

8

Mississippi

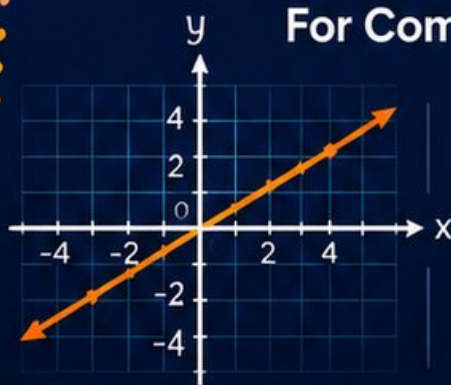
MAAP

GRADE 8

MATH

PRACTICE TESTS

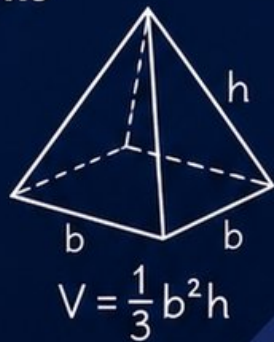
Standards Aligned Problem Solving
For Comprehensive Assessment Programs



$$A = \pi r^2$$

$$C = 2\pi r$$

$$V = \frac{1}{3}\pi r^2 h$$



8

 PRINTED TESTS

2

 ONLINE TESTS

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

8 Mississippi MAAP Grade 8 Math Practice Tests

Mississippi Grade 8 Review for Functions, Geometry, and Data Skills



Eight complete 40-question Grade 8 MAAP 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, Mississippi Grade 8 Problem Solver!

Eight focused rounds for sharper MAAP math thinking

This book gives you eight full Grade 8 MAAP 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 Mississippi 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

An eight-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.

Mississippi 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?

Eight MAAP tests, 320 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 7–8	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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For more practice
& answers

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1) Solve: $6 - 2x \geq -2$

☐ A. $x \leq 4$

☐ C. $x \leq -4$

☐ B. $x \geq 4$

☐ D. $x \geq -4$

2) A gardening store surveys 200 customers on plant purchase preferences. 140 bought flowering plants and 60 bought non-flowering. Among flowering-plant buyers, 98 also purchased fertilizer. What percentage of all customers bought both flowering plants and fertilizer?

☐ A. 49%

☐ C. 70%

☐ B. 56%

☐ D. 82%

3) A scatter plot shows the relationship between hours studied (x) and test score (y). The line of best fit has the equation $y = 8x + 50$. What does the slope of 8 represent?

☐ A. For each hour studied, the test score increases by 8 points on average

☐ C. The y-intercept is 8 units above the origin

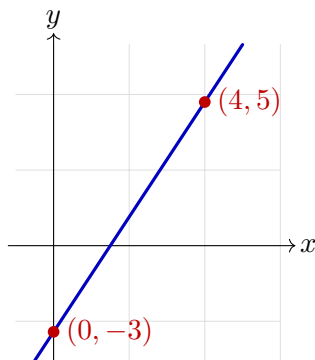
☐ B. The test score when 8 hours are studied

☐ D. For each point increase in test score, hours studied increases by 8

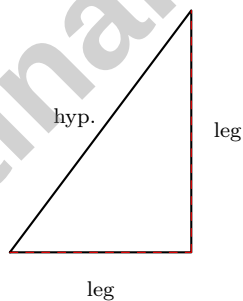


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- 4) The graph shows a line through $(0, -3)$ and $(4, 5)$. Find the slope of the line.



- 5) Which right triangle dimensions follow the Pythagorean Theorem?



☐ A. 3, 4, 5

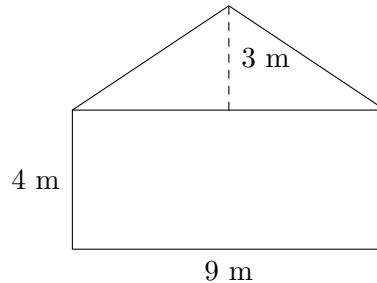
☐ C. 2, 3, 4

☐ B. 5, 10, 12

☐ D. 1, 2, 3



- 6) A student mistakenly calculated the area of a composite figure (rectangle 9 m by 4 m plus triangle base 9 m, height 3 m) by adding $9 + 4 + \frac{1}{2} \times 9 \times 3 = 26.5$ instead of computing the rectangle's area. What is the correct total area?



