

10 Missouri MAP

GRADE
8
MATH

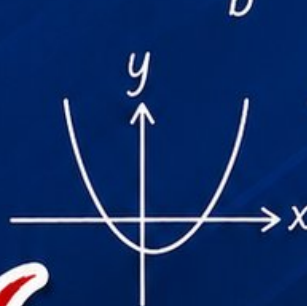
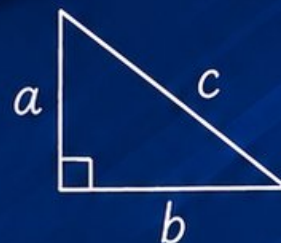
PRACTICE TESTS

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



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

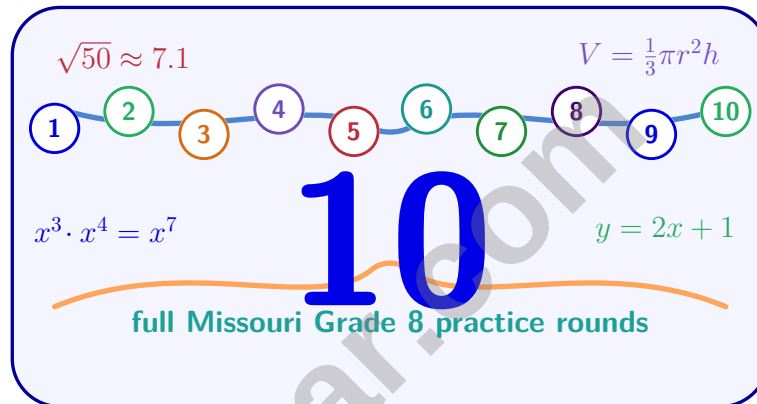


USE THESE TWO
**ADDITIONAL ONLINE
PRACTICE TESTS**

FOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.

10 Missouri MAP Grade 8 Math Practice Tests

Missouri Grade 8 MAP Practice for balanced Grade 8 review of proportional thinking, rational operations, equations, geometry, and data



Ten complete 40-question Grade 8 MAP 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, Missouri Grade 8 Problem Solver!

Ten focused rounds for sharper Missouri MAP math thinking

This book gives you ten full Grade 8 MAP 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 **Personal Financial Literacy** (8.EEI.B.6): Apply concepts of slope and y-intercept to graphs, equations and proportional relationships. You will also meet **Operations with Scientific Notation** (8.EEI.A.3): Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used.

Your Missouri 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 **Graphing Linear Inequalities in Two Variables** (8.EE1.C.7): Solve linear equations and inequalities in one variable. A second useful connection is **Solving Systems of Two Equations** (8.EE1.C): Understand that solutions to a system of two linear equations correspond to points of intersection of their graphs. Solve systems algebraically and by graphing.

Missouri 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 Missouri MAP 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 Missouri 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 **Volume of Pyramids** (8.GM.C.9): Solve problems involving surface area and volume. It also prepares you for **Linear vs. Nonlinear Functions** (8.F.A.3): Interpret $y = mx + b$ as defining a linear function. Give examples of functions that are not linear.



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Table of Contents

★ Practice Test 1	_____	14
★ Practice Test 2	_____	30
★ Practice Test 3	_____	48
★ Practice Test 4	_____	64
★ Practice Test 5	_____	80
★ Practice Test 6	_____	96
★ Practice Test 7	_____	110
★ Practice Test 8	_____	125
★ Practice Test 9	_____	141
★ Practice Test 10	_____	158
Practice Test Answer Keys	_____	173
Practice Test Answers and Explanations	_____	179

1) Solve: $-\frac{1}{2}x + 3 \geq 5$

☐ A. $x \geq -4$

☐ C. $x \geq 4$

☐ B. $x \leq 4$

☐ D. $x \leq -4$

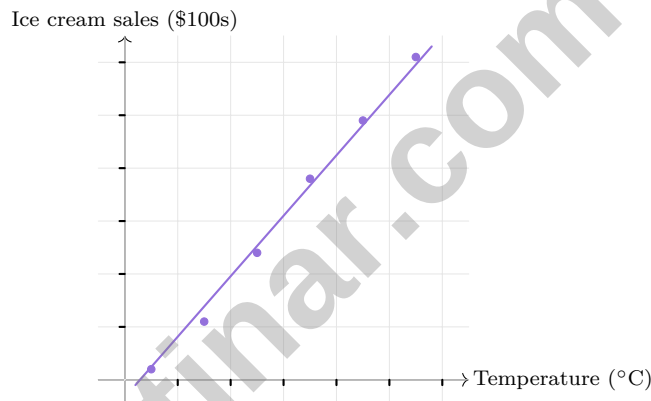
2) Two rectangular prisms have the same volume of 120 cm^3 . Prism A has dimensions $10 \times 6 \times 2 \text{ cm}$. Prism B has dimensions $8 \times 5 \times 3 \text{ cm}$. Which prism has the greater surface area?

