

5

Missouri MAP

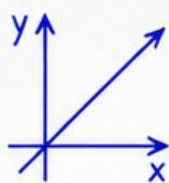
GRADE

7

MATH

PRACTICE TESTS

Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs



$$y = mx + b$$

$$\frac{2}{3} + \frac{1}{6} = \frac{5}{6}$$



$$V = \pi r^2 h$$



5 PRINTED
TESTS



2 ONLINE
TESTS

USE THESE TWO
ADDITIONAL ONLINE
PRACTICE TESTS
FOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.



Build
Confidence



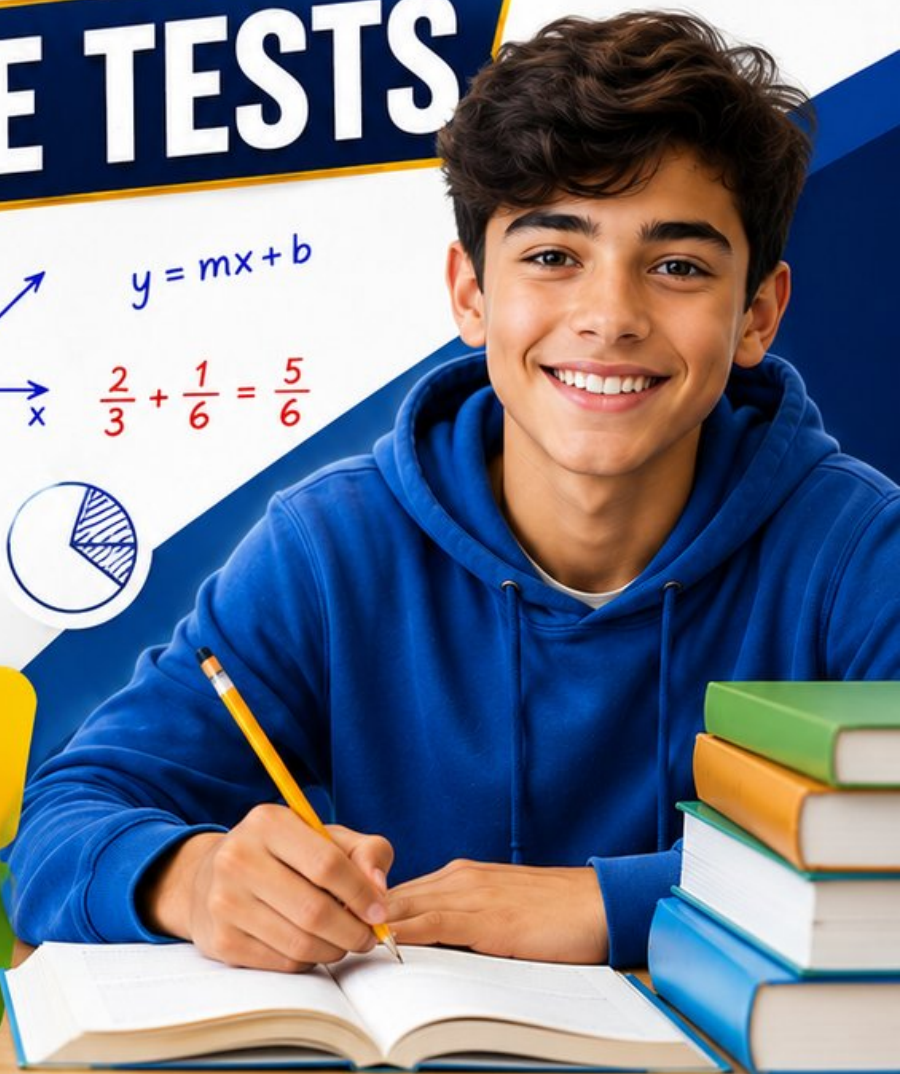
Strengthen
Math Skills



Detailed Answers
& Explanations



Improve Test
Performance



5 Missouri MAP Grade 7 Math Practice Tests

Standards-Based Grade 7 Practice with Review and Worked Explanations



Five complete 40-question Grade 7 MAP practice rounds with proportional relationships, percents, rational numbers, expressions, equations, geometry, statistics, probability, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari



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Welcome, Missouri Grade 7 Problem Solver!