- ☐ A. 49.5 m^2
☐ C. 54 m^2
☐ B. 49.5 units
 ☐ D. 58.5 m^2
- 7)
- | Sales | \$100 | \$150 | \$200 | \$250 | \$300 |
|-------|-------|-------|-------|-------|-------|
| | | | | | |
- Five days of sales shown. Mean = \$200. What is the MAD?
- ☐ A. \$40
 ☐ C. \$60
☐ B. \$50
 ☐ D. \$75
- 8) How many different 2-letter codes can be formed using the letters A, B, C, and D without repetition?
- ☐ A. $4 + 3 = 7$
☐ C. $\binom{4}{2} = 6$
☐ B. $4 \times 3 = 12$
☐ D. $4^2 = 16$
- 9) Which expression equals a rational number?
- ☐ A. $\sqrt{2} \times \sqrt{3}$
☐ C. $\sqrt{3} + \sqrt{3}$
☐ B. $\sqrt{4} + \sqrt{5}$
☐ D. $\sqrt{9} \times \sqrt{4}$



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- 1) A schedule allows you to pick a morning activity and an afternoon activity from the list below. Morning: hiking or swimming. Afternoon: painting, music, or reading. How many different schedules are possible?

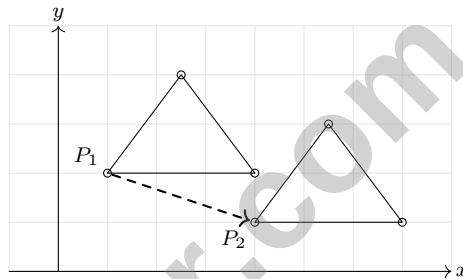
☐ A. $2 + 3 = 5$

☐ C. $3^2 = 9$

☐ B. $2 \times 3 = 6$

☐ D. $(2 + 3)^2 = 25$

- 2) Two congruent polygons are positioned on a coordinate grid. Polygon 1 has vertices at $(1, 2)$, $(4, 2)$, and $(2.5, 4)$. Polygon 2 is translated 3 units right and 1 unit down. Which set of coordinates represents Polygon 2?



☐ A. $(1, 2), (4, 2), (2.5, 4)$

☐ C. $(4, 1), (7, 1), (5.5, 3)$

☐ B. $(2, 3), (5, 3), (3.5, 5)$

☐ D. $(0, 3), (3, 3), (1.5, 5)$

- 3) A car depreciates \$2000 per year. It is worth \$18,000 now. Which equation gives its value V after t years?

☐ A. $V = 2000t + 18000$

☐ C. $V = 18000t - 2000$

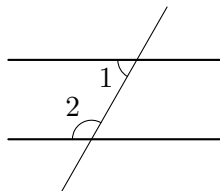
☐ B. $V = -2000t + 18000$

☐ D. $V = 18000 - t$



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- 4) Which angle pair is formed when a transversal crosses two parallel lines and both angles are on the same side of the transversal and between the lines?



- ☐ A. Alternate interior angles ☐ C. Co-interior angles
☐ B. Corresponding angles ☐ D. Alternate exterior angles
- 5) A two-way table shows 160 athletes:

	Morning	Evening	Total
Track	50	30	80
Swim	35	45	80
Total	85	75	160

What percentage of all athletes train in the morning on the track team?

- ☐ A. 31.25% ☐ C. 58.8%
☐ B. 37.5% ☐ D. 62.5%
- 6) A data set has residuals: $-3, 2, -1, 4, -2$. Which statement is true?
- ☐ A. The sum of residuals is 5 ☐ C. All points lie exactly on the trend line
☐ B. The mean absolute residual (MAD) is 2.4 ☐ D. The trend line is a poor fit because some residuals are negative



- 1) Each interior angle of a regular polygon is 108° . How many sides does the polygon have?
- ☐ A. 5 ☐ C. 7
☐ B. 6 ☐ D. 8
- 2) Which ordered pair is NOT in the solution region of $x + y \leq 4$?
- ☐ A. (1, 2) ☐ C. (0, 4)
☐ B. (2, 2) ☐ D. (3, 2)
- 3) Which property is preserved under all three rigid transformations (translation, reflection, and rotation)?
- ☐ A. Position on the coordinate plane ☐ C. Length of sides
☐ B. Orientation (clockwise vs. counterclockwise) ☐ D. Size relative to other figures
- 4) What is $(-3)^{-2}$?
- ☐ A. $-\frac{1}{9}$ ☐ C. -9
☐ B. 9 ☐ D. $\frac{1}{9}$
- 5) If $1.5 \times 10^4 = 15,000$, then $(1.5 \times 10^4) \times 10 = ?$
- ☐ A. 15×10^5 ☐ C. 150,000
☐ B. 1.5×10^3 ☐ D. 1.5×10^{40}
- 6) Solve for x : $-3(x - 2) = 9$
- ☐ A. $x = -1$ ☐ C. $x = -5$
☐ B. $x = 5$ ☐ D. $x = 1$



