

Mississippi

MAAP

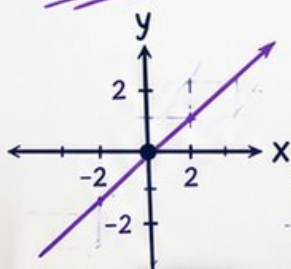
GRADE 8

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

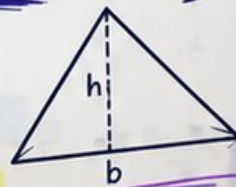
$$y = mx + b$$



**BUILD
CONFIDENCE.
SHARPEN SKILLS.
ACE YOUR
EXAM!**

Practice
Today
Succeed
Tomorrow!

$$A = \frac{1}{2}bh$$



7 PRINTED
TESTS



2 ONLINE
TESTS



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

7 Mississippi MAAP Grade 8 Math Practice Tests

MAAP Practice for Grade 8 Readiness, Accuracy, and Growth



Seven 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!

Seven focused rounds for sharper MAAP math thinking

This book gives you seven 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 seven-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?

Seven MAAP tests, 280 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.
Test 7	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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& answers

Table of Contents

★ Practice Test 1	_____	13
★ Practice Test 2	_____	27
★ Practice Test 3	_____	42
★ Practice Test 4	_____	59
★ Practice Test 5	_____	75
★ Practice Test 6	_____	91
★ Practice Test 7	_____	107
Practice Test Answer Keys	_____	121
Practice Test Answers and Explanations	_____	126

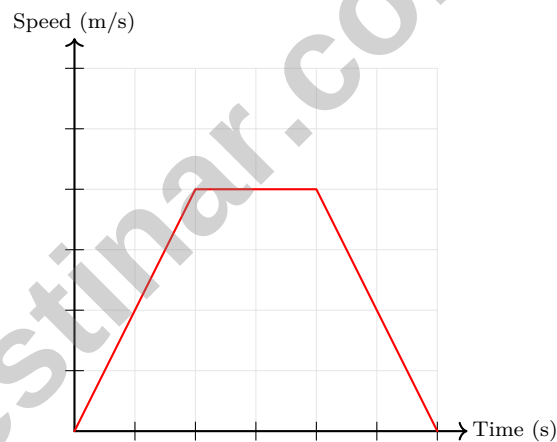
1) The equation $y = |x - 2|$ is:

- ☐ A. Linear, because it is an equation ☐ C. Nonlinear, because absolute value creates a V-shape
☐ B. Linear, because the absolute value of a linear expression is linear ☐ D. Linear, because it can be written as $y = mx + b$

2) $\alpha(x) = -3x + 12$ and β table (0, 12), (2, 6), (4, 0). Related how?

x	0	2	4
$\beta(x)$	12	6	0

- ☐ A. Identical ☐ C. Different slopes.
☐ B. Same slope, different intercepts. ☐ D. Cannot be determined.



3)

A car accelerates, maintains constant speed, then brakes. Which intervals match?

- ☐ A. Accelerate [0,2], constant [2,4], brake [4,6] ☐ C. Brake [0,2], constant [2,4], accelerate [4,6]
☐ B. Constant [0,2], accelerate [2,4], brake [4,6] ☐ D. Accelerate [0,4], brake [4,6], constant after



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4) A student incorrectly solved: "If legs are 5 and 12, then hypotenuse = $5 + 12 = 17$." What is the error and the correct answer?

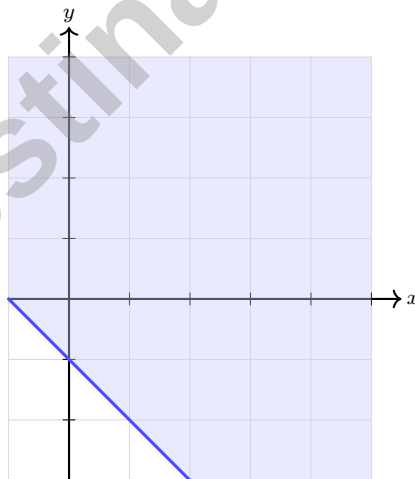
- ☐ A. Correct: hypotenuse is 17 ☐ C. Error: student forgot to square root.
☐ B. Error: student added instead of squaring. Correct hypotenuse is 13 ☐ D. Error: student computed $5 \times 12 = 60$ instead

5) If each interior angle of a regular polygon is 150° , how many sides does it have?