☐ A. Prism A with $\text{SA} = 184 \text{ cm}^2$

☐ C. Prism B with $\text{SA} = 158 \text{ cm}^2$

☐ B. Prism A with $\text{SA} = 244 \text{ cm}^2$

☐ D. Prism B with $\text{SA} = 206 \text{ cm}^2$



3)

An ice cream shop's sales model is $S = 1.1T + 0.3$, where S is sales in \$100s and T is temperature in $^{\circ}\text{C}$. According to the model, what does the slope tell the shop owner?

☐ A. Sales increase by \$110 for every 1°C increase

☐ C. Temperature has no effect on sales

☐ D. Sales are maximized at 1.1°C

☐ B. Sales are always at least \$30



4) Which quotient is the largest?

☐ A. $\frac{8 \times 10^6}{4 \times 10^2}$

☐ B. $\frac{6 \times 10^5}{2 \times 10^1}$

☐ C. $\frac{9 \times 10^4}{3 \times 10^{-2}}$

☐ D. $\frac{4 \times 10^7}{2 \times 10^3}$

5) A pizza costs \$12 for each large pizza. How much do 3.5 large pizzas cost?

☐ A. \$36

☐ B. \$39

☐ C. \$42

☐ D. \$45

6) If $3^a \cdot 3^5 = 3^{12}$, what is the value of a ?

7) Which value of x satisfies $2x + 6 = x + 12$?

☐ A. $x = 6$

☐ B. $x = 4$

☐ C. $x = 18$

☐ D. $x = 2$

8) Factor $x^2 - 11x + 24$.

☐ A. $(x - 3)(x - 8)$

☐ B. $(x - 4)(x - 6)$

☐ C. $(x - 2)(x - 12)$

☐ D. $(x + 3)(x + 8)$

9) Which relation is NOT a function?

☐ A. $\{(3, 1), (3, 2), (4, 1)\}$

☐ B. $\{(1, 5), (2, 6), (3, 7)\}$

☐ C. $\{(0, 0), (1, 1), (2, 2)\}$

☐ D. $\{(2, 8), (3, 8), (4, 8)\}$



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10) Function through $(1, 3)$, $(2, 5)$, $(3, 7)$. Equation is?

☐ A. $y = 2x + 1$

☐ C. $y = 3x$

☐ B. $y = x + 2$

☐ D. $y = 2x - 1$

11) Which statement best explains why the table represents a linear function?

x	-2	-1	0	1
y	-5	-2	1	4

☐ A. The first differences are constant

☐ C. The y -values are all positive

(3)

☐ D. It is nonlinear because x includes

☐ B. The equation is $y = x + 3$

negative values

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

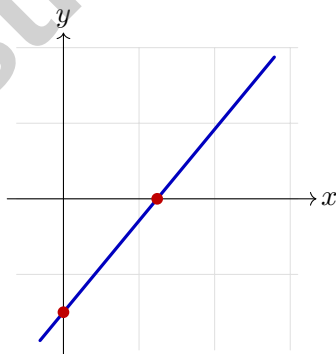
☐ A. $V = 2000t + 18000$

☐ C. $V = 18000t - 2000$

☐ B. $V = -2000t + 18000$

☐ D. $V = 18000 - t$

13) A function has a y -intercept of -3 and an x -intercept of 2 . On the graph, these appear at which points?


☐ A. $(0, -3)$ and $(2, 0)$
☐ C. $(0, 2)$ and $(-3, 0)$
☐ B. $(-3, 0)$ and $(0, 2)$
☐ D. $(2, 0)$ and $(0, 0)$


1) An angle measures 29° . What is the measure of its supplement?

☐ A. 29°

☐ C. 151°

☐ B. 61°

☐ D. 180°

2) Triangle A has sides 5, 12, 13. Triangle B has sides 7.5, 18, 19.5. Triangle C has sides 10, 24, 26. Which triangles are similar to Triangle A ?

☐ A. Only Triangle B

☐ C. Both Triangle B and C

☐ B. Only Triangle C

☐ D. Neither Triangle B nor C

3) A car travels 180 miles in 3 hours. What is the slope (speed in miles per hour)?

4) If $h(x) = 3x$, what is $h(-2)$?

☐ A. -6

☐ C. -2

☐ B. 6

☐ D. 3

Numbers	
Rational	Irrational
$\frac{1}{2}, 0.5$	$\sqrt{2}, \pi$

5)

Which number should be placed in the Rational section?

