

Mississippi

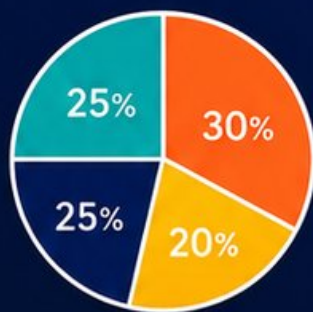
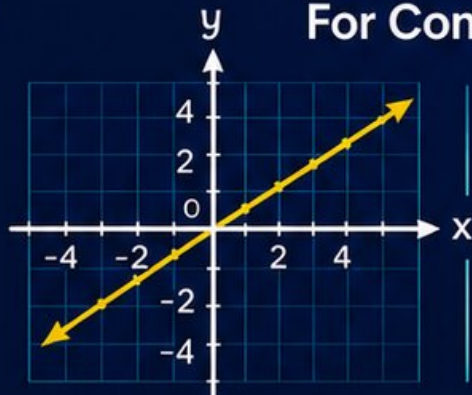
MAAP

GRADE 8

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

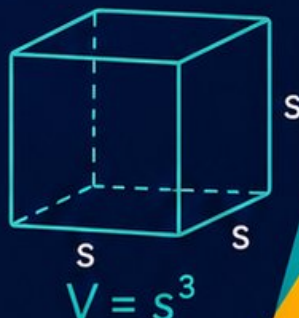


$$y = mx + b$$

$$2x - 3y = 6$$

$$\sqrt{x^2 + y^2}$$

$$A = bh$$



4 PRINTED TESTS



2 ONLINE TESTS



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



4 Mississippi MAAP Grade 8 Math Practice Tests

Four Focused MAAP Tests for Real Numbers, Functions, and Geometry



Four 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!

Four focused rounds for sharper MAAP math thinking

This book gives you four 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 four-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?

Four MAAP tests, 160 questions, and a focused review path

Part	What You Will Practice
Tests 1–2	Real numbers, exponents, scientific notation, equations, and careful reading.
Tests 3–4	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) Which number can be expressed as a fraction?

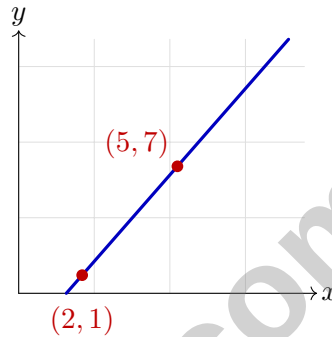
☐ A. $\sqrt{11}$

☐ B. 2π

☐ C. $\frac{8}{3}$

☐ D. $\sqrt{2} + 1$

2) A graph shows a line passing through (2, 1) and (5, 7). If the line continues, which point would it pass through?



☐ A. (8, 13)

☐ B. (8, 12)

☐ C. (8, 11)

☐ D. (7, 10)

3) Which expression expands to $x^2 + 20x + 100$?

☐ A. $2(x + 10)^2$

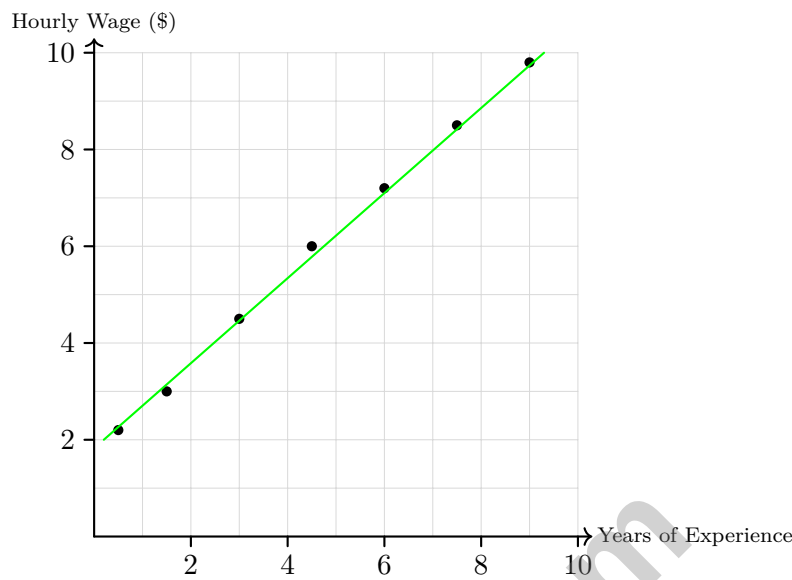
☐ B. $(x + 10)^2$

☐ C. $(x + 10)(x + 100)$

☐ D. $(x + 50)^2$



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4)

A company tracks years of experience versus hourly wage. Based on the trend line, what is the approximate slope (wage increase per year)?

