

10

Georgia

Milestones

GRADE

8

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

10

PRINTED
TESTS



2

ONLINE
TESTS



Build Confidence



Master Key Math Skills

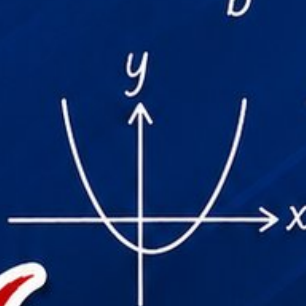
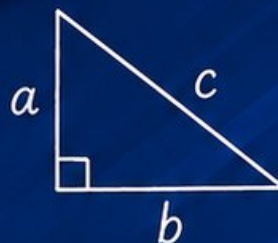


Answer Explanations for
Every Question



Test-Taking Strategies
That Work

$$y = mx + b$$



$$3x - 7 = 2(x + 5)$$
$$x = 17$$

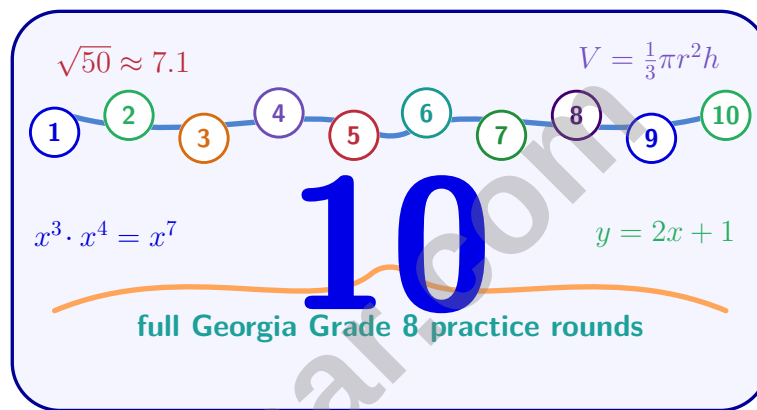


USE THESE TWO
**ADDITIONAL ONLINE
PRACTICE TESTS**

FOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.

10 Georgia Milestones Grade 8 Math Practice Tests

Georgia Grade 8 Milestones Practice for confident mixed review through linear relationships, algebra, geometry, data analysis, and chance



Ten complete 40-question Grade 8 Milestones practice rounds with linear relationships, scientific notation, real numbers, equations, functions, geometry, data analysis, probability, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari



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Welcome, Georgia Grade 8 Problem Solver!

Ten focused rounds for sharper Georgia Milestones math thinking

This book gives you ten full Grade 8 Milestones math practice tests. Each round is built to help you notice structure, compare quantities, use linear reasoning, handle real numbers, and explain your thinking with care.

Grade 8 standards focus: This page supports **Sketching and Describing Function Graphs** (8.FGR.5.2): Sketch a graph that exhibits the qualitative features of a function described verbally. You will also meet **Angles in Triangles and Parallel Lines** (8.GSR.8): Angle relationships are not a dedicated GA 2023 Grade 8 standard.

Your Georgia 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 ten-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 a proportion, equation, diagram, number line, 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.

Grade 8 standards focus: Keep the routine connected to **Transformations on the Coordinate Plane** (8.GSR.8): Coordinate transformations are not a dedicated GA 2023 Grade 8 standard. A second useful connection is **Fitting a Line to Data** (8.FGR.6.1): Visually fit a straight line and assess the model fit.

Georgia 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?

Ten Georgia Milestones tests, 400 questions, and a complete review path

Part	What You Will Practice
Tests 1–3	Linear relationships, integer exponents, scientific notation, real-number reasoning, and careful reading.
Tests 4–6	Expressions, equations, inequalities, transformations, geometry, and multi-step problem solving.
Tests 7–9	Data analysis, probability, mixed review, stamina, and choosing efficient strategies.
Test 10	A final Georgia round to show growth across the whole book.
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.

Grade 8 standards focus: Use these habits while practicing **The Pythagorean Theorem** (8.GSR.8.2): Apply the Pythagorean Theorem to determine unknown side lengths in right triangles. It also prepares you for **Solving Linear Inequalities** (8.PAR.3.5): Solve linear equations and inequalities in one variable with coefficients represented by letters and explain the solution based on the contextual, mathematical situation.