Five focused rounds for sharper MAP math thinking

This book gives you five full Grade 7 MAP math practice tests. Each round is built to help you notice structure, compare quantities, use proportional reasoning, handle rational numbers, 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 five-session plan for confident Grade 7 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.

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?

Five MAP tests, 200 questions, and a focused review path

Part	What You Will Practice
Tests 1–2	Proportional relationships, unit rates, percents, rational-number operations, and careful reading.
Tests 3–5	Expressions, equations, inequalities, scale drawings, geometry, data, probability, and multi-step problem solving.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Grade 7 success means recognizing which idea is being tested even when the next question changes format.



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For more practice
& answers

Table of Contents

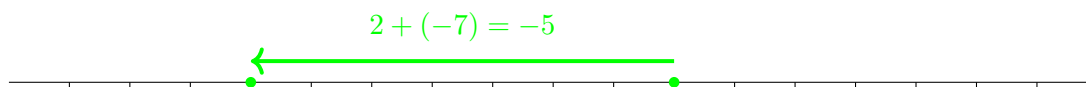
★ Practice Test 1	_____	13
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- 1) A recipe calls for 2 cups of flour for every 1 cup of sugar. If the recipe uses s cups of sugar, which expression shows the amount of flour needed?
- ☐ A. $s + 2$ ☐ C. $\frac{s}{2}$
☐ B. $2s$ ☐ D. $2 + s$
- 2) What is $4 - (-7)$?
- ☐ A. -11 ☐ C. 3
☐ B. -3 ☐ D. 11
- 3) A circle graph shows the distribution of pets owned by households in a neighborhood. Dogs account for 40% of the 80 households surveyed. How many households own dogs?
- ☐ A. 20 ☐ C. 48
☐ B. 32 ☐ D. 64
- 4) A soccer team won 75% of their 20 games. How many games did they win?
- ☐ A. 5 ☐ C. 15
☐ B. 12 ☐ D. 18
- 5) A store buys T-shirts for \$12 each and sells them for \$18 each. What is the percent markup?
- ☐ A. 40% ☐ C. 33%
☐ B. 66% ☐ D. 50%



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6) Which addition problem results in a sum of -5 ?



☐ A. $8 + (-3)$

☐ C. $-1 + 6$

☐ B. $-9 + 3$

☐ D. $2 + (-7)$

7) A proportional relationship passes through the points $(6, 2)$ and $(0, 0)$. What is the constant of proportionality?

8) Which situation describes a non-proportional relationship?

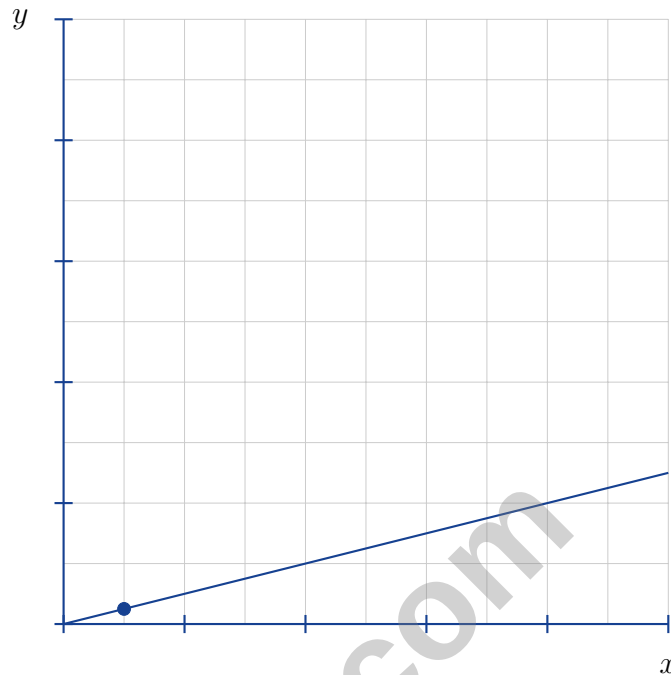
☐ A. Buying gas at \$3 per gallon

☐ C. Downloading files at 50 MB per second

☐ B. Walking at a constant speed of 3 mph

☐ D. Renting a movie with \$5 base fee plus \$1 per day





9)

What is the unit rate represented by this graph?