- ☐ A. \$1.10 per year ☐ C. \$1 per year
☐ B. \$2 per year ☐ D. \$0.50 per year

5) A triangle has sides such that one side is 2 cm longer than the shortest side, and the longest side is 4 cm longer than the shortest. If the perimeter is 18 cm, what is the shortest side?

- ☐ A. 4 cm ☐ C. 6 cm
☐ B. 5 cm ☐ D. 7 cm

6) Rectangle $PQRS$ has length 10 m and width 6 m. Rectangle $TUVW$ has length 5 m and width 3 m. What is the scale factor from $PQRS$ to $TUVW$?

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



- 7) A bakery produces 50 cookies per hour. After 4 hours, how many cookies have been produced?

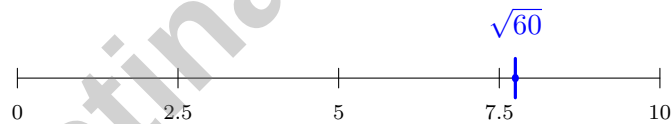
- 8) If $f(x) = x^2 - 4x + 3$, what is $f(2)$?

☐ A. -1☐ C. 3☐ B. 0☐ D. 7

- 9) A school is electing a president, vice-president, and treasurer from 9 candidates. How many ways can these positions be filled?

☐ A. $9 + 8 + 7 = 24$ ☐ C. $\binom{9}{3} = 84$ ☐ B. $9 \times 8 \times 7 = 504$ ☐ D. $9^3 = 729$

10)



Based on the number line, which decimal is closest to $\sqrt{60}$?

☐ A. 7.5☐ C. 7.8☐ B. 7.9☐ D. 7.7

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- 1) The table shows values of $f(x) = 3x - 2$. What is $f(5)$?

x	1	2	3	5
$f(x)$	1	4	7	?

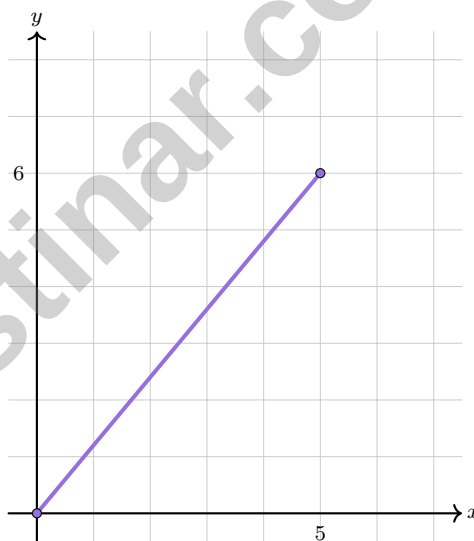
☐ A. 13

☐ C. 12

☐ B. 15

☐ D. 17

- 2) A square park has an area of 169 square yards. What is the length of one side of the park?



3)

What is the slope?

☐ A. $\frac{5}{6}$

☐ C. 1.1

☐ B. $\frac{6}{4}$

☐ D. 1.2



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4) Which describes a zero slope?

- ☐ A. A horizontal line
☐ B. A vertical line
☐ C. A diagonal line with positive rate of change
☐ D. A line with undefined slope

5) A cinema tracks 240 moviegoers:

	Action	Comedy	Total
Weekday	72	48	120
Weekend	84	36	120
Total	156	84	240

Among action-movie viewers, what is the relative frequency of weekday watchers?

- ☐ A. ≈ 0.30
☐ B. ≈ 0.46
☐ C. ≈ 0.50
☐ D. ≈ 0.60

6)

Temperature (°C)	15	18	21	24	27
------------------	----	----	----	----	----

Five days with temperatures shown. Mean = 21°C . Find MAD.

- ☐ A. 2.4
☐ B. 3
☐ C. 3.6
☐ D. 6

7) The probability that a student passes a test is $\frac{4}{5}$. What is the probability that the student does NOT pass?