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& answers

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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 cylindrical grain silo has a diameter of 10 feet and a height of 20 feet. The curved exterior wall must be painted. If paint costs \$2 per square foot, what is the total cost of paint needed? (Use $\pi \approx 3.14$.)

☐ A. \$314

☐ C. \$1,256

☐ B. \$628

☐ D. \$1,570

3) 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

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

☐ A. $(1, -3)$

☐ C. $(3, 1)$

☐ B. $(2, -1)$

☐ D. $(4, 3)$

5) Multiply: $(x + 3)(x - 5)$

☐ A. $x^2 - 15$

☐ C. $x^2 - 2x - 15$

☐ B. $x^2 + 3x - 5$

☐ D. $x^2 + 8x - 15$



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- 6) A student borrows \$1,500 for college at 4% simple interest and repays over 10 years. What is the total amount owed?

- 7) Which graph does NOT represent a function?



- ☐ A. A line passing through $(0, 2)$ and $(2, 6)$.
☐ B. A horizontal line at $y = 5$.
☐ C. A curve shaped like a sideways parabola opening right.
☐ D. A diagonal line with negative slope.
- 8) If $\frac{b^n}{b^4} = b^6$, what is the value of n ?

- 9) Function u passes through $(0, -1)$ and $(2, 3)$. Function $v(x) = -x + 5$. Which has a positive slope?

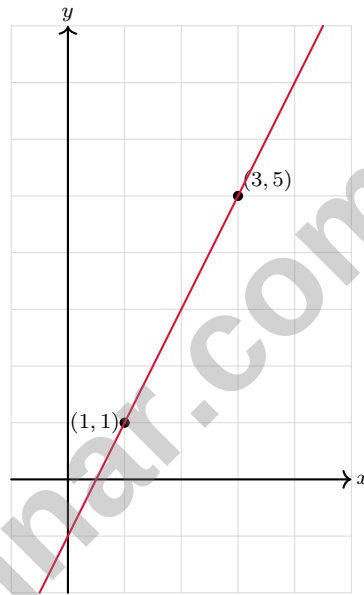
- ☐ A. Only u
☐ B. Only v
☐ C. Both u and v
☐ D. Neither u nor v



10) A line passes through $(1, 3)$ and $(3, 7)$. Is this a linear relationship?

- ☐ A. No, the slope is not 1 ☐ C. Yes, a line is always linear
☐ B. No, because you need more than two points ☐ D. Yes, only if the slope is positive

11) The graph below shows a line. Which equation represents this line?



- ☐ A. $y = 2x - 1$ ☐ C. $y = 2x + 1$
☐ B. $y = x$ ☐ D. $y = \frac{1}{2}x + \frac{1}{2}$



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- 1) An event coordinator needs to select a chairperson from 4 candidates, a secretary from 5 candidates, and a treasurer from 3 candidates. How many different leadership teams can be formed?

☐ A. $4 + 5 + 3 = 12$

☐ C. $5^{4+3} = 5^7$

☐ B. $4 \times 5 \times 3 = 60$

☐ D. $(4 + 5) \times 3 = 27$

- 2) A data analyst fits two different trend lines to a scatter plot. Line A has MAD (mean absolute deviation of residuals) = 0.3, while Line B has MAD = 0.8. Which conclusion is justified?

☐ A. Line B is better because it has a higher MAD

☐ C. Both lines are equally good

☐ B. Line A is better because residuals are closer to zero

☐ D. We cannot compare lines using MAD alone

- 3) A point $Q(6, 8)$ is dilated to $Q'(3, 4)$. If the dilation center is the origin, what is the scale factor?

☐ A. 2

☐ C. 3

☐ B. $\frac{1}{2}$

☐ D. $\frac{1}{3}$

- 4) A phone plan charges based on minutes used. The table shows the cost $C(m)$ for m minutes.

Minutes (m)	100	200	300	400
Cost ($C(m)$)	\$20	\$30	\$40	\$50

What is $C(200)$?

