

9 Missouri MAP

GRADE 7

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

Program



9 PRINTED
TESTS



2 ONLINE
TESTS



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



BUILT FOR ACAP
Standards-Aligned



**STRENGTHEN
SKILLS**



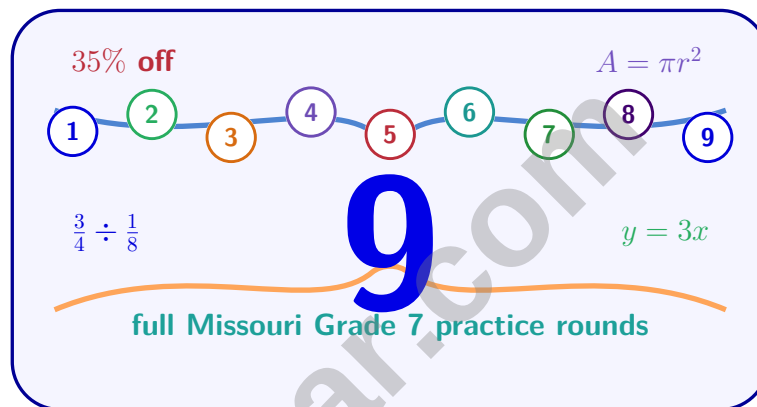
**SHARPEN
THINKING**



BE TEST-READY
Improve Performance

9 Missouri MAP Grade 7 Math Practice Tests

Standards-Aligned Missouri Practice for Proportional Reasoning, Expressions, Geometry, Statistics, and Probability



Nine 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!

Nine focused rounds for sharper MAP math thinking

This book gives you nine 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 nine-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?

Nine MAP tests, 360 questions, and a complete review path

Part	What You Will Practice
Tests 1–3	Proportional relationships, unit rates, percents, rational-number operations, and careful reading.
Tests 4–6	Expressions, equations, inequalities, scale drawings, geometry, and multi-step problem solving.
Tests 7–9	Statistics, probability, mixed review, stamina, and choosing efficient strategies.
Answer Pages	Compact keys and explanations that show why each answer works.

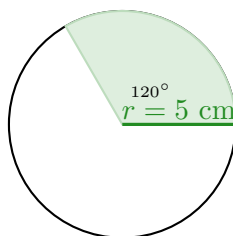
The tests are mixed on purpose. Grade 7 success means recognizing which idea is being tested even when the next question changes format.



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& answers

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1)

A sector of a circle has a central angle of 120° and radius 5 cm. What is its area?
(Use $\pi \approx 3.14$.)

☐ A. 13.08 cm^2
☐ C. 39.25 cm^2
☐ B. 26.17 cm^2
☐ D. 78.5 cm^2

2) A real estate agent earns a 2.5% commission on home sales. She sells a house for \$400,000. How much is her commission?

☐ A. \$6,000

☐ C. \$12,500

☐ B. \$40,000

☐ D. \$10,000

3) A stem-and-leaf plot shows:

Stem	Leaves
3	1, 4, 7
4	2, 5, 8, 9
5	0, 3, 6

Find the median of the dataset.

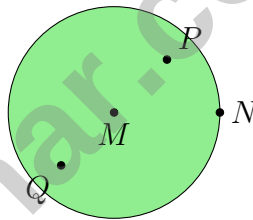


- 4) A punch recipe has a ratio of juice to water of 2 : 5. If you use 14 cups of juice, how many cups of water are needed?

- 5) A rectangular prism has length 8 cm, width 6 cm, and height 10 cm. Convert its volume to liters if 1 liter = 1,000 cm³.

- ☐ A. 0.48 L ☐ C. 48 L
☐ B. 480 L ☐ D. 4.8 L

- 6) Which point is the center of the circle?



- ☐ A. *N* ☐ C. *P*
☐ B. *M* ☐ D. *Q*
- 7) A game has a $\frac{1}{3}$ chance of winning and a $\frac{2}{3}$ chance of losing. What is the probability of winning as a decimal (rounded to the nearest hundredth)?
- ☐ A. 0.33 ☐ C. 0.5
☐ B. 0.67 ☐ D. 0.2



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8) A microfinance organization provides loans at 11% simple interest. If a borrower takes a \$3000 loan to start a business, how much will be owed after 2 years?

☐ A. \$3330

☐ C. \$3660

☐ B. \$3600

☐ D. \$4200

9) In a sample of 140 workers, 35 work the night shift. The company employs 4200 people. How many workers are expected to work the night shift?