☐ A. $\sqrt{13}$

☐ C. $-\frac{9}{2}$

☐ B. $2 + \sqrt{5}$

☐ D. $\sqrt{\pi}$



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) To the nearest whole number, $\sqrt{30} \approx$?

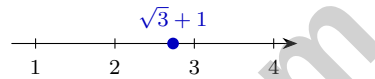
☐ A. 7

☐ B. 6

☐ C. 4

☐ D. 5

8) On a number line, where would $\sqrt{3} + 1$ fall?



☐ A. Between 1 and 2

☐ B. Greater than 4

☐ C. Between 3 and 4

☐ D. Between 2 and 3

9) A principal of \$5,000 is invested at 6% compound interest annually for 2 years. What is the total amount?

☐ A. \$5,300

☐ B. \$5,600

☐ C. \$5,618

☐ D. \$5,900

10) Multiply $(2 \times 10^3) \times (3 \times 10^2)$. Express in scientific notation.

☐ A. 60×10^5

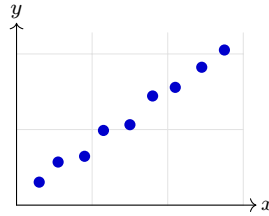
☐ B. 6×10^6

☐ C. 5×10^5

☐ D. 6×10^5



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1)

A scatter plot displays the relationship between temperature (in degrees Celsius) and ice cream sales (in dollars) for 12 weeks. The points show a clear upward trend from left to right. Which statement correctly describes the correlation?

- ☐ A. Negative correlation ☐ C. No correlation
☐ B. Positive correlation ☐ D. Random scatter with no pattern

2) Two triangles are congruent. If one triangle has angles of 40° , 60° , 80° , what are the angles of the other triangle?

- ☐ A. 40° , 60° , 90° ☐ C. 80° , 60° , 40° (different order)
☐ B. 40° , 60° , 80° ☐ D. 50° , 60° , 70°

3) Which system below can be solved by the elimination shown: adding the two equations to eliminate y ?

- ☐ A. $3x + y = 10$ and $2x + y = 7$ ☐ C. $x - 2y = 3$ and $2x + y = 5$
☐ B. $4x + 3y = 12$ and $2x - 3y = 6$ ☐ D. $5x + 2y = 11$ and $3x + y = 6$

4) A table shows values for x and y . What is the rate of change?

x	0	2	4	6
y	-2	2	6	10

- ☐ A. 2 ☐ C. 4
☐ B. $\frac{1}{2}$ ☐ D. -2



- 5) A phone company charges \$25 per month plus \$0.10 per text message. What is the total monthly cost for 100 texts?

- 6) Two hikers start from the same trailhead and walk in the same direction. One walks at 3 mph and the other at 4 mph. If they walk for the same amount of time, after how many hours will the faster hiker be 2 miles ahead?