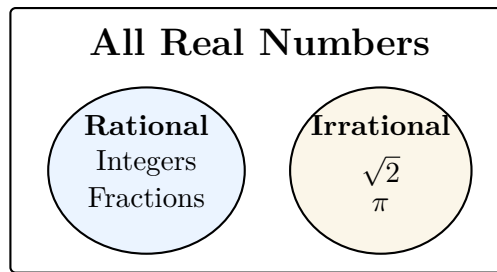
☐ A. \$20

☐ C. \$30

☐ B. \$40

☐ D. \$50





5)

Which statement is true?

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

6) Which of these equals $0.\overline{16}$?

- | | |
|---|---|
| ☐ A. $\frac{5}{36}$
☐ B. $\frac{16}{99}$ | ☐ C. $\frac{16}{100}$
☐ D. $\frac{1}{6}$ |
|---|---|

7) Which is the best estimate of $3\sqrt{5}$?

- | | |
|--|--|
| ☐ A. 4.5
☐ B. 6.0 | ☐ C. 6.7
☐ D. 9.8 |
|--|--|

8) A bank offers 6% simple interest. If you deposit \$5,000 for 18 months, how much interest will you earn?

- | | |
|--|--|
| ☐ A. \$300
☐ B. \$900 | ☐ C. \$600
☐ D. \$450 |
|--|--|



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1) The best-fit line for a dataset is $y = 0.6x + 2.4$. Is the relationship positive or negative?

☐ A. Positive (slope > 0)

☐ C. No relationship

☐ B. Negative (slope < 0)

☐ D. Cannot be determined

2) The area of a rectangular field is $(7 \times 10^3) \text{ m} \times (4 \times 10^2) \text{ m}$. What is the area in square meters, in scientific notation?

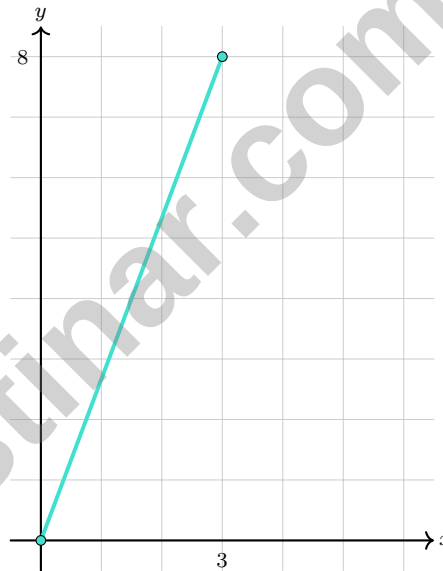
☐ A. 28×10^4

☐ C. 2.8×10^6

☐ B. 11×10^5

☐ D. 2.8×10^7

3)



What is y when $x = 6$?

☐ A. 12

☐ C. 16

☐ B. 14

☐ D. 18



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& answers

- 4) A runner travels at a constant speed of 5 mph. What is the constant rate in $d = 5t$?

- 5) A bicycle rental costs \$5 base fee plus \$3 per hour. If the relationship is graphed with hours on the x -axis and cost on the y -axis, what is the slope?

- ☐ A. $\frac{3}{5}$
☐ B. 8

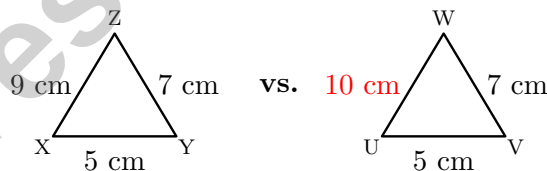
- ☐ C. 3
☐ D. 5

- 6) A movie theater offers two pricing schemes: Scheme A costs \$8 per ticket, Scheme B costs \$60 upfront plus \$3 per ticket. For how many tickets is Scheme A cheaper?

- ☐ A. Fewer than 12 tickets
☐ B. Fewer than 10 tickets

- ☐ C. Fewer than 15 tickets
☐ D. Fewer than 8 tickets

- 7) Triangle XYZ is congruent to triangle UVW. The sides of triangle XYZ are 5 cm, 7 cm, and 9 cm. A student claims triangle UVW must have sides 5 cm, 7 cm, and 10 cm. Why is the student incorrect?