☐ A. 10☐ C. 2.5☐ B. 1☐ D. 0.25

10) Convert 0.08 to a percent.

☐ A. 0.8%☐ C. 80%☐ B. 800%☐ D. 8%

11) A savings account starts with \$1,500 and grows to \$1,650 after one year. What was the interest rate?

☐ A. 10%☐ C. 20%☐ B. 15%☐ D. 25%

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- 1) A toy costs \$20 at a store. The store adds an 8% sales tax. What is the final price?
- ☐ A. \$20.80 ☐ C. \$22
☐ B. \$28 ☐ D. \$21.60
- 2) A biology class conducted experiments. In 40 trials, 8 showed unexpected results. If the class conducts 200 trials total, about how many are expected to show unexpected results?
- ☐ A. 20 ☐ C. 40
☐ B. 30 ☐ D. 50
- 3) A school fundraiser invests \$5000 to earn money for field trips. At 3.6% simple interest per year, how long (in months) will it take to earn \$180?
- ☐ A. 6 months ☐ C. 12 months
☐ B. 9 months ☐ D. 18 months
- 4) A ratio table shows the relationship between pounds of coffee and cost. The table indicates that 4 pounds cost \$28. If the relationship is proportional, how much do 10 pounds cost?
- ☐ A. \$60 ☐ C. \$74
☐ B. \$84 ☐ D. \$70
- 5) Which inequality represents “a number is more than twice itself minus 5”?
- ☐ A. $n > 2n - 5$ ☐ C. $2n > n - 5$
☐ B. $n > 2n + 5$ ☐ D. $n + 5 > 2n$



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- 6) A cube's surface area is 294 cm^2 . A second cube has edge length twice as long. What is the surface area of the larger cube?

☐ A. 588 cm^2 ☐ C. 1764 cm^2
☐ B. 1176 cm^2 ☐ D. 2352 cm^2

- 7) A data company offers cloud storage at \$9.99 per month with a one-time activation fee of \$29.99. Which expression shows the total cost C for n months?

☐ A. $C = 29.99n + 9.99$ ☐ C. $C = 9.99 + 29.99n$
☐ B. $C = 9.99n + 29.99$ ☐ D. $C = (9.99 + 29.99)n$

- 8) Simplify $12x - 8x + 5y - 2y - x$, then evaluate when $x = 1$ and $y = 2$.

- 9) What is the solution to $\frac{3x-6}{2} = 9$?

☐ A. $x = 6$ ☐ C. $x = 12$
☐ B. $x = 8$ ☐ D. $x = 15$

- 10) A rectangular prism has dimensions $4 \text{ cm} \times 6 \text{ cm} \times 8 \text{ cm}$. If a vertical plane cuts through it perpendicular to the base, which shape MUST appear in the cross-section?

☐ A. Square ☐ C. Trapezoid
☐ B. Rectangle ☐ D. Triangle



1) Which scale would make the drawing *larger* than the actual object?

☐ A. 1 in : 10 ft

☐ C. 2 in : 1 ft

☐ B. 1 in : 5 ft

☐ D. 1 in : 100 ft

2) Solve: $-2x + 3 < 9$

☐ A. $x > -3$

☐ C. $x < 6$

☐ B. $x < -3$

☐ D. $x \geq 3$

3) If $m \div (-4) = -7$, what is m ?

☐ A. -28

☐ C. -11

☐ B. 28

☐ D. 3

4) Convert $\frac{5}{9}$ to a decimal.

☐ A. 0.5

☐ C. $0.\overline{5}$

☐ B. 0.55

☐ D. 0.59

5) Express 6.5×10^{-4} in standard form.

☐ A. 0.65

☐ C. 0.00065

☐ B. 0.0065

☐ D. 6,500

6) Solve for x : $\frac{x}{2} - 1 = 4$



7) Which expression is equivalent to $x^2 \cdot x^7 \cdot x^3$?

☐ A. x^5

☐ C. x^{13}

☐ B. x^{12}

☐ D. x^{42}

8) A personal trainer charges a one-time consultation fee of \$50 and \$60 per session. The total for several sessions is \$290. Which equation finds s , the number of sessions?