10) A geometric figure has an area of 48 square inches. If the figure is enlarged by a scale factor of 3, what is the new area?

☐ A. 144 square inches

☐ C. 51 square inches

☐ B. 16 square inches

☐ D. 432 square inches

11) If 18 is 20% of a number, what is the number?

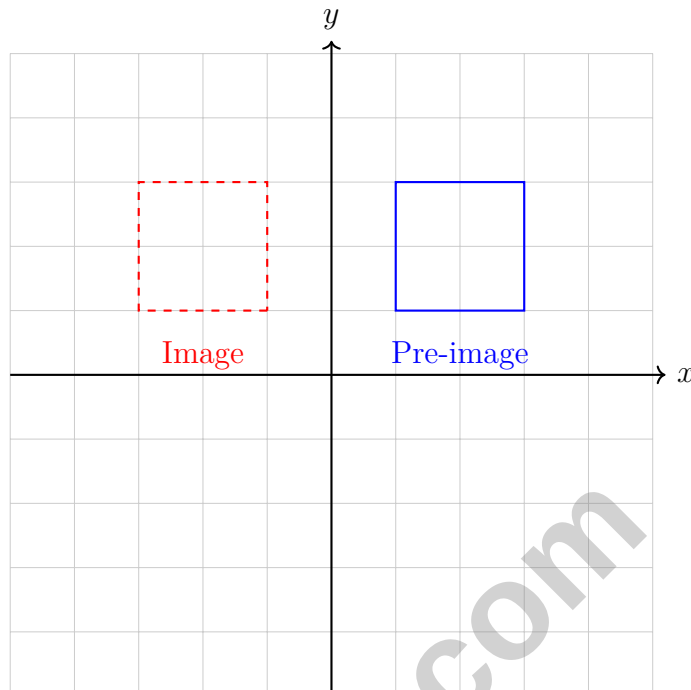
☐ A. 60

☐ C. 90

☐ B. 80

☐ D. 100





1)

Which transformation maps the blue figure (pre-image) to the red figure (image)?

- | | |
|---|---|
| ☐ A. Translation by $(-2, 0)$ | ☐ C. Rotation of 90° counterclockwise |
| ☐ B. Reflection over the y -axis | ☐ D. Reflection over the x -axis |

2) A garden uses 2 gallons of water per square foot of plants. How much water is needed for 12 square feet?

- | | |
|--|--|
| ☐ A. 6 gallons | ☐ C. 36 gallons |
| ☐ B. 12 gallons | ☐ D. 24 gallons |



- 3) A painter completes $\frac{2}{3}$ of a room in $\frac{1}{5}$ hour. At this rate, how many rooms will the painter complete in 1 hour?
- ☐ A. $\frac{2}{15}$ room ☐ C. 1 room
☐ B. $\frac{3}{5}$ room ☐ D. $\frac{10}{3}$ rooms
- 4) Two students predict the cost of a field trip. One writes $C = 15n$ and the other writes $C = 20n$, where C is cost in dollars and n is the number of students. What does the difference in their equations mean?
- ☐ A. They are using different variables. ☐ D. They are calculating different costs
☐ B. One equation has a mistake. per student.
☐ C. The equations are the same; $15n = 20n$.
- 5) In the proportional relationship $y = \frac{2}{3}x$, what is the constant of proportionality?
- ☐ A. $\frac{1}{3}$ ☐ C. $\frac{3}{2}$
☐ B. 2 ☐ D. $\frac{2}{3}$
- 6) Compute $2\frac{1}{3} \div \frac{5}{9}$. Show all steps: convert mixed number, apply reciprocal rule, and simplify.



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- 1) A container has 40 items: 16 are red, 14 are blue, and 10 are green. A student calculates $P(\text{red}) = \frac{16}{40}$, then simplifies to $\frac{2}{5}$. Is this correct?

- ☐ A. No; the correct simplified form is $\frac{1}{5}$.
☐ B. Yes; $\frac{16}{40} = \frac{2}{5}$.
☐ C. No; it should stay as $\frac{16}{40}$.
☐ D. No; the correct form is $\frac{4}{10}$.

- 2) What is the opposite of the opposite of -3 ?

- 3) A student solves $4x - 6 = 10$ and writes: “Step 1: $4x = 16$. Step 2: $x = 4$.” Which best describes the work?

- ☐ A. All steps are correct
☐ B. Step 1 is wrong; should be $4x = 4$
☐ C. Step 2 is wrong; should be $x = 16$
☐ D. Both steps have errors

- 4) A square in a scale drawing has a side length of 2 cm. The scale is 1 cm : 3 m. What is the area of the actual square in square meters?

