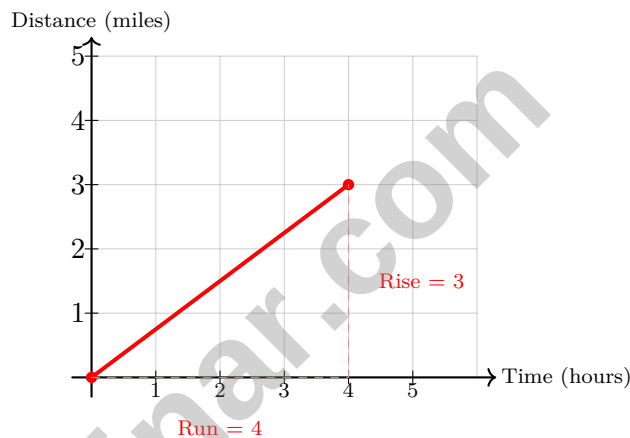
- ☐ A. Plan A ☐ C. Both cost the same.
☐ B. Plan B ☐ D. Cannot be determined.



- 4) Pentagon JKLMN is congruent to pentagon PQRST. In pentagon JKLMN, all sides have equal length and each interior angle measures 108° . What can you conclude about pentagon PQRST?

- ☐ A. It is a regular pentagon
☐ B. Its sides have different lengths
☐ C. Its interior angles are not 108°
☐ D. It is smaller than JKLMN

- 5) A car travels at a constant speed. The graph shows its distance from the start over time.



What is the slope (rate of change) of the car's distance?

- ☐ A. 1 mile per hour
☐ B. $\frac{4}{3}$ miles per hour
☐ C. $\frac{3}{4}$ miles per hour
☐ D. 4 miles per hour
- 6) Alice, Bob, and Clara are three friends. Alice is twice as old as Bob. Clara is 1 year older than Bob. The sum of all their ages is 49 years. How old is Bob?

- ☐ A. 8
☐ B. 10
☐ C. 12
☐ D. 14



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- 1) Two-way table of 300 students by GPA level and tutoring status:

	Tutored	Not Tutored	Total
High GPA	60	90	150
Low GPA	80	70	150
Total	140	160	300

Is there evidence of an association between tutoring and GPA? Justify using relative frequencies.

- ☐ A. No; both groups have identical relative frequencies for tutoring.
 ☐ C. No; the joint frequency $\frac{60}{300} = 0.20$ equals the product of marginals.
- ☐ B. Yes; high GPA students are tutored at $\frac{60}{150} = 0.40$, while low GPA at $\frac{80}{150} \approx 0.53$.
 ☐ D. Yes; 80 low-GPA students are tutored, compared to 60 high-GPA.
- 2) A loan of \$5,000 at 5% simple interest is repaid in 4 equal annual installments. What is the total amount paid?
- ☐ A. \$5,000
 ☐ C. \$6,000
☐ B. \$5,500
 ☐ D. \$6,250
- 3) A scientist measures a particle with mass $m = 10^{-6}$ kilograms. Rewrite this as a fraction.
- ☐ A. $\frac{1}{6}$ kg
 ☐ C. 10^6 kg
☐ B. -10^6 kg
 ☐ D. $\frac{1}{10^6}$ kg



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4) What is $\sqrt{361}$?

☐ A. 18

☐ C. 20

☐ B. 21

☐ D. 19

5) $(6.5 \times 10^5) - (3.2 \times 10^5) = ?$

☐ A. 3.3×10^0

☐ C. 3.3×10^5

☐ B. 9.7×10^5

☐ D. 0.33×10^5

6) Factor $4x + 12$ completely.

☐ A. $4(x + 3)$

☐ C. $12(x + 1)$

☐ B. $2(2x + 6)$

☐ D. $x + 12$

7) Function $f(x) = \frac{3}{4}x + 2$ and g shown in table: $(0, 3)$, $(4, 5)$, $(8, 7)$. Which has steeper slope?

x	0	4	8
$g(x)$	3	5	7

☐ A. $f(x)$ is steeper

☐ C. Equal slopes

☐ B. $g(x)$ is steeper

☐ D. Cannot compare

8) Quadrilateral ABCD is mapped onto quadrilateral A'B'C'D' by a translation 3 units right and 2 units up. Which statement must be true?

