

7

Missouri MAP

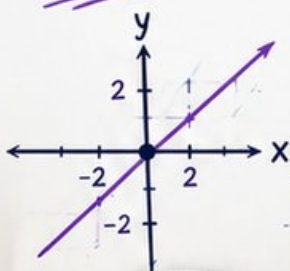
GRADE 8

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

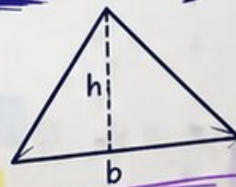
$$y = mx + b$$



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

Practice
Today
Succeed
Tomorrow!

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



7 PRINTED
TESTS



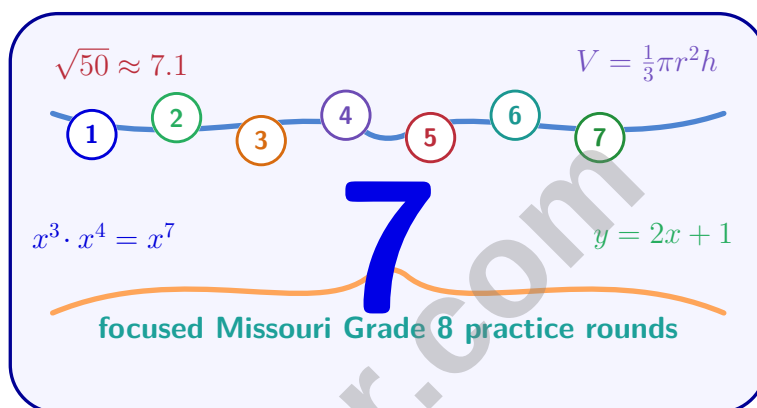
2 ONLINE
TESTS



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

7 Missouri MAP Grade 8 Math Practice Tests

Seven Standards-Aligned MAP Tests for Grade 8 Math Mastery



Seven complete 40-question Grade 8 MAP 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



Copyright ©

Testinar Inc



Published by Testinar Inc

Testinar.com

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the author, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law, including Section 107 or 108 of the 1976 United States Copyright Act.

This publication is independently produced and has no official connection to any state, district, or national testing program.

Test names and organizational names used herein are the property of their respective trademark holders.



Copyright ©

Welcome, Missouri Grade 8 Problem Solver!

Seven focused rounds for sharper MAP math thinking

This book gives you seven full Grade 8 MAP 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 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 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.

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?

Seven MAP 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.

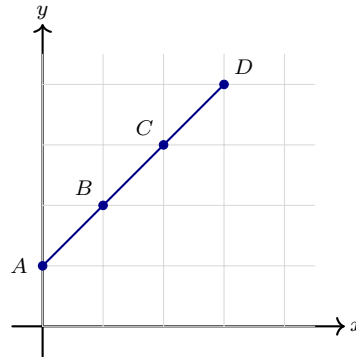


Scan me!
For more practice
& answers

Table of Contents

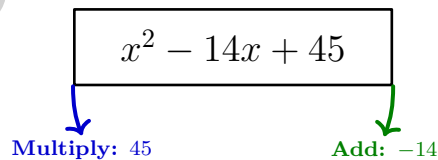
★ Practice Test 1	_____	13
★ Practice Test 2	_____	28
★ Practice Test 3	_____	44
★ Practice Test 4	_____	60
★ Practice Test 5	_____	75
★ Practice Test 6	_____	91
★ Practice Test 7	_____	106
Practice Test Answer Keys	_____	123
Practice Test Answers and Explanations	_____	128

- 1) From the graph, identify which point is on the function f .



Which ordered pair represents $f(2)$?

- ☐ A. (2, 1) ☐ C. (2, 3)
☐ B. (3, 4) ☐ D. (1, 2)
- 2) An athlete drinks 8 ounces of water for every 10 minutes of exercise. After 45 minutes of exercise, how many ounces has the athlete drunk?
- ☐ A. 30 ounces ☐ C. 40 ounces
☐ B. 45 ounces ☐ D. 36 ounces
- 3) Factor $x^2 - 14x + 45$.