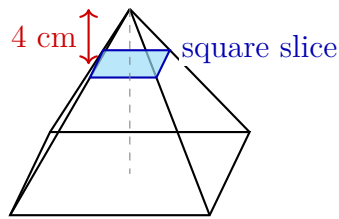
- ☐ A. 9 m^2
☐ B. 12 m^2
☐ C. 36 m^2
☐ D. 72 m^2

- 5) A rectangular blueprint shows a hallway that is 2.5 inches by 8 inches at a scale of 1 in : 4 ft. Another blueprint of the same hallway shows it as 5 inches by 16 inches. What is the scale of the second blueprint?

- ☐ A. 1 in : 2 ft
☐ B. 1 in : 4 ft
☐ C. 1 in : 8 ft
☐ D. 2 in : 1 ft



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6)

A square pyramid is cut by a plane parallel to its base. The cross-section is a square. If the pyramid has a height of 12 cm and the cut is made 4 cm from the apex, how does the area of the cross-section compare to the base?

- | | |
|--|---|
| ☐ A. It is $\frac{1}{3}$ of the base area | ☐ C. It is $\frac{4}{9}$ of the base area |
| ☐ B. It is $\frac{1}{9}$ of the base area | ☐ D. It is $\frac{4}{12}$ of the base area |

7) If angle R is 12° more than its complement, what is the measure of angle R ?