☐ A. 0.5 hours

☐ C. 1.5 hours

☐ B. 1 hour

☐ D. 2 hours



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Missouri MAP 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 Missouri MAP practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice D is correct.** (8.EE1.C.7) Subtract 3: $-\frac{1}{2}x \geq 2$. Multiply by -2 (FLIP): $x \leq -4$.
- 2) **Choice A is correct.** (8.GM.C.9) Prism A: $SA = 2(60 + 20 + 12) = 184 \text{ cm}^2$. Prism B: $SA = 2(40 + 24 + 15) = 158 \text{ cm}^2$. Prism A has the greater surface area.
- 3) **Choice A is correct.** (8.DSP.A.3) The slope is 1.1 (in units of \$100), so each 1°C increase adds $1.1 \times \$100 = \110 in sales.
- 4) **Choice C is correct.** (8.EE1.A.3) Evaluate each: A) 2×10^4 , B) 3×10^4 , C) 3×10^6 , D) 2×10^4 . Choice C is largest at $3 \times 10^6 = 3,000,000$.
- 5) **Choice C is correct.** (8.F.B.5) $y = 12x$. For $x = 3.5$: $y = 12(3.5) = 42$ dollars.
- 6) **The correct answer is 7.** (8.EE1.A.1) Using the product rule, $a + 5 = 12$, so $a = 7$. Verification: $3^7 \cdot 3^5 = 3^{12}$.
- 7) **Choice A is correct.** (8.EE1.C.7) Subtract x and 6: $x = 6$. Check: $2(6) + 6 = 18$ and $6 + 12 = 18$ ✓. (Distractor B: arithmetic error; C: adding instead of subtracting.)
- 8) **Choice B is correct.** (8.EE1.C.7) Find two numbers that multiply to 24 and add to -11 : -4 and -6 . Verify: $(-4)(-6) = 24$ and $-4 - 6 = -11$.
- 9) **Choice A is correct.** (8.F.A.1) Option A fails the function test: input 3 maps to both 1 and 2. The other options each have unique input-output pairs.
- 10) **Choice A is correct.** (8.F.A.2) Slope: $(5 - 3)/(2 - 1) = 2$. From $(1, 3)$: $3 = 2(1) + b \Rightarrow b = 1$. So $y = 2x + 1$.
- 11) **Choice A is correct.** (8.F.A.3) The y -values increase by 3 each time x increases by 1: $-2 - (-5) = 3$, $1 - (-2) = 3$, and $4 - 1 = 3$. Constant first differences show the table represents a linear function.
- 12) **Choice B is correct.** (8.F.B.4) Current value \$18,000 (intercept). Depreciates (decreases) by \$2000 per year (negative slope). Equation: $V = -2000t + 18000$.
- 13) **Choice A is correct.** (8.F.B.5) A y -intercept occurs where $x = 0$, giving point $(0, -3)$. An x -intercept occurs where $y = 0$, giving point $(2, 0)$.
- 14) **Choice B is correct.** (8.GM.A.3) Reflection across the x -axis maps $(x, y) \rightarrow (x, -y)$. So $(2, 2) \rightarrow (2, -2)$, giving y -coordinate -2 .
- 15) **Choice B is correct.** (8.GM.B.7) One angle at each intersection is supplementary to the 135° angle, giving 45° . At each of the 2 intersections, there are 2 such 45° angles (vertical to each other), for a total of 4.
- 16) **Choice C is correct.** (8.GM.C.9) Half-filled: $\frac{1}{2} \times 360 = 180 \text{ ft}^3$.
- 17) **Choice B is correct.** (8.GM.C.9) Decompose: square plus triangles. Square area $= 9 \times 9 = 81 \text{ cm}^2$. Each right triangle area $= \frac{1}{2} \times 3 \times 4 = 6 \text{ cm}^2$. Three triangles total $= 18 \text{ cm}^2$. Total area $= 81 + 18 = 99 \text{ cm}^2$.
- 18) **The correct answer is B,E.** (8.EE1.A.1) There are 10 marbles total. B is true because $P(\text{blue}) = \frac{3}{10}$. E is true because $P(\text{red or blue}) = \frac{5+3}{10} = \frac{8}{10} = \frac{4}{5}$. A is false because $P(\text{red}) = \frac{1}{2}$. C is false because $P(\text{green}) = \frac{1}{5}$. D is false because $P(\text{yellow}) = 0$.
- 19) **Choice A is correct.** (8.GM.A.5) The sum of interior angles is $(n - 2) \times 180$. For a regular polygon, divide by n sides to get each angle.
- 20) **Choice A is correct.** (8.DSP.A.4) A is true: the column-conditional frequency of Math among Debate is $\frac{36}{144} = 0.25$. B uses the grand total instead of the Math row total. C uses the wrong denominator, and D uses the wrong cell count.
- 21) **Choice A is correct.** (8.GM.B.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.
- 22) **Choice A is correct.** (8.EE1.C) When two distinct lines do not intersect (parallel lines), they have no points in common, so the system has no solution.
- 23) **Choice C is correct.** (8.GM.A.2) Add 3 to each x -coordinate and subtract 1 from each y -coordinate: $(1+3, 2-1) = (4, 1)$, $(4+3, 2-1) = (7, 1)$, $(2.5+3, 4-1) = (5.5, 3)$.
- 24) **Choice B is correct.** (8.GM.B.6, 8.GM.B.7) The correct calculation uses the Pythagorean Theorem: $5^2 + b^2 = 13^2$ gives $25 + b^2 = 169$, so $b = 12$. The student's error was subtracting instead of using $a^2 + b^2 = c^2$.
- 25) **Choice B is correct.** (8.GM.B.8) $d = \sqrt{(10 - 1)^2 + (13 - 1)^2} = \sqrt{9^2 + 12^2} = \sqrt{81 + 144} = \sqrt{225} = 15$.



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Hi, Progress Maker!

◇ You have done more than complete a set of tests. You have rehearsed the habits that make Grade 8 math feel less surprising. ◇

★ **Remember this:** Progress is not always loud. Sometimes it looks like fewer careless errors, clearer work, better pacing, and more confidence when a problem is unfamiliar. You practiced across 10 full Grade 8 practice tests, and that repeated effort matters. ★

Signs of Growth

- **Clear Work:** Your steps are easier to follow.
- **Better Pacing:** You know when to move on and return.
- **Stronger Checks:** You catch mistakes earlier.
- **Calmer Thinking:** You know what to try next.

Grade 8 test-day tip: Keep one short list of mistakes you often make, then check that list before each practice session.

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

Jay Daie

Your Growth 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