

6 Mississippi MAAP

GRADE 8 MATH PRACTICE TESTS

Standards Aligned Problem Solving For
Comprehensive Assessment Programs



6 PRINTED
TESTS



2 ONLINE
TESTS



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

6 Mississippi MAAP Grade 8 Math Practice Tests

Grade 8 Math Tests with Review Pages, Answer Keys, and Explanations



Six 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!

Six focused rounds for sharper MAAP math thinking

This book gives you six 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

A six-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?

Six MAAP tests, 240 questions, and a complete review path

Part	What You Will Practice
Tests 1–3	Real numbers, exponents, scientific notation, equations, and careful reading.
Tests 4–6	Functions, systems, transformations, geometry, data analysis, and multi-step problem solving.
Answer Pages	Compact keys and explanations that show why each answer works.

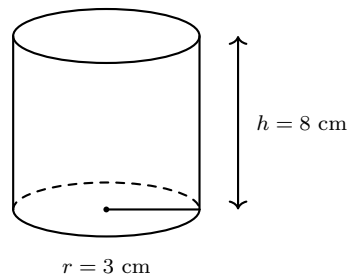
The tests are mixed on purpose. Grade 8 success means recognizing which idea is being tested even when the next question changes format.



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& answers

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1)

A cylinder has radius $r = 3 \text{ cm}$ and height $h = 8 \text{ cm}$. What is its total surface area?
(Use $\pi \approx 3.14$.)

☐ A. 66.5 cm^2

☐ C. 207.2 cm^2

☐ B. 141.3 cm^2

☐ D. 226.1 cm^2

2) Which statement is false?

☐ A. Every whole number is rational

☐ C. $\sqrt{9}$ is rational

☐ B. No irrational number can be written as a fraction

☐ D. π is rational

3) $(1.5 \times 10^{-3}) \times (2.4 \times 10^{-2}) = ?$

☐ A. 0.36×10^{-5}

☐ C. 3.6×10^{-5}

☐ B. 3.9×10^{-5}

☐ D. 3.6×10^{-6}

4) Which is larger: $\sqrt{15}$ or $\sqrt{14}$?

☐ A. They are equal

☐ C. $\sqrt{14}$

☐ B. Cannot compare

☐ D. $\sqrt{15}$



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5) Simplify and estimate $\sqrt{5} \times \sqrt{20}$.

☐ A. Exactly 5

☐ C. Approximately 7.1

☐ B. Approximately 11.2

☐ D. Exactly 10

6) A store advertises: “Pay \$250 down and \$150/month for 12 months.” If the item costs \$1,500 cash, what is the finance charge?

☐ A. \$0

☐ C. \$100

☐ B. \$50

☐ D. \$550

7) If $x = 2$, evaluate $\frac{(x^3)^2}{x^4}$.

☐ A. 2

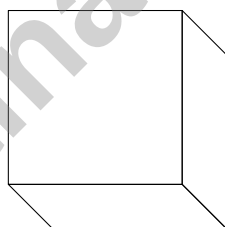
☐ C. 16

☐ B. 64

☐ D. 4

8) If a cube has a side length of 5 cm, what is its volume?

5 cm



☐ A. 15 cm³

☐ C. 75 cm³

☐ B. 25 cm³

☐ D. 125 cm³



9) Which value is in correct scientific notation form?

☐ A. 12.3×10^5

☐ C. 1.23×10^5

☐ B. 0.15×10^6

☐ D. 123×10^4

10) A store sells apples at \$2 per pound. The proportional relationship is $y = 2x$, where x is pounds and y is cost in dollars. How much do 7 pounds cost?

☐ A. \$9

☐ C. \$14

☐ B. \$12

☐ D. \$16

11) Factor $x^2 + 2x - 8$.