- ☐ A. 11 ☐ C. 13
☐ B. 12 ☐ D. 14

6) A segment has length 20 cm and is dilated by a scale factor of 0.4. What is the new length?

- ☐ A. 8 cm ☐ C. 24 cm
☐ B. 20 cm ☐ D. 50 cm

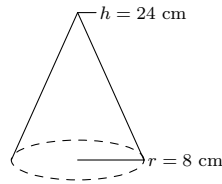


7)

The line shown has equation $y = -x - 1$. With shading above, the inequality is:

- ☐ A. $y > -x - 1$ ☐ C. $y \geq -x - 1$
☐ B. $y < -x - 1$ ☐ D. $y \leq -x - 1$





8)

A traffic cone used at a construction site has a radius of 8 cm and height of 24 cm. What is its volume? (Use $\pi \approx 3.14$.)

☐ A. 602.88 cm^3

☐ C. 1808.64 cm^3

☐ B. 1605.12 cm^3

☐ D. 4823.04 cm^3

9) Two complementary angles are in the ratio 3 : 7. What is the measure of the smaller angle?

☐ A. 18°

☐ C. 27°

☐ B. 21°

☐ D. 30°

10) A student's age is 4 years less than twice her brother's age. If the student is currently 14 years old, how old is her brother? Write an equation and solve.

11) A triangular pyramid has an isosceles triangular base with base 8 cm and height (of the triangle) 6 cm. The pyramid height is 9 cm. What is the pyramid's volume?

☐ A. 72 cm^3

☐ C. 144 cm^3

☐ B. 96 cm^3

☐ D. 288 cm^3

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1) Simplify $7^{-4} \cdot 7^6$.

☐ A. 7^{-2}

☐ C. 7^3

☐ B. 7^{-10}

☐ D. 7^2

2) A line passes through $(0, 7)$ and $(3, 1)$. What is the slope?

☐ A. 2

☐ C. 3

☐ B. -3

☐ D. -2

3) Solve for x : $2(x + 3) = 3(x - 1)$

☐ A. $x = 9$

☐ C. $x = -3$

☐ B. $x = 3$

☐ D. $x = 1$

4) Solve: $\frac{x+5}{-2} \leq 3$

☐ A. $x \geq -11$

☐ C. $x \leq -11$

☐ B. $x \leq 1$

☐ D. $x \geq 1$

5) Company A: $A(d) = 40 + 0.15d$. Company B through $(100, 55)$ and $(200, 80)$. Which has higher rate?

☐ A. Company A

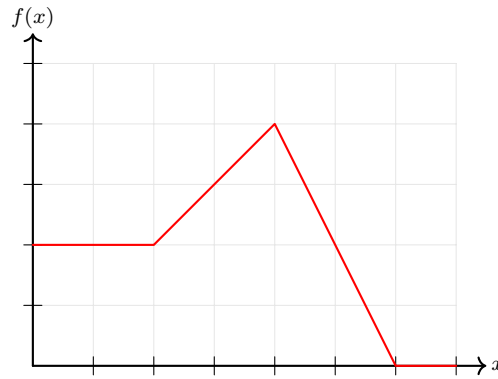
☐ C. Both same.

☐ B. Company B

☐ D. Cannot be determined.



6)

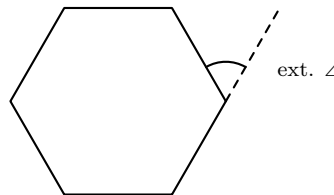


Identify the intervals where the function is increasing.

- ☐ A. From $x = 1$ to $x = 3$ only ☐ C. From $x = 1$ to $x = 3$ and from $x = 3$ to $x = 5$
☐ B. From $x = -1$ to $x = 1$ ☐ D. From $x = -1$ to $x = 3$

7) Does a triangle with sides 6, 8, 9 form a right triangle?