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7) Solve by substitution:
$$\begin{cases} x = 4 - y \\ x + 3y = 8 \end{cases}$$

☐ A. (0, 4)

☐ C. (2, 2)

☐ B. (1, 3)

☐ D. (3, 1)

8) A through (0, 2) and (1, 5). B through (0, -1) and (1, 1). Which has greater rate?

☐ A. Function A
☐ C. Both same.

☐ B. Function B
☐ D. Cannot be determined.

9) A company's profit P (in dollars) after n years is given by $P = 1000n^2 + 500$. Is this linear or nonlinear?

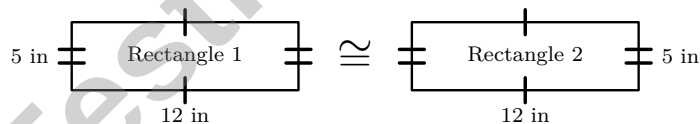
☐ A. Linear; profit increases steadily

☐ C. Linear; the equation has two terms

☐ B. Nonlinear; n is squared, creating a parabola

☐ D. Nonlinear; profit must eventually decrease

10) Two congruent rectangles are shown. Rectangle 1 has a length of 12 inches and a width of 5 inches. What is the perimeter of Rectangle 2?


☐ A. 17 inches

☐ C. 34 inches

☐ B. 24 inches

☐ D. 60 inches


Mississippi MAAP 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 Mississippi MAAP practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** (8.EE.7b) Subtract 6: $-2x \geq -8$. Divide by -2 (FLIP): $x \leq 4$.
- 2) **Choice A is correct.** (8.SP.4) Joint relative frequency of flowering and fertilizer: $\frac{98}{200} = 0.49 = 49\%$.
- 3) **Choice A is correct.** (8.SP.2) The slope represents the rate of change. A slope of 8 means for every 1-unit increase in x , y increases by 8 units.
- 4) **The correct answer is 2.** (8.F.B) Slope: $m = \frac{5-(-3)}{4-0} = \frac{8}{4} = 2$.
- 5) **Choice A is correct.** (8.G.8) Check: $3^2 + 4^2 = 9 + 16 = 25 = 5^2$. This is a Pythagorean triple.
- 6) **Choice A is correct.** (8.G.7) Rectangle area is $9 \times 4 = 36 \text{ m}^2$. Triangle area is $\frac{1}{2} \times 9 \times 3 = 13.5 \text{ m}^2$. The total area is $36 + 13.5 = 49.5 \text{ m}^2$.
- 7) **Choice C is correct.** (8.G.8) Absolute deviations: $|100 - 200| = 100$, $|150 - 200| = 50$, $|200 - 200| = 0$, $|250 - 200| = 50$, $|300 - 200| = 100$. Sum = 300. MAD = $300/5 = 60$.
- 8) **Choice B is correct.** (8.NS.2) First position: 4 letter choices. Second position: 3 remaining letters. Total: $4 \times 3 = 12$.
- 9) **Choice D is correct.** (8.NS.1) $\sqrt{9} \times \sqrt{4} = 3 \times 2 = 6$, which is rational. The other expressions yield irrationals: $\sqrt{3} + \sqrt{3} = 2\sqrt{3}$, $\sqrt{4} + \sqrt{5} = 2 + \sqrt{5}$, and $\sqrt{2} \times \sqrt{3} = \sqrt{6}$.
- 10) **Choice D is correct.** (8.NS.A) Let $x = 0.8\bar{3} = 0.8333\ldots$. Then $10x = 8.\bar{3}$ and $100x = 83.\bar{3}$. Subtracting: $90x = 75$, so $x = \frac{75}{90} = \frac{5}{6}$.
- 11) **Choice D is correct.** (8.NS.2) $8^2 = 64$ and $9^2 = 81$. Since $64 < 72 < 81$, $\sqrt{72}$ lies between $\sqrt{64} = 8$ and $\sqrt{81} = 9$. Those perfect squares help us place $\sqrt{72}$ between 8 and 9.
- 12) **Choice D is correct.** (8.EE.3) A negative exponent shifts the decimal to the left. Move the decimal 3 places left: $6.5 \times 10^{-3} = 0.0065$.
- 13) **Choice D is correct.** (8.G.7) Red or green: $5 + 3 = 8$ marbles. Total: 15. So $P = \frac{8}{15}$.
- 14) **Choice C is correct.** (8.EE.6) As x increases by 1, y increases by 3. Slope = $\frac{\Delta y}{\Delta x} = \frac{3}{1} = 3$.