☐ A. $60s + 50 = 290$

☐ C. $60 + 50s = 290$

☐ B. $50s + 60 = 290$

☐ D. $50(s + 60) = 290$

9) Marcus earns \$12 per hour. After working 8 hours, he spent \$15 on lunch. How much money does he have left?

☐ A. \$81

☐ C. \$111

☐ B. \$96

☐ D. \$127

10) A recipe requires $\frac{2}{3}$ cup of sugar. If you make half the recipe, then add $\frac{1}{4}$ cup extra, how much sugar do you use?

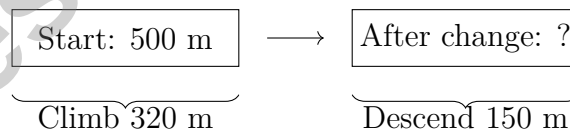
☐ A. $\frac{3}{7}$ cup

☐ C. $1\frac{1}{12}$ cups

☐ B. $\frac{7}{12}$ cup

☐ D. $\frac{5}{12}$ cup

11)



A climber starts at 500 m elevation, climbs 320 m, then descends 150 m. What is the final elevation?

☐ A. 150 m

☐ C. 670 m

☐ B. 320 m

☐ D. 970 m



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Missouri MAP Grade 7 Practice Test Answer Keys**How to use this section with a Grade 7 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 B is correct.** (7.EE.1-7.EE.2) The ratio is 2 cups flour per 1 cup sugar, so $f = 2s$.
- 2) **Choice D is correct.** (7.NS.1-7.NS.3) Subtracting a negative is the same as adding its opposite: $4 - (-7) = 4 + 7 = 11$.
- 3) **Choice B is correct.** (7.SP.1-7.SP.4) 40% of 80 = $0.40 \times 80 = 32$ households.
- 4) **Choice C is correct.** (7.RP.3) 75% of 20 is $0.75 \times 20 = 15$ games.
- 5) **Choice D is correct.** (7.RP.3) Markup amount = $18 - 12 = \$6$. Percent = $\frac{6}{12} \times 100 = 50\%$.
- 6) **Choice D is correct.** (7.NS.1b) Check each: A: $8 + (-3) = 5$. B: $2 + (-7) = -5$ ✓. C: $-1 + 6 = 5$. D: $-9 + 3 = -6$. Only B equals -5 .
- 7) **The correct answer is $\frac{1}{3}$.** (7.RP.1-7.RP.3) The constant is $k = \frac{y}{x} = \frac{2}{6} = \frac{1}{3}$.
- 8) **Choice D is correct.** (7.RP.1-7.RP.3) Options A, B, C follow $y = kx$. Option D has form $y = 5 + x$ (with constant), so non-proportional.
- 9) **Choice D is correct.** (7.RP.1-7.RP.3) The unit-rate marker at (1, 0.25) shows the rate is 0.25.
- 10) **Choice D is correct.** (7.RP.3) Multiply by 100: $0.08 \times 100 = 8\%$. Equivalently, $0.08 = \frac{8}{100} = 8\%$.
- 11) **Choice A is correct.** (7.RP.3) Interest rate = $(\$1,650 - \$1,500) \div \$1,500 = \$150 \div \$1,500 = 0.10 = 10\%$.
- 12) **The correct answer is 20.** (7.RP.1-7.RP.3) If 2.5 cm = 50 km, then 1 cm = $50 \div 2.5 = 20$ km.
- 13) **Choice B is correct.** (7.NS.1-7.NS.3) Divide the magnitudes: $13 \div 4 = 3.25$. Apply sign rule: $(+) \div (-) = (-)$. Thus $13 \div (-4) = -3.25$.
- 14) **Choice B is correct.** (7.NS.2d) The decimal $0.\overline{3}$ repeats the digit 3 infinitely and never terminates. It equals $\frac{1}{3}$.
- 15) **Choice C is correct.** (7.NS.1-7.NS.3) $0.000000125 = 1.25 \times 10^{-9}$. Move decimal 9 places right to reach first nonzero digit.
- 16) **Choice D is correct.** (7.RP.1-7.RP.3) Unit rate = $\frac{900}{3/4} = 900 \times \frac{4}{3} = 1200$ dollars per house.
- 17) **Choice D is correct.** (7.NS.1-7.NS.3) Starting at 1 and moving right 3 units represents adding 3, so $1 + 3 = 4$.
- 18) **Choice B is correct.** (7.NS.1-7.NS.3) Net change: $-1 - (-4) = -1 + 4 = 3^\circ\text{C}$.
- 19) **The correct answer is A, C.** (7.SP.1-7.SP.4) Sample 1: $\frac{48}{200} = 0.24$; Sample 2: $\frac{36}{150} = 0.24$; Sample 3: $\frac{60}{250} = 0.24$. All are equal, so A is correct. These proportions can be used to estimate the full population (C). B is false (all equal), D is misleading, and E contradicts the actual data.