- ☐ A. Yes, because $6 + 8 > 9$ ☐ D. No, because the sides are different lengths
☐ B. No, because $6^2 + 8^2 \neq 9^2$
☐ C. Yes, because it is a Pythagorean triple



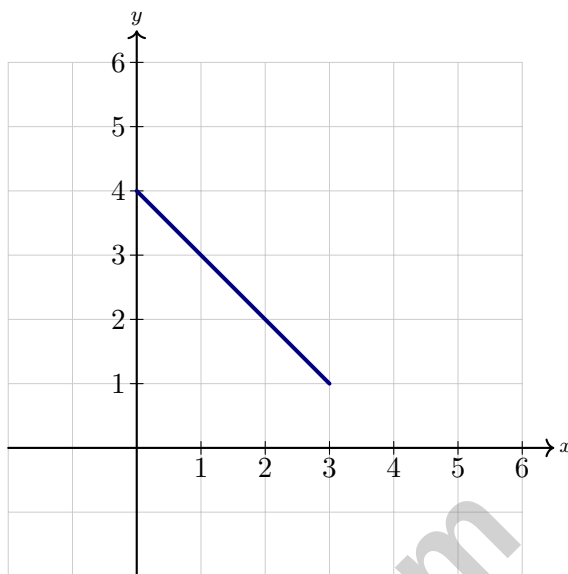
8)

For a regular hexagon, what is the measure of each exterior angle?

- ☐ A. 30° ☐ C. 60°
☐ B. 45° ☐ D. 72°



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1)

Which ordered pair is a solution to the equation of the line shown?

☐ A. (1, 3)

☐ C. (4, 1)

☐ B. (2, 1)

☐ D. (3, 2)

2) A line of best fit has equation $y = 3x + 2$. At what x -value is $y = 14$?

☐ A. $x = 3$
☐ C. $x = 5$
☐ B. $x = 4$
☐ D. $x = 6$

3)

Value	2	4	6
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Find the MAD. (Mean = 4)

☐ A. $\frac{4}{3}$
☐ C. $\frac{8}{3}$
☐ B. 2

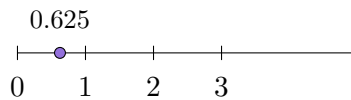
☐ D. 4


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& answers

4) A teacher selects 4 students from 10 to form a committee (all members have equal roles, no hierarchy). A student claims there are $\binom{10}{4} = 210$ ways. Is this correct?

- ☐ A. Yes, 210 is correct (order doesn't matter, so selection is what counts).
☐ B. No, the answer is $10 \times 9 \times 8 \times 7 = 5,040$ (because we're counting arrangements).
☐ C. No, the answer is $10! = 3,628,800$.
☐ D. No, order matters because students are different people.

5)



Which number can be written as a terminating decimal?

- ☐ A. $\sqrt{5}$
☐ B. $1 + \pi$
☐ C. $\sqrt{e}$ (where $e \approx 2.718$)
☐ D. $\frac{5}{8}$

6) Which equals $0.\overline{54}$?

- ☐ A. $\frac{54}{100}$
☐ B. $\frac{27}{50}$
☐ C. $\frac{54}{90}$
☐ D. $\frac{54}{99} = \frac{6}{11}$

7) Between which two consecutive integers does $\sqrt[3]{20}$ lie?

- ☐ A. 4 and 5
☐ B. 1 and 2
☐ C. 3 and 4
☐ D. 2 and 3

8) Which number is the largest?