- 15) **Choice D is correct.** (8.NS.A) $\sqrt{9} = 3$ (exact), $\sqrt{10} \approx 3.162$ (error 0.04), $\sqrt{11} \approx 3.317$ (error 0.02), $\sqrt{12} \approx 3.464$ (error 0.14). Option D has error of 0.14, much larger than others.
- 16) **Choice D is correct.** (8.EE.1) Negative exponent flips the fraction: $\left(\frac{1}{3}\right)^{-2} = \left(\frac{3}{1}\right)^2 = 3^2 = 9$.
- 17) **Choice D is correct.** (8.EE.4) Rewrite: $4.0 \times 10^5 + 0.6 \times 10^5 = (4.0 + 0.6) \times 10^5 = 4.6 \times 10^5$.
- 18) **The correct answer is A,B.** (8.G.5) A is true because the interior angles of any triangle sum to 180° . B is true by the exterior angle theorem. C is false because right-triangle acute angles are complementary, not always congruent. D is false, and E is false because an exterior angle and its adjacent interior angle are supplementary, not complementary.
- 19) **Choice D is correct.** (8.EE.7) A: Identity (infinitely many). B: Subtract $3x$: $4 = 7$ (false, no solution). C and D: Unique solutions.
- 20) **Choice B is correct.** (8.F.2) X fee: \$30/mo. Y fee: $(115 - 50)/(3 - 1) = 65/2 = 32.5/\text{mo}$. Since $32.5 > 30$, Y is higher.
- 21) **Choice C is correct.** (8.EE.5) Housing allocation = 35% of \$4,000 = $0.35 \times 4000 = \$1,400$.
- 22) **Choice C is correct.** (8.EE.2) Area of a square = $s^2 = 9^2 = 81 \text{ cm}^2$.
- 23) **Choice C is correct.** (8.EE.5) Unit price $k = \frac{9.60}{8} = 1.20$ dollars per song.
- 24) **Choice A is correct.** (8.EE.7) Find two numbers that multiply to 12 and add to 7: 3 and 4. So $x^2 + 7x + 12 = (x + 3)(x + 4)$.
- 25) **Choice A is correct.** (8.F.1) Multiply by 2 first: $2x$. Then add 3: $2x + 3$.
- 26) **Choice A is correct.** (8.F.5) Diminishing returns: initial rapid gains, then slower gains, then ceiling. The slope decreases then becomes zero.
- 27) **The correct answer is 18.** (8.G.C) $B = 8 \times 5 = 40 \text{ m}^2$. From $V = \frac{1}{3}Bh$: $240 = \frac{1}{3} \times 40 \times h \Rightarrow h = 18 \text{ m}$.



Hi, Thoughtful Reader!

◇ A strong Grade 8 test taker is also a strong reader. You practiced turning words, tables, graphs, and diagrams into math decisions. ◇

★ **Remember this:** That skill grows each time you slow down enough to ask what the problem is really telling you and what it is really asking for. This version gave you 8 opportunities to rehearse test-day habits. ★

Reader-to-Solver Skills

- **Circle the Ask:** Make the target visible.
- **Sort Information:** Separate useful facts from extra words.
- **Match Units:** Keep quantities connected.
- **Answer Fully:** Include the value and what it means.

Grade 8 test-day tip: After solving, reread only the final question. Make sure your answer matches it exactly.

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

Jay Daie

Your Reading-and-Math Helper

PRACTICE TODAY, SUCCEED TOMORROW!

Give your child the confidence and skills they need with **8 full-length Grade 8** Math practice tests that mirror 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.



BUILD SKILLS & BOOST CONFIDENCE

Strengthen understanding and feel prepared for test day.



COVERS ALL ESSENTIAL TOPICS

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



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

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More Practice. More Confidence.
Better Results.