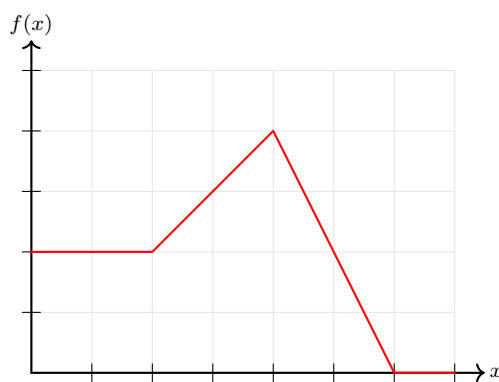


- ☐ A. $(x - 5)(x - 9)$ ☐ C. $(x - 10)(x - 4)$
☐ B. $(x - 15)(x + 1)$ ☐ D. $(x - 45)(x + 1)$



Scan me!
For more practice
& answers

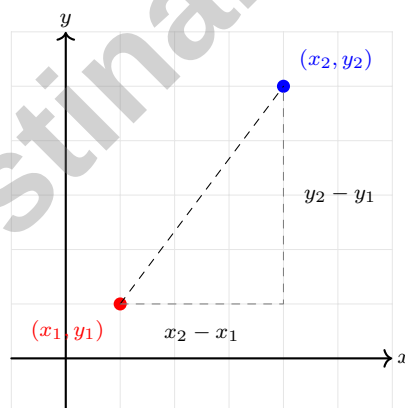
4)



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 $x = 3$

5) Which of the following represents the distance formula between two points (x_1, y_1) and (x_2, y_2) ?



- ☐ A. $d = |x_2 - x_1| + |y_2 - y_1|$ ☐ C. $d = (x_2 - x_1)^2 + (y_2 - y_1)^2$
☐ B. $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ ☐ D. $d = x_2 - x_1 + y_2 - y_1$



6) A polygon has an interior angle sum of 2340° . How many sides does it have?

☐ A. 15

☐ C. 14

☐ B. 13

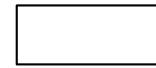
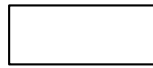
☐ D. 16

7) A rectangle undergoes two successive dilations: first by scale factor $\frac{2}{3}$, then by scale factor $\frac{3}{2}$. If the original rectangle has area 24 cm^2 , what is the final area?

Original

After 1st dilation

After 2nd dilation



Step 0: $A_0 = 24 \text{ cm}^2$

Step 1: $k_1 = \frac{2}{3}$

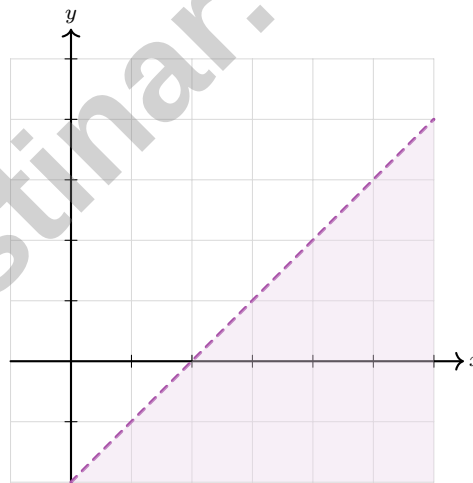
Step 2: $k_2 = \frac{3}{2}$

☐ A. 24 cm^2

☐ C. 32 cm^2

☐ B. 16 cm^2

☐ D. 54 cm^2



8)

The dashed line and shading below show:

☐ A. $y > x - 2$

☐ C. $y \geq x - 2$

☐ B. $y < x - 2$

☐ D. $y \leq x - 2$



Scan me!
For more practice
& answers

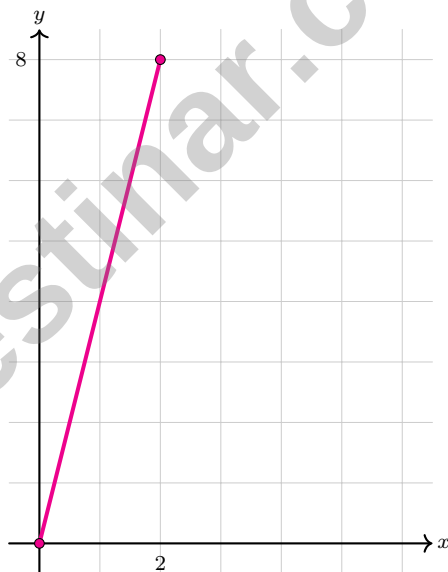
1) A model car is 12 cm long. The actual car is 4.8 m long. What is the scale factor from the model to the actual car?

☐ A. 40☐ C. 0.4☐ B. 4☐ D. 0.25

2) The points (0, 3), (2, 7), and (4, 11) are on the same line. What is the slope?

☐ A. 1☐ C. 3☐ B. 4☐ D. 2

3) When solving $2(3x + 1) = 20$, which step comes **first** after distributing?

☐ A. Divide both sides by 3☐ C. Add 1 to both sides☐ B. Multiply both sides by 2☐ D. Subtract 2 from both sides

4)

Which equation represents this line?

☐ A. $y = 2x$ ☐ C. $y = 6x$ ☐ B. $y = 8x$ ☐ D. $y = 4x$ 

5) Factor $x^2 - 2x - 15$.

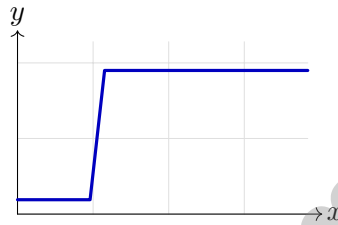
☐ A. $(x - 5)(x + 3)$

☐ C. $(x - 15)(x + 1)$

☐ B. $(x + 5)(x - 3)$

☐ D. $(x - 1)(x - 15)$

6) A graph displays cumulative rainfall over a month. Which scenario matches a graph with a steep jump, then a flat section?



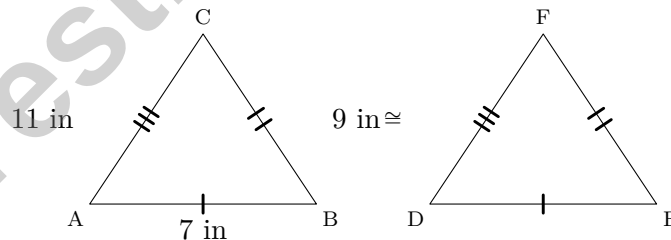
☐ A. Heavy rain one day, then no rain for several days

☐ C. No rain for a week, then a single light drizzle

☐ B. Light rain every day for a month

☐ D. Rain that decreases over time at a constant rate

7) Triangle ABC is congruent to triangle DEF. In triangle ABC: $AB = 7$ in, $BC = 9$ in, $AC = 11$ in. In triangle DEF, which side corresponds to side AC?



☐ A. Side DE

☐ D. Cannot be determined from the diagram

☐ B. Side EF

☐ C. Side DF



Scan me!
For more practice
& answers

1) If a point is translated by the vector (a, b) and then translated again by the vector (c, d) , what is the combined translation vector?

☐ A. $(a + c, b + d)$

☐ C. (ac, bd)

☐ B. $(a - c, b - d)$

☐ D. $(a + c, bd)$

2) 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?

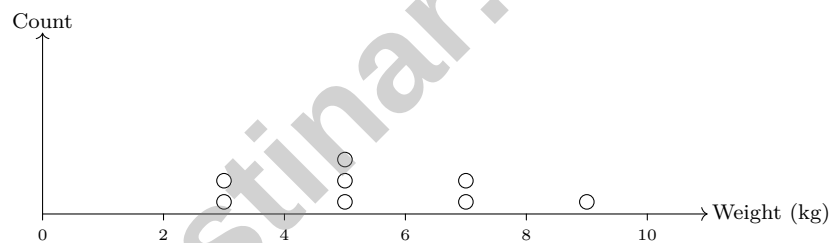
☐ A. ≈ 0.30

☐ C. ≈ 0.50

☐ B. ≈ 0.46

☐ D. ≈ 0.60

3)



Pet weights: $\{3, 3, 5, 5, 5, 7, 7, 9\}$ kg with mean = 5.5 kg. Find MAD.