- 20) **Choice B is correct.** (7.NS.1-7.NS.3) Volume = $\frac{7}{8} - \frac{1}{8} + \frac{3}{8} = \frac{7-1+3}{8} = \frac{9}{8}$ liters.
- 21) **Choice B is correct.** (7.SP.5-7.SP.8) $P(\text{Disagree}) = \frac{1}{4} = \frac{5}{20}$. Then $P(\text{Neutral}) = 1 - \frac{7}{20} - \frac{5}{20} = \frac{20-12}{20} = \frac{8}{20}$.
- 22) **Choice B is correct.** (7.NS.1-7.NS.3) If area = 25, then $s^2 = 25$, so $s = \sqrt{25} = 5$.
- 23) **Choice A is correct.** (7.NS.2) After 1 hour: $16 \times 0.5 = 8$ bacteria. After 2 hours: $8 \times 0.5 = 4$ bacteria. Multiplying by a decimal less than 1 decreases the quantity (scaling).
- 24) **Choice A is correct.** (7.SP.3) Gym Alpha's concentration at 20–35 shows it serves a targeted young adult demographic well. Gym Beta's even distribution shows it serves all age groups without targeting a specific age.
- 25) **Choice C is correct.** (7.RP.3) Processing fee = $0.03 \times 1000 = \$30$.
- 26) **Choice D is correct.** (7.RP.3) Year 1: $800 \times 1.09 = 872$. Year 2: $872 \times 1.09 = 950.48$.
- 27) **Choice A is correct.** (7.G.4-7.G.6) Add the two rectangles, but subtract the overlap once (since it was counted twice). Vertical rectangle: $4 \times 10 = 40 \text{ m}^2$. Horizontal rectangle: $6 \times 4 = 24 \text{ m}^2$. Overlap region: $4 \times 4 = 16 \text{ m}^2$. Total: $40 + 24 - 16 = 48 \text{ m}^2$.
- 28) **Choice D is correct.** (7.RP.3) Difference: $700 - 680 = 20$ points below the good credit threshold.
- 29) **Choice C is correct.** (7.G.4-7.G.6) Volume of first prism = $2 \times 3 \times 4 = 24 \text{ ft}^3$. Volume of second = $4 \times 6 \times 8 = 192 \text{ ft}^3$. Ratio = $\frac{192}{24} = 8$.
- 30) **The correct answer is \$6000.** (7.RP.3) $I = 5000 \times 0.08 \times 2.5 = \1000 . $A = 5000 + 1000 = \$6000$.
- 31) **The correct answer is 18.2%.** (7.RP.3) Percent error = $\frac{|18-22|}{22} \times 100\% = \frac{4}{22} \times 100\% \approx 18.18\%$, rounds to 18.2%.



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Hi, Persistent Problem Solver!

◇ Some Grade 7 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 5 full Grade 7 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 7 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!

This book includes **5** full-length Math practice tests and **2** online tests to help Grade 7 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:

5 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.



Strengthen Math Skills

Develop key math concepts and problem solving abilities.



Improve Understanding

Learn with clear explanations and step-by-step solutions.



Test Confidence

Familiarize with test formats and improve accuracy and speed.



Boost Performance

Apply your knowledge and achieve your best score!

TOPICS COVERED

- ✓ Ratios & Proportions
- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Geometry
- ✓ Percents & Decimals
- ✓ Statistics & Probability
- ✓ Data Analysis
- ✓ Measurement & Conversions
- ✓ Algebraic Thinking
- ✓ 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!



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