- | | |
|--|--|
| ☐ A. 39° | ☐ C. 68° |
| ☐ B. 51° | ☐ D. 78° |



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.G.4-7.G.6)** $\frac{120^\circ}{360^\circ} \times 3.14 \times 5^2 = \frac{1}{3} \times 3.14 \times 25 = \frac{1}{3} \times 78.5 = 26.17 \text{ cm}^2$.
- 2) **Choice D is correct.** **(7.RP.3)** Commission = commission rate $\times$ sales = $0.025 \times 400000 = \$10,000$.
- 3) **The correct answer is 46.5.** **(7.SP.1-7.SP.4)** The ordered values are 31, 34, 37, 42, 45, 48, 49, 50, 53, 56. With 10 values, the median is the average of the 5th and 6th values: $(45 + 48) \div 2 = 46.5$.
- 4) **The correct answer is 35.** **(7.RP.1-7.RP.3)** Ratio 2 : 5: if juice = 14, then $\frac{2}{5} = \frac{14}{x}$. Cross multiply: $2x = 70$, so $x = 35$ cups water.
- 5) **Choice A is correct.** **(7.G.4-7.G.6)** $V = 8 \times 6 \times 10 = 480 \text{ cm}^3 = 480/1000 = 0.48 \text{ L}$.
- 6) **Choice B is correct.** **(7.G.4-7.G.6)** The center is the point inside the circle equidistant from all points on the circle. M is at the center.
- 7) **Choice A is correct.** **(7.SP.5-7.SP.8)** $\frac{1}{3} = 0.\overline{3} \approx 0.33$ when rounded to the nearest hundredth.
- 8) **Choice C is correct.** **(7.RP.3)** $I = 3000 \times 0.11 \times 2 = \660 . $A = 3000 + 660 = \$3660$.
- 9) **The correct answer is 1050.** **(7.SP.1-7.SP.4)** $\frac{35}{140} = \frac{x}{4200}$. Reduce: $\frac{1}{4} = \frac{x}{4200} \Rightarrow x = 1050$.
- 10) **Choice D is correct.** **(7.RP.1-7.RP.3)** Area scales by the square of the linear scale factor: $(3)^2 = 9$. New area = $48 \times 9 = 432 \text{ sq in}$.
- 11) **Choice C is correct.** **(7.RP.3)** If $18 = 0.20 \times n$, then $n = \frac{18}{0.20} = 90$.
- 12) **Choice D is correct.** **(7.NS.1b)** $20 + (-12) = 8$. Starting at 20° and decreasing by 12° gives 8° .
- 13) **Choice D is correct.** **(7.RP.1-7.RP.3)** Each ratio: $25/10 = 2.5$, $50/20 = 2.5$, $75/30 = 2.5$. The constant ratio is \$2.50 per ticket.
- 14) **Choice D is correct.** **(7.RP.3)** Discount: $\frac{15}{100} \times 120 = 18$. Sale price: $120 - 18 = \$102$.
- 15) **Choice D is correct.** **(7.RP.3)** The pattern increases by \$25 each month: Jan \$25, Feb \$50, Mar \$75, Apr \$100, May \$125.
- 16) **Choice B is correct.** **(7.NS.1-7.NS.3)** Q1 loss: $-\$450$. Q2 loss: $-\$225$ (half of Q1). Q3: \$0 (break even). Net: $-\$450 - \$225 + 0 = -\$675$.
- 17) **Choice A is correct.** **(7.EE.1-7.EE.2)** Combine: $(10g + 2g - 3g) + (6 - 8 - 1) = 9g - 3$.
- 18) **Choice C is correct.** **(7.G.1-7.G.5)** Multiply the drawing length by the scale: $7 \times 4 = 28 \text{ m}$.
- 19) **Choice D is correct.** **(7.SP.1-7.SP.4)** Counting occurrences: 2 (twice), 3 (three times), 4 (four times), 5 (twice), 6 (twice), 7 (once), 9 (once). The value 4 appears most frequently, making it the mode.
- 20) **Choice D is correct.** **(7.RP.1-7.RP.3)** Unit rate = $\frac{5/8}{1/2} = \frac{5}{8} \times 2 = \frac{10}{8} = \frac{5}{4}$ floors per hour.
- 21) **The correct answer is A,C.** **(7.G.4-7.G.6)** Option A is correct (60 m^2). Option C is correct (18 m^2). The true total is $60 + 18 = 78 \text{ m}^2$, so D and
- 22) **Choice D is correct.** **(7.RP.1-7.RP.3)** Rate is $\frac{3 \text{ miles}}{30 \text{ min}} = 0.1 \text{ miles per minute}$.
- 23) **The correct answer is 3.** **(7.G.1-7.G.5)** All three corresponding side lengths match, so the triangles are congruent by SSS.
- 24) **Choice A is correct.** **(7.NS.1-7.NS.3)** Since $5.2 < 7.1$, the difference is negative: $5.2 - 7.1 = -1.9$.
- 25) **Choice C is correct.** **(7.EE.3-7.EE.4)** Divide by 2: $x + 3 = 7$. Subtract 3: $x = 4$.
- 26) **Choice B is correct.** **(7.G.1-7.G.5)** First reflection over y -axis: $(3, 4) \rightarrow (-3, 4)$. Second reflection over x -axis: $(-3, 4) \rightarrow (-3, -4)$.
- 27) **Choice A is correct.** **(7.SP.5-7.SP.8)** Red sector is 180° out of 360° : $P(\text{red}) = \frac{180}{360} = \frac{1}{2}$.
- 28) **Choice B is correct.** **(7.NS.1-7.NS.3)** $2 \times 2 = 4$, so $\sqrt{4} = 2$.
- 29) **Choice C is correct.** **(7.NS.2)** $2\frac{1}{2} = \frac{5}{2}$. So $\frac{5}{2} \times 4 = \frac{20}{2} = 10$.
- 30) **Choice C is correct.** **(7.RP.3)** Savings = $0.12 \times 200 = \$24$ per week.
- 31) **Choice C is correct.** **(7.RP.3)** Year 1: $500 \times 1.05 = 525$. Year 2: $525 \times 1.05 = 551.25$. Year 3: $551.25 \times 1.05 = 578.81$, rounded to 579.13.



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Hi, Confident Learner!

◇ This high-stamina book gave you nine substantial Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. Grade 7 math can feel big because it brings together rational numbers, expressions, equations, geometry, probability, and data. ◇

★ **Remember this:** But big topics become manageable when you practice one skill at a time. That is what you have been doing with every test in this book. ★

Confidence Builders

- **Know the Goal:** Identify what the question asks.
- **Use Vocabulary:** Math words point to math actions.
- **Show Work:** Give yourself something to check.
- **Celebrate Effort:** Practice is proof that you are moving.

Grade 7 test-day tip: When reviewing, do not only mark wrong answers. Write one sentence about what you learned from each one.

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

Jay Daie

Your Confidence Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **9** 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:

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2 Online Practice Tests

 Detailed Answer Explanations



MORE PRACTICE. GREATER RESULTS.

Give your child the tools to build strong math skills, confidence, and a positive attitude toward learning.

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Build a solid foundation through targeted practice and review.



Better Problem Solving

Develop logical thinking and effective solution strategies.



Deeper Understanding

Reinforce key concepts with clear explanations and meaningful practice.



Test Confidence

Familiarize with test formats and improve accuracy and speed.



Achieve Success

Build confidence and perform your best on test day.

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