- ☐ A. Congruent triangles have equal corresponding sides
☐ B. UVW must have sides 7, 5, 9 in a different order
- ☐ C. The side lengths don't need to match
☐ D. The student counted incorrectly



Georgia Milestones 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 Georgia Milestones practice test.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice D is correct.** (8.FGR.5.5) Using $y = mx + b$: $5 = \frac{1}{2}(1) + b$, so $5 = \frac{1}{2} + b$, thus $b = \frac{9}{2}$.
- 2) **Choice C is correct.** (8.GSR.8.4) Radius $r = 5$ feet. Lateral (curved) surface area $= 2\pi rh = 2(3.14)(5)(20) = 628$ sq. ft. Cost $= 628 \times \$2 = \$1,256$.
- 3) **Choice C is correct.** (8.PAR.3.2) Expand the right side: $6x - 4 = 6x - 4$. Both sides are identical, so every value of x is a solution.
- 4) **Choice A is correct.** (8.FGR.7.2) Substitute $y = 2x - 5$ into $4x - y = 7$: $4x - (2x - 5) = 7$, so $2x + 5 = 7$ and $x = 1$. Then $y = 2(1) - 5 = -3$, so the solution is $(1, -3)$.
- 5) **Choice C is correct.** (8.PAR.3.3) FOIL: $(x + 3)(x - 5) = x^2 - 5x + 3x - 15 = x^2 - 2x - 15$.
- 6) **The correct answer is \$1,800.** (8.GSR.8.4) Interest: $I = 1500 \times 0.04 \times 10 = \600 . Total: $1500 + 600 = \$1,800$.
- 7) **Choice C is correct.** (8.FGR.5.1) A sideways parabola (opening right or left) fails the vertical line test because some vertical lines intersect it twice. The other options all pass the vertical line test.
- 8) **The correct answer is 10.** (8.NR.2.1) Using the quotient rule, $n - 4 = 6$, so $n = 10$. Verification: $\frac{b^{10}}{b^4} = b^6$.
- 9) **Choice A is correct.** (8.FGR.5.4) Slope of u : $(3 - (-1))/(2 - 0) = 4/2 = 2 > 0$. Slope of v : $-1 < 0$. Only u is positive.
- 10) **Choice C is correct.** (8.FGR.5.2) By definition, a line represents a linear function. Since the graph is a line, the relationship is linear.
- 11) **Choice A is correct.** (8.FGR.5.7) Slope: $m = \frac{5-1}{3-1} = \frac{4}{2} = 2$. Using point $(1, 1)$: $1 = 2(1) + b \Rightarrow b = -1$. Equation: $y = 2x - 1$.
- 12) **Choice B is correct.** (8.FGR.5.2) The change in slope (from $3/4$ to $(4.5 - 3)/(7 - 4) = 0.5$ per meter) indicates a change in the rate structure. Option B explains why: different geological layers can cost differently. A is wrong because the slope changes, C is wrong because the line continues, and D is wrong because the slope stays positive.
- 13) **Choice B is correct.** (8.GSR.8) Congruent figures have equal corresponding sides. Since both octagons have 8 sides of 5 cm each, both have perimeter $8 \times 5 = 40$ cm.
- 14) **Choice A is correct.** (8.GSR.8) The y -coordinate stays the same while the x -coordinate negates. This is reflection across the y -axis: $(x, y) \rightarrow (-x, y)$.
- 15) **Choice C is correct.** (8.GSR.8) In an equilateral triangle, all three angles are equal. Since they sum to 180° , each angle is $180 \div 3 = 60^\circ$.
- 16) **Choice A is correct.** (8.GSR.8.2) From $(\sqrt{2})^2 + (\sqrt{2})^2 = c^2$, we get $2 + 2 = 4$, so $c = 2$.
- 17) **Choice D is correct.** (8.GSR.8.3) $c^2 = 5^2 + 12^2 = 25 + 144 = 169$, so $c = \sqrt{169} = 13$.
- 18) **The correct answer is A, C.** (8.GSR.8.2) A is correct: $P(\text{heads}) = \frac{1}{2}$. C is correct: $P(\text{heads and 4}) = \frac{1}{2} \times \frac{1}{6} = \frac{1}{12}$. B is wrong: $P(4) = \frac{1}{6}$. D is wrong: total outcomes $= 12$. E is wrong: $P(\text{not heads}) = \frac{1}{2}$.
- 19) **Choice B is correct.** (8.GSR.8.4) $V = \frac{1}{3}\pi r^2 h = \frac{1}{3} \times 3.14 \times 81 \times 14 = \frac{1}{3} \times 3560.76 = 1186.92 \text{ cm}^3$.
- 20) **Choice C is correct.** (8.GSR.8.2) When a transversal cuts two parallel lines, it creates 8 angles: 4 angles of measure 157° (corresponding and vertical angles) and 4 angles of measure 23° (supplements).
- 21) **Choice A is correct.** (8.GSR.8.4) $V = \frac{1}{3} \times 6.25 \times 9.6 = \frac{60}{3} = 20 \text{ m}^3$.
- 22) **Choice B is correct.** (8.FGR.6.3) A polygon with n sides can be divided into $n - 2$ triangles. Since each triangle has interior angles summing to 180° , the total sum is $(n - 2) \times 180$.
- 23) **Choice B is correct.** (8.FGR.6.4) A U-shaped (parabolic) curve is nonlinear. It cannot be well-approximated by a straight line. The relationship changes direction, which is incompatible with simple linear regression assumptions.
- 24) **Choice B is correct.** (8.FGR.6.2) Break-even when $R = 0$: $0 = 45s - 200 \Rightarrow s = \frac{200}{45} \approx 4.44$. Loss occurs when $s < 4.44$, or below 5 shirts.
- 25) **Choice C is correct.** (8.FGR.6.4) Column-conditional frequency: among Science club (column total 216), Math-lovers are 84. Divide by column total, not row or grand total.
- 26) **The correct answer is 7.** (8.NR.2.2) $\sqrt[3]{343} = 7$ because $7 \times 7 \times 7 = 343$.