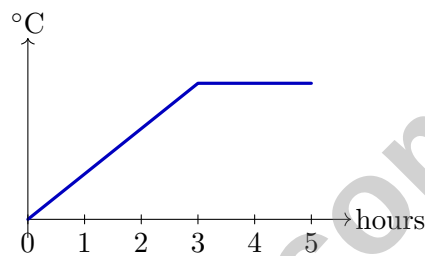
- ☐ A. $\frac{1}{5}$
☐ B. $\frac{4}{5}$
☐ C. $\frac{5}{4}$
☐ D. $\frac{0}{5}$



- 1) A student reads 25 pages of a book per day. How many days to read 200 pages?
(Proportional relationship.)

☐ A. 5 days☐ C. 7 days☐ B. 6 days☐ D. 8 days

- 2) A graph shows temperature rising for 3 hours at 5 degrees per hour, then stays constant for 2 hours. If the starting temperature is 10 degrees C, what is the temperature after 5 hours?



- 3) Estimate $\sqrt{99}$ to the nearest integer.

☐ A. 8☐ C. 10☐ B. 9☐ D. 11

4) The area model below represents $(x + 2)(x + 4)$:

	x	2
x	x^2	$2x$
4	$4x$	8

What is the total area?

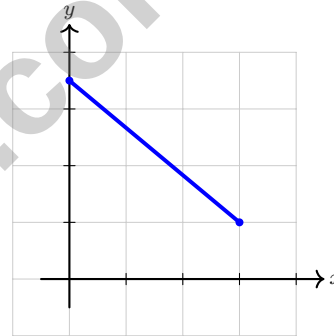
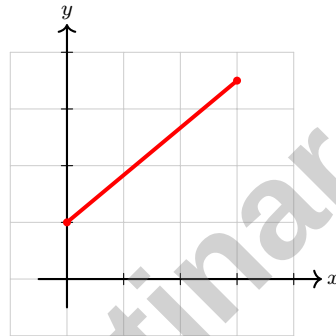
☐ A. $x^2 + 6x + 8$

☐ C. $x^2 + 4x + 2$

☐ B. $x^2 + 8$

☐ D. $2x^2 + 6x + 8$

5) Which graph represents a positive slope?


☐ A. Red line (left)

☐ C. Both have positive slope

☐ B. Blue line (right)

☐ D. Neither has positive slope

6) A grandmother is 42 years old. Her grandson is 10 years old. In how many years will the grandmother be exactly 3 times as old as her grandson?