☐ A. The perimeters are different

☐ C. Angle A is greater than angle A'

☐ B. The quadrilaterals are congruent

☐ D. Side AB is longer than side A'B'



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 C is correct.** (MA.8.F.1.1) The pattern shows the function increases by 3 for each unit increase in x (or by 6 for each 2-unit increase). So $m(4) = 11 + 6 = 17$.
- 2) **The correct answer is 200.** (MA.8.AR.3.1) Compute $50 \times 4 = 200$.
- 3) **Choice A is correct.** (MA.8.AR.1.2) Find two numbers that multiply to 15 and add to -8 : -3 and -5 . So $x^2 - 8x + 15 = (x - 3)(x - 5)$.
- 4) **Choice B is correct.** (MA.8.GR.2.1) Equal perimeters do NOT guarantee congruence. Rectangle 1 is 18×12 cm, while Rectangle 2 is 20×10 cm. Congruence requires equal corresponding sides, not just equal perimeters.
- 5) **The correct answer is $(5, 3)$.** (MA.8.AR.4.2) Add the two equations to eliminate y : $(x + y) + (x - y) = 8 + 2$, so $2x = 10$, giving $x = 5$. Substitute into the first equation: $5 + y = 8$, so $y = 3$.
- 6) **Choice D is correct.** (MA.8.AR.3.2) An undefined slope occurs when $\Delta x = 0$, meaning the line is vertical. Dividing by zero (run = 0) is undefined.
- 7) **Choice C is correct.** (MA.8.AR.4.3) Let t = Tom's current age. Sarah's current age is $t + 5$. In 5 years, their ages are $t + 5$ and $t + 10$, so $(t + 5) + (t + 10) = 45$. Then $2t + 15 = 45$, so $t = 15$.
- 8) **Choice B is correct.** (MA.8.F.1.2) The y -differences are $16 - 10 = 6$, $22 - 16 = 6$, $28 - 22 = 6$. Since x changes by 2 each time, the rate of change is $\frac{6}{2} = 3$, constant and linear.
- 9) **Choice A is correct.** (MA.8.AR.3.5) Using $y = mx + b$ with $m = -2$ and $b = 5$: equation is $y = -2x + 5$.
- 10) **Choice D is correct.** (MA.8.F.1.3) From $x = 0$ to $x = 3$, the function values drop from 5 to 2, so the function is decreasing over this interval.
- 11) **Choice A is correct.** (MA.8.GR.2.3) Under dilation by scale factor k , length is multiplied by k . So $15 \times \frac{2}{3} = 10$.
- 12) **Choice C is correct.** (MA.8.GR.1.5) In a right triangle, the two acute angles are complementary: $38 + x = 90$, so $x = 52^\circ$.
- 13) **Choice B is correct.** (MA.8.GR.1.1) The 7-24-25 triple applies directly: $d^2 = 7^2 + 24^2 = 49 + 576 = 625$, so $d = 25$ cm.
- 14) **Choice B is correct.** (MA.8.GR.1.2) The distance formula comes from the Pythagorean Theorem applied to the horizontal and vertical legs of a right triangle.
- 15) **Choice C is correct.** (MA.8.GR.1.4) If the angles are $2k$ and $3k$, then $2k + 3k = 90$, so $5k = 90$ and $k = 18^\circ$. The angles are 36° and 54° .
- 16) **Choice B is correct.** (MA.8.GR.1.1) $192 = \frac{1}{3} \times 64 \times h \Rightarrow h = \frac{192 \times 3}{64} = \frac{576}{64} = 9$ cm.
- 17) **Choice C is correct.** (MA.8.GR.1.6) Rectangle = $10 \times 3 = 30$ in². Trapezoid = $\frac{1}{2}(6 + 10) \times 4 = 32$ in². Add the two parts: $30 + 32 = 62$ in².
- 18) **Choice D is correct.** (MA.8.GR.1.6) The sum for a quadrilateral is $(4 - 2) \times 180 = 360^\circ$. Each angle of a square is $\frac{360}{4} = 90^\circ$.
- 19) **Choice C is correct.** (MA.8.DP.1.1) 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) **Choice B is correct.** (MA.8.DP.1.2) This is a joint frequency (read directly from the cell). Row label **Boys**, column **Basketball**: entry is 20.
- 21) **The correct answer is A,B.** (MA.8.NSO.1.5) Division rule: divide coefficients ($6.4 \div 1.6 = 4$, choice A) and subtract exponents ($-3 - (-5) = 2$, choice B). This gives 4×10^2 . Choice C is wrong, choice D incorrectly adds exponents, and choice E has the wrong exponent sign.
- 22) **Choice D is correct.** (MA.8.GR.1.2) If $MAD = 0$, every value must equal the mean exactly, which happens only when all values are the same.
- 23) **Choice D is correct.** (MA.8.DP.2.1) Even: 2, 4, 6. Less than 3: 1, 2. Union: 1, 2, 4, 6. That's 4 outcomes. $P = \frac{4}{6} = \frac{2}{3}$.
- 24) **Choice B is correct.** (MA.8.AR.2.1) For each of the 5 color choices, you can pair it with any of the 9 numbers. By the Counting Principle, multiply: $5 \times 9 = 45$ different passwords.
- 25) **Choice B is correct.** (MA.8.DP.1.3) $MAD = \frac{|-3| + |2| + |-1| + |4| + |-2|}{5} = \frac{3+2+1+4+2}{5} = \frac{12}{5} = 2.4$.



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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 5 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 **5 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 |
| ✓ Measurement & Data | ✓ And More! |

5
PRINTED
TESTS



2 ONLINE
TESTS



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