

7 Missouri MAP

Grade 7 Math Practice Tests



7 PRINTED TESTS + 2 ONLINE TESTS

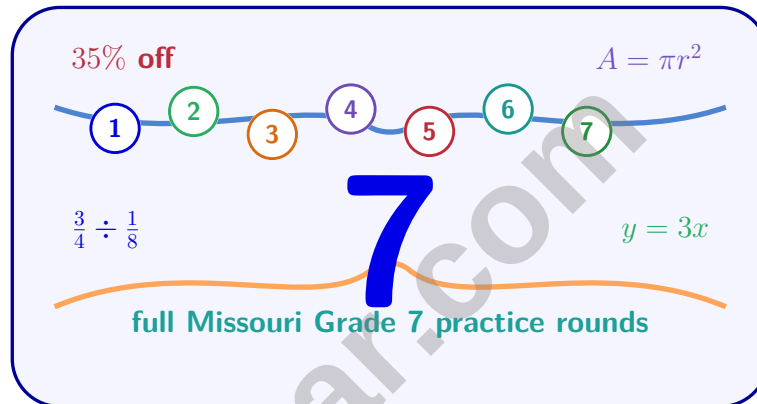


**Standards Aligned Problem Solving
For Comprehensive Assessment Programs**



8 Missouri MAP Grade 7 Math Practice Tests

Flexible practice in Missouri Grade 7 percent applications, expressions, equations, geometry, data displays, and chance



Eight 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!

Eight focused rounds for sharper MAP math thinking

This book gives you seven 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

An eight-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?

Eight MAP tests, 280 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 7–8	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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1) A cube's edge length is s cm. If the surface area is 600 cm^2 , which equation correctly represents this relationship?

☐ A. $6s = 