- ☐ A. 3.1×10^{-2}
☐ B. 3.1×10^{-1}
☐ C. 3.1×10^0
☐ D. 3.1×10^1



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.F.3) Absolute value functions are nonlinear. They produce a V-shaped graph, not a straight line.
- 2) **Choice A is correct.** (8.F.2) β slope: $(6 - 12)/2 = -3$. Using $(0, 12)$: $\beta(x) = -3x + 12$. Same as α .
- 3) **Choice A is correct.** (8.F.5) Rising segment = increasing speed (acceleration). Flat = constant speed. Falling = decreasing speed (braking).
- 4) **Choice B is correct.** (8.G.6, 8.G.7) Correct: $5^2 + 12^2 = 25 + 144 = 169$, so $c = 13$. The error was adding legs directly instead of applying the Pythagorean Theorem.
- 5) **Choice B is correct.** (8.G.5) Using $\frac{(n-2) \times 180}{n} = 150$: $(n - 2) \times 180 = 150n \Rightarrow 180n - 360 = 150n \Rightarrow 30n = 360 \Rightarrow n = 12$.
- 6) **Choice A is correct.** (8.G.4) $20 \times 0.4 = 8$ cm. A scale factor between 0 and 1 creates a reduction.
- 7) **Choice C is correct.** (8.EE.8b) SOLID line (includes boundary) with shading ABOVE means $y \geq -x - 1$.
- 8) **Choice B is correct.** (8.G.9) $V = \frac{1}{3}\pi r^2 h = \frac{1}{3} \times 3.14 \times 64 \times 24 = \frac{1}{3} \times 4815.36 = 1605.12$ cm³.
- 9) **Choice C is correct.** (8.G.7) If the angles are $3k$ and $7k$, then $3k + 7k = 90$, so $10k = 90$ and $k = 9^\circ$. The smaller angle is $3 \times 9 = 27^\circ$.
- 10) **The correct answer is 9.** (8.EE.7) Let b be the brother's age. The equation is $2b - 4 = 14$. Add 4: $2b = 18$. Divide by 2: $b = 9$.
- 11) **Choice A is correct.** (8.G.C) The triangular base area is $\frac{1}{2} \times 8 \times 6 = 24$ cm². The pyramid volume is $\frac{1}{3} \times 24 \times 9 = 72$ cm³.
- 12) **Choice A is correct.** (8.SP.1) An outlier is a data point that deviates significantly from the general trend or pattern shown by the rest of the data. It stands apart and deserves investigation.
- 13) **The correct answer is (3, 6).** (8.EE.8a) Substitute $y = 2x$ into $x + y = 9$: $x + 2x = 9$, so $3x = 9$, giving $x = 3$. Then $y = 2(3) = 6$.
- 14) **The correct answer is 55 units.** (8.EE.7b) The inequality is $45 + x \geq 100$. Subtract 45: $x \geq 55$. The worker must complete at least 55 more units.
- 15) **Choice A is correct.** (8.SP.3) The y -intercept (25) is the fixed cost when $m = 0$ miles.
- 16) **Choice A is correct.** (8.G.7) $P(\text{tails}) = \frac{1}{2}$; $P(5 \text{ or } 6) = \frac{2}{6}$. Product: $\frac{1}{2} \times \frac{2}{6} = \frac{2}{12} = \frac{1}{6}$.
- 17) **The correct answer is (7, -1).** (8.G.1) Apply the translation $(x, y) \rightarrow (x + 5, y - 3)$: $(2, 2) \rightarrow (2 + 5, 2 - 3) = (7, -1)$.
- 18) **The correct answer is B, E.** (8.EE.6) The equation has slope $-\frac{2}{3}$ and y -intercept 5, so B and E are correct. The point $(5, 0)$ is not on the line because $-\frac{2}{3}(5) + 5 = \frac{5}{3}$, not 0. A perpendicular line would have slope $\frac{3}{2}$, not $-\frac{3}{2}$.
- 19) **Choice C is correct.** (8.F.B) Proportional functions have form $y = mx$ (intercept = 0). Option C has intercept 1, so it is not proportional.
- 20) **Choice C is correct.** (8.G.2) Congruent rectangles have the same dimensions. M'N'O'P' must have dimensions 15 cm and 8 cm (possibly rotated). A rectangle with dimensions 16 cm and 8 cm is NOT congruent.
- 21) **Choice D is correct.** (8.G.3) Reverse the translation: $(x, y) \rightarrow (x - 3, y + 5)$. So $(4, -2) \rightarrow (4 - 3, -2 + 5) = (1, 3)$.
- 22) **Choice A is correct.** (8.G.5) Using parallel line properties (alternate interior angles) and triangle angle sum: $35 + 55 + \angle PTS = 180$, so $\angle PTS = 90^\circ$.
- 23) **Choice B is correct.** (8.G.8) Since both points have $y = 5$, the horizontal distance is $|12 - 0| = 12$.
- 24) **Choice C is correct.** (8.G.7) Rectangle = $10 \times 3 = 30$ in². Trapezoid = $\frac{1}{2}(6 + 10) \times 4 = 32$ in². Add the two parts: $30 + 32 = 62$ in².
- 25) **Choice D is correct.** (8.SP.4) D is incorrect: $\frac{32}{80} = 0.40$ is a row-conditional frequency (among teens), not the percentage of all shoppers. The joint relative frequency is $\frac{32}{240} \approx 0.13$. Options A, B, C are correct frequency calculations.
- 26) **Choice A is correct.** (8.G.8) One MAD from the mean means subtract and add the MAD: $85 - 4 = 81$ and $85 + 4 = 89$, so the interval is 81 to 89.



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 7 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 **7 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!

GRADE 8

Practice
Today
Succeed
Tomorrow!

Algebra

Geometry

Statistics

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 | ✓ 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! |



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