☐ A. 1.5

☐ C. 2

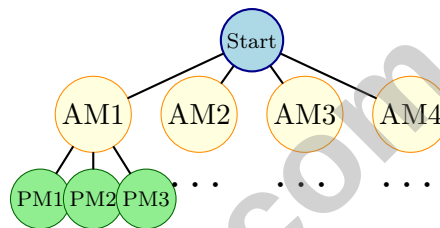
☐ B. 1.63

☐ D. 2.25



- 4) Two parallel lines are cut by a transversal. One angle measures 73° . Write and solve an equation to find the measure of its co-interior angle.

- 5) A student chooses a morning task (4 options) and an afternoon task (3 options). A partial tree diagram is drawn. How many final outcome branches are there?



- ☐ A. $4 + 3 = 7$
☐ C. $4^3 = 64$
- ☐ B. $4 \times 3 = 12$
☐ D. $3^4 = 81$
- 6) Which is the best estimate of $\sqrt{7}$?
- ☐ A. 2.1
 ☐ C. 3.5
- ☐ B. 7.0
 ☐ D. 2.6
- 7) Which number lies between 3 and 4?
- ☐ A. $\sqrt{8}$
☐ C. $\sqrt{20}$
- ☐ B. $\sqrt{25}$
☐ D. $\sqrt{13}$



Scan me!
For more practice
& answers

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.