☐ A. $(x + 4)(x - 2)$

☐ C. $(x - 2)(x - 4)$

☐ B. $(x + 2)(x - 4)$

☐ D. $(x + 1)(x + 8)$

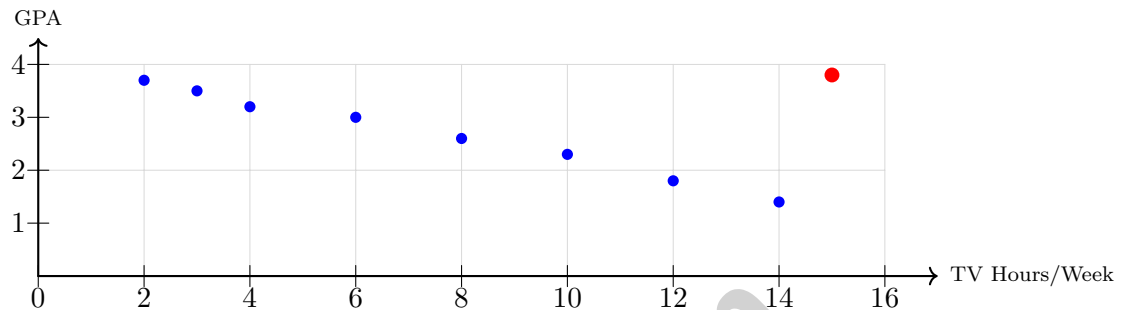
12) A pizza restaurant charges \$12 for a large pizza and \$1.50 per topping. Is the total cost a function of the number of toppings?

☐ A. No, because the base price is fixed.☐ D. Yes, only if the customer is satisfied with the pizza.☐ B. No, because toppings are not free.☐ C. Yes, each number of toppings gives exactly one total cost.

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- 1) A scatter plot displays student GPA versus hours watched TV per week. Most students show a pattern: those who watch more TV have lower GPAs. A student with a GPA of 3.8 watches 15 hours of TV per week, while similar high watchers have GPAs around 1.4–2.0. Is this student an outlier?



- ☐ A. No, the GPA is typical for high TV watchers
- ☐ B. No, GPA is unrelated to TV time
- ☐ C. Yes, it deviates from the expected negative pattern
- ☐ D. No, all points above GPA 3.0 are outliers
- 2) A segment from $(2, 1)$ to $(4, 3)$ is dilated by scale factor 2 from the point $(2, 1)$. Where does $(4, 3)$ map to?
- ☐ A. $(6, 5)$
- ☐ B. $(4, 3)$
- ☐ C. $(8, 6)$
- ☐ D. $(2, 1)$
- 3) A school newsletter reports that 250 students were surveyed about lunch preferences. The two-way table shows:

	Packed Lunch	School Lunch	Total
Elementary	60	65	125
Middle	55	70	125
Total	115	135	250

What is the marginal frequency for middle school students?

- ☐ A. 55
- ☐ B. 70
- ☐ C. 115
- ☐ D. 125



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4) A data set with 10 values has $MAD = 0$, and all values are 100. If one value changes from 100 to 120, what is the new MAD?

☐ A. 0

☐ C. 3.6

☐ B. 2

☐ D. Cannot be determined

5) If two dice are rolled, what is the probability of getting at least one 4?

☐ A. $\frac{1}{6}$

☐ C. $\frac{6}{36}$

☐ B. $\frac{11}{36}$

☐ D. $\frac{25}{36}$

6) 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. $(4 + 5) \times 3 = 27$



- 1) A 300 mL mixture contains 40% juice and 60% water. How much pure juice must be added to make the mixture 60% juice?

☐ A. 75 mL☐ C. 150 mL☐ B. 100 mL☐ D. 200 mL

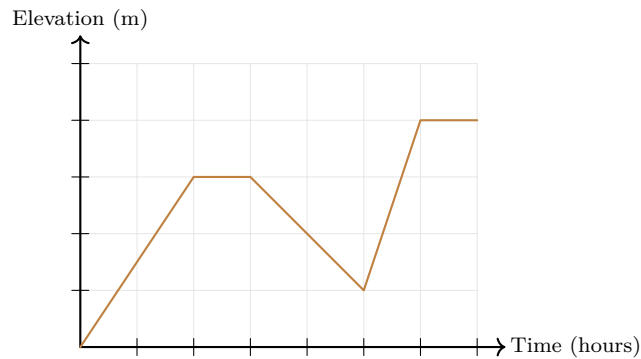
- 2) For the inequality $x + 3y \leq 9$, compute the left side at the origin $(0, 0)$.