☐ A. 6 years

☐ C. 10 years

☐ B. 8 years

☐ D. 12 years


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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.NS.1) $\frac{8}{3}$ is already expressed as a fraction, so it is rational. All other options are irrational: $\sqrt{11}$ is a non-perfect-square root, 2π is an irrational multiple of π , and $\sqrt{2} + 1$ is an irrational plus a rational (still irrational).
- 2) **Choice A is correct.** (8.F.B) Slope = $\frac{7-1}{5-2} = \frac{6}{3} = 2$. From (5, 7) with slope 2: at $x = 8$, $y = 7 + 2(3) = 13$. Point is (8, 13).
- 3) **Choice B is correct.** (8.EE.7) $(x+10)^2 = x^2 + 2(10)(x) + 100 = x^2 + 20x + 100$. Pattern: $a^2 + 2ab + b^2 = (a+b)^2$.
- 4) **Choice C is correct.** (8.SP.2) Using two points on the drawn trend line, slope $\approx \frac{10-2}{9.3-0.2} = \frac{8}{9.1} \approx 0.88$, which is closest to about \$1 per year.
- 5) **Choice A is correct.** (8.EE.8c) Let s = shortest side. Then the three sides are s , $s+2$, and $s+4$. Perimeter: $s + (s+2) + (s+4) = 18$, so $3s + 6 = 18$, giving $s = 4$ cm.
- 6) **Choice B is correct.** (8.G.4) Scale factor is the ratio of a side in $TUVW$ to the corresponding side in $PQRS$: $\frac{5}{10} = \frac{1}{2}$.
- 7) **The correct answer is 200.** (8.EE.5) Compute $50 \times 4 = 200$.
- 8) **Choice A is correct.** (8.F.A) Substitute $x = 2$: $f(2) = 2^2 - 4(2) + 3 = 4 - 8 + 3 = -1$.
- 9) **Choice B is correct.** (8.NS.2) President: 9 choices. Vice-president: 8 remaining. Treasurer: 7 remaining. Total: $9 \times 8 \times 7 = 504$.
- 10) **Choice D is correct.** (8.NS.2) $7.7^2 = 59.29$ and $7.8^2 = 60.84$. The number 60 is a little closer to 59.29 than to 60.84, so $\sqrt{60} \approx 7.746$ is closer to 7.7 than to 7.8.
- 11) **Choice C is correct.** (8.NS.A) $\sqrt{36} = 6$ (rational), π is irrational, and $0.333\ldots = \frac{1}{3}$ (rational). $\sqrt{11}$ cannot be expressed as a ratio of integers.
- 12) **Choice D is correct.** (8.EE.5) Correct: $I = 400 \times (0.12/12) \times 1 = \4 . She incorrectly applied 12% for 1 month (should use the monthly rate of 1%), mistaking APR as a monthly rate.
- 13) **Choice D is correct.** (8.EE.3) With equal coefficients, smaller exponents give smaller values: $-5 < -3 < 1$.
- 14) **The correct answer is 0.45.** (8.SP.4) Joint relative frequency: $\frac{216}{480} = 0.45$.
- 15) **Choice D is correct.** (8.NS.A) Let $x = 0.6\overline{54} = 0.65454\ldots$. Then $10x = 6.\overline{54}$ and $1000x = 654.\overline{54}$. Subtracting: $990x = 648$, so $x = \frac{648}{990} = \frac{36}{55}$.
- 16) **The correct answer is 2.5.** (8.G.8) Absolute deviations: $|3-7.5| = 4.5$, $|7-7.5| = 0.5$, $|9-7.5| = 1.5$, $|11-7.5| = 3.5$. Sum = 10. MAD = $10/4 = 2.5$.
- 17) **Choice C is correct.** (8.G.9) Radius $r = 5$ feet. Lateral (curved) surface area = $2\pi rh = 2(3.14)(5)(20) = 628$ sq. ft. Cost = $628 \times \$2 = \$1,256$.
- 18) **Choice B is correct.** (8.G.1) A 90° rotation turns horizontal lines vertical. A side parallel to the x -axis becomes parallel to the y -axis. Rotations preserve length and angles between sides.
- 19) **The correct answer is A,B.** (8.EE.2) When $x = 6$: $6^2 = 36$ (choice A is correct) and $6^3 = 216$ (choice B is correct). For choice C: $6^2 = 36 \neq 64$. For choice D: $6^3 = 216 \neq 144$. For choice E: $6^2 = 36 \neq 25$.
- 20) **Choice A is correct.** (8.EE.6) Substitute: $-3 = -\frac{3}{4}(4) + b$, so $-3 = -3 + b$, thus $b = 0$.
- 21) **Choice A is correct.** (8.EE.7) Multiply both sides by 3: $2x = 24$. Divide by 2: $x = 12$.
- 22) **Choice A is correct.** (8.EE.7b) Subtract 7: $x < 3$. The open circle and left ray match this solution.
- 23) **Choice C is correct.** (8.EE.8b) The inequality $\geq$ means "greater than or equal," so shade ABOVE the line. The SOLID line is included in the solution.
- 24) **Choice D is correct.** (8.G.9) Cylinder: $V = 3.14 \times 64 \times 6 = 1205.76 \text{ m}^3$. Cone: $V = \frac{1}{3} \times 3.14 \times 64 \times 6 = 401.92 \text{ m}^3$. Difference: $1205.76 - 401.92 = 803.84 \text{ m}^3$.
- 25) **Choice D is correct.** (8.EE.1) $(k^2)^3 = k^6$; then $k^6 \cdot k^{-1} = k^5$; then $\frac{k^5}{k^5} = k^0 = 1$.



Hi, Momentum Builder!

◇ Finishing a Grade 8 practice book is not a small thing. It means you practiced persistence, patience, and flexible problem solving. ◇

★ **Remember this:** Some questions were quick. Others probably made you stop and think. Both kinds helped you grow because practice turns effort into confidence. This version gave you 4 opportunities to rehearse test-day habits. ★

Momentum Habits

- **Start Clean:** Write down what the problem gives you.
- **Pick a Tool:** Use a table, model, equation, or graph.
- **Keep Moving:** Skip and return when needed.
- **Review Smart:** Study mistakes without judging yourself.

Grade 8 test-day tip: If a problem feels stuck, change tools. A graph, table, or sketch can make the same idea clearer.

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

Jay Daie

Your Math Momentum Partner

PRACTICE TODAY, ACHIEVE TOMORROW!

Give your child the confidence and skills they need with **4 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!

4



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
- ✓ 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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