Scan me!
For more practice
& answers

+ - 123 × ÷

Testinar.com

Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** (8.F.A.1) At $x = 2$, the function passes through point C which is at $(2, 3)$, so $f(2) = 3$.
- 2) **Choice D is correct.** (8.F.B.5) Unit rate: $\frac{8}{10} = 0.8$ oz per minute. After 45 minutes: $0.8 \times 45 = 36$ ounces.
- 3) **Choice A is correct.** (8.EE.C.7) Find two numbers that multiply to 45 and add to -14 : -5 and -9 . Verify: $(-5)(-9) = 45$ and $-5 - 9 = -14$.
- 4) **Choice A is correct.** (8.F.B.5) From $x = -1$ to $x = 1$: the function is constant at $f(x) = 2$ (neither increasing nor decreasing). From $x = 1$ to $x = 3$: the function increases from 2 to 4. From $x = 3$ onward: the function decreases.
- 5) **Choice B is correct.** (8.GM.B.8) The distance formula comes from the Pythagorean Theorem applied to the horizontal and vertical legs of a right triangle.
- 6) **Choice A is correct.** (8.GM.A.5) Set $(n - 2) \times 180 = 2340$. Then $n - 2 = 13$, so $n = 15$.
- 7) **Choice A is correct.** (8.GM.A.4) Composite linear scale factor: $\frac{2}{3} \times \frac{3}{2} = 1$. Composite area scale factor: $\left(\frac{2}{3}\right)^2 \times \left(\frac{3}{2}\right)^2 = \frac{4}{9} \times \frac{9}{4} = 1$. The area remains unchanged (the dilations are inverses).
- 8) **Choice B is correct.** (8.EE.C.7) DASHED line means strict inequality ($<$ or $>$). Shading BELOW means $y <$. Combined: $y < x - 2$.
- 9) **Choice B is correct.** (8.F.A.1) Input 3 already maps to 6. Adding $(3, 8)$ would make input 3 map to two different outputs (6 and 8), violating the function definition.
- 10) **Choice B is correct.** (8.F.A.3) Linear functions are represented by straight lines. The graph clearly shows a straight line, confirming a linear relationship.
- 11) **The correct answer is $m = 25$.** (8.EE.C.7) Add 2 to both sides: $\frac{m}{5} = 5$. Multiply both sides by 5: $m = 25$. Verify: $\frac{25}{5} - 2 = 5 - 2 = 3 \checkmark$.
- 12) **Choice A is correct.** (8.GM.B.7) Corresponding angles formed by parallel lines and a transversal are congruent.
- 13) **Choice B is correct.** (8.GM.C.9) Decompose: rectangle and trapezoid. Rectangle area = $7 \times 4 = 28 \text{ in}^2$. Trapezoid area = $\frac{1}{2}(7 + 3) \times 2 = 10 \text{ in}^2$. Total = $28 + 10 = 38 \text{ in}^2$.
- 14) **Choice B is correct.** (8.F.B.4) The constant term 80 is the y -intercept, which is the initial cost when $t = 0$ (before any monthly charges). This one-time equipment fee is paid at the start.
- 15) **Choice C is correct.** (8.GM.A.3) The rule $(x, y) \rightarrow (-x, -y)$ describes a 180° rotation about the origin. So $(3, 5) \rightarrow (-3, -5)$.
- 16) **Choice B is correct.** (8.GM.B.6, 8.GM.B.7) The 7-24-25 triple applies directly: $d^2 = 7^2 + 24^2 = 49 + 576 = 625$, so $d = 25$ cm.
- 17) **Choice C is correct.** (8.GM.A.5) If the angles are $3k$ and $7k$, then $3k + 7k = 90$, so $10k = 90$ and $k = 9^\circ$. The smaller angle is $3 \times 9 = 27^\circ$.
- 18) **Choice A is correct.** (8.GM.C.9) $V = \frac{1}{3} \times 25 \times 9 = 75 \text{ cm}^3$.
- 19) **Choice D is correct.** (8.DSP.A.1) The tight downward trend shows a strong negative association: as phone usage increases, battery life decreases. This is a clear negative correlation pattern.
- 20) **Choice B is correct.** (8.DSP.A.4) Repeat beach-lovers: $130 - 91 = 39$. Relative frequency among beach-lovers: $\frac{39}{130} = 0.30$.
- 21) **Choice B is correct.** (8.GM.B.8) Absolute deviations: $|3 - 6| = 3$, $|5 - 6| = 1$, $|7 - 6| = 1$, $|9 - 6| = 3$. Sum = 8. MAD = $8/4 = 2$.
- 22) **The correct answer is B,E.** (8.GM.B.8) 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 $-\frac{3}{2}$.
- 23) **Choice B is correct.** (8.EE.A.1) Even numbers on a die: 2, 4, 6. That's 3 out of 6 outcomes, so $P(\text{even}) = \frac{3}{6} = \frac{1}{2}$.
- 24) **Choice B is correct.** (8.NS.A.2) Assign instrument 1 to any of 7 musicians, instrument 2 to any of the remaining 6, instrument 3 to any of the remaining 5: $7 \times 6 \times 5 = 210$. (This is $P(7, 3)$, a permutation because the instruments are distinguishable.)



A Note for a Careful Thinker

Hi, Careful Thinker!

◇ This broad and demanding book gave you seven strong Grade 8 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. This book gave you room to practice the kind of thinking eighth graders need: modeling linear relationships, solving systems, connecting algebra and geometry, and interpreting data. ◇

★ **Remember this:** The goal was never just to finish pages. The goal was to become the kind of student who knows how to begin, how to adjust, and how to check. ★

Your Careful-Thinking Toolkit

- **Read Twice:** First for the story, second for the math.
- **Label Values:** Give each number a job.
- **Check Signs:** Negatives and inequalities deserve attention.
- **Use Evidence:** Let the work prove the answer.

Grade 8 test-day tip: On test day, underline the question before solving. It keeps your answer aimed at the right target.

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

Jay Daie

Your Math Practice 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! |



2 EXTRA ONLINE PRACTICE TESTS INCLUDED!

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

testinar.com/math8

BUILD CONFIDENCE. SHARPEN SKILLS. ACE YOUR EXAM!