- 3) The table has points $(0, -3)$, $(2, -1)$, and $(4, 1)$. What is its rate of change?

x	0	2	4
y	-3	-1	1



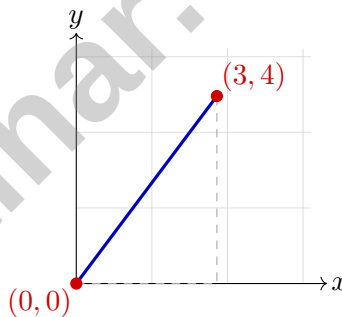
4)



A hiker starts at sea level. Which part of the journey involves going downhill?

- ☐ A. From 0 to 2 hours ☐ C. From 3 to 5 hours
☐ B. From 2 to 3 hours ☐ D. From 5 to 7 hours

5) Two points on a coordinate plane are located at $(0, 0)$ and $(3, 4)$. What is the distance between these two points?



- ☐ A. 5 ☐ C. 12
☐ B. 7 ☐ D. 25



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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 C is correct.** (8.G.9) $SA = 2\pi r^2 + 2\pi rh = 2\pi(3)^2 + 2\pi(3)(8) = 18\pi + 48\pi = 66\pi \approx 66 \times 3.14 = 207.24 \text{ cm}^2$.
- 2) **Choice D is correct.** (8.NS.1) This is false. π is irrational; it cannot be written as a fraction of two integers and has a non-terminating, non-repeating decimal expansion. All other statements are true.
- 3) **Choice C is correct.** (8.EE.4) Multiply coefficients: $1.5 \times 2.4 = 3.6$. Add exponents: $10^{-3+(-2)} = 10^{-5}$. Result: 3.6×10^{-5} .
- 4) **Choice D is correct.** (8.NS.2) Since the square root function is increasing and $15 > 14$, we have $\sqrt{15} > \sqrt{14}$.
- 5) **Choice D is correct.** (8.NS.A) $\sqrt{5} \times \sqrt{20} = \sqrt{100} = 10$ exactly. This is a perfect pair.
- 6) **Choice D is correct.** (8.EE.5) Total installment cost: $250 + 150 \times 12 = 250 + 1800 = \$2,050$. Finance charge: $2050 - 1500 = \$550$.
- 7) **Choice D is correct.** (8.EE.1) $(x^3)^2 = x^6$; then $\frac{x^6}{x^4} = x^2$. Substitute $x = 2$: $2^2 = 4$.
- 8) **Choice D is correct.** (8.EE.2) Volume of a cube = $s^3 = 5^3 = 125 \text{ cm}^3$.
- 9) **Choice C is correct.** (8.EE.3) In scientific notation, the coefficient must be at least 1 and less than 10. Only 1.23×10^5 satisfies this.
- 10) **Choice C is correct.** (8.EE.5) Substitute $x = 7$ into $y = 2x$: $y = 2(7) = 14$. The cost is \$14.
- 11) **Choice A is correct.** (8.EE.7) Find two numbers that multiply to -8 and add to 2 : 4 and -2 . So $x^2 + 2x - 8 = (x + 4)(x - 2)$.
- 12) **Choice C is correct.** (8.F.1) The total cost is determined by the number of toppings: cost = $12 + 1.50 \times$ (number of toppings). This is a function.
- 13) **Choice A is correct.** (8.F.B) The line passes through $(0, 50)$ and $(8, 10)$. Slope = $\frac{10 - 50}{8 - 0} = \frac{-40}{8} = -5 \text{ mg/h}$. The concentration decreases at a rate of 5 mg per hour.
- 14) **Choice A is correct.** (8.EE.8c) Let e = Emma's current age. Then Maria's age is $e + 4$. In 3 years: Emma is $e + 3$, Maria is $e + 7$. The condition gives $e + 7 = 2(e + 3)$, so $e + 7 = 2e + 6$, thus $e = 1$.
- 15) **Choice B is correct.** (8.F.A) Solve $50 + 10n = 150$ for n : subtract 50 to get $10n = 100$, so $n = 10$ weeks.
- 16) **Choice B is correct.** (8.G.1) Reflections are rigid transformations that preserve all side lengths and angle measures. The reflected parallelogram has the same dimensions as the original.
- 17) **Choice A is correct.** (8.EE.6) The y -intercept is -2 . Using $(4, -4)$: slope = $\frac{-4 - (-2)}{4 - 0} = \frac{-2}{4} = -\frac{1}{2}$.
- 18) **The correct answer is A,C.** (8.G.4) Correct: (A) All linear measurements (sides, perimeter) are multiplied by 2.5. (C) Area is multiplied by $(2.5)^2 = 6.25$. Incorrect: (B) Angles are congruent in dilation, not scaled. (D) Perimeter is multiplied, not divided, by 2.5. (E) Dilation preserves shape; polygon type does not change.
- 19) **Choice D is correct.** (8.EE.7) Subtract $2x$ and add 3: $3x = 12$. Divide by 3: $x = 4$. (Distractor A: result of dividing 12 by 3 incorrectly; C: forgetting to distribute constant; D: result of incorrect arithmetic.)
- 20) **Choice A is correct.** (8.EE.8a) Substitute $x = 2$ into $4x - 3y = 5$: $8 - 3y = 5$, so $-3y = -3$ and $y = 1$. The solution is $(2, 1)$.
- 21) **Choice A is correct.** (8.EE.7b) Dividing by -5 requires flipping: $x \geq -3$, not $x \leq -3$.
- 22) **Choice A is correct.** (8.EE.8b) Dashed vertical line at $x = 1$ with shading to the LEFT means $x < 1$.
- 23) **Choice C is correct.** (8.G.9) From $V = \frac{1}{3}\pi r^2 h$: $314 = \frac{1}{3} \times 3.14 \times r^2 \times 12 \Rightarrow r^2 = 25 \Rightarrow r = 5 \text{ cm}$.
- 24) **Choice C is correct.** (8.SP.3) Predictions are most reliable within or near the observed data range (1–4 miles). Option (C) uses 2.5 miles, which is centered in this range; (D) is far extrapolation.
- 25) **The correct answer is 0.1.** (8.SP.2) Compute $1.2 - 1.1 = 0.1$.
- 26) **Choice A is correct.** (8.F.2) Slope: $(5 - 3)/(2 - 1) = 2$. From $(1, 3)$: $3 = 2(1) + b \Rightarrow b = 1$. So $y = 2x + 1$.
- 27) **Choice B is correct.** (8.F.3) A nonlinear function's graph is curved, not straight. This curve shows accelerating growth, typical of a nonlinear relationship.



Hi, Calm Solver!

◇ This deep and steady book gave you six full Grade 8 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. A calm mind can see choices more clearly. That matters in Grade 8, where one problem may have several possible entry points. ◇

★ **Remember this:** You practiced building calm by doing full tests. Each completed page is rehearsal for staying steady when the real test feels serious. ★

Calm-Test Moves

- **Pause:** Give your brain one quiet second.
- **Choose:** Pick the first useful step.
- **Continue:** Do not demand perfection immediately.
- **Check:** Use review time wisely.

Grade 8 test-day tip: If you feel rushed, slow your reading for one sentence. Clear reading saves time.

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

Jay Daie

Your Calm-Test Coach

PRACTICE TODAY. ACHIEVE TOMORROW.

6

Give your child the confidence and skills they need with **6 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 |
| | ✓ And More! |



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