You Are Building Test Stamina

Hi, Stamina Builder!

◇ This full-length book gave you ten complete Grade 8 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. Completing practice tests builds more than math knowledge. It builds the focus needed to think clearly for a long stretch. ◇

★ **Remember this:** That stamina matters. On real test day, calm pacing can be just as important as remembering a formula. ★

Stamina Skills

- **Breathe:** Reset before a difficult page.
- **Pace:** Do not spend too long in one place.
- **Return:** Come back to skipped questions with fresh eyes.
- **Finish Strong:** Use the last minutes to check.

Grade 8 test-day tip: Practice a simple reset: pause, breathe, reread, then choose your next step.

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

Jay Daie

Your Test-Stamina Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **10** full-length Math practice tests and **2** online tests to help Grade 8 students build confidence, strengthen skills, and excel on standardized assessments.

Each practice test is carefully crafted to reflect the latest standards and includes a variety of question types, realistic test conditions, and detailed answer explanations.

Perfect for classroom use, homework, test preparation, and extra practice at home.



THIS BOOK INCLUDES:

10

Full-Length
Printed Tests

2

Online
Practice Tests



Detailed Answers
& Explanations



**MORE PRACTICE.
GREATER RESULTS.**

Give your child the tools to build strong math skills, confidence, and a positive attitude toward learning.

WHAT YOU'LL GAIN



**Build
Confidence**

Practice regularly to feel prepared and test-ready.



**Master
Key Skills**

Develop strong math skills and problem solving abilities.



**Improve
Understanding**

Learn with clear explanations and step-by-step solutions.



**Test
Strategies**

Learn proven strategies to approach every question with confidence.



**Boost
Performance**

Apply your knowledge and achieve your best score!

TOPICS COVERED

- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Inequalities
- ✓ Functions
- ✓ Geometry
- ✓ Ratios & Proportions
- ✓ Statistics & Probability
- ✓ Data Analysis
- ✓ Measurement
- ✓ Pythagorean Theorem
- ✓ Surface Area & Volume
- ✓ And More!



2 ONLINE TESTS

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



2 EXTRA ONLINE TEST ACCESS CODE IS INSIDE THE BOOK!

Don't lose it—your extra practice and success start here!



PRACTICE
REGULARLY



STAY
FOCUSED



SOLVE
CONFIDENTLY



SUCCEED
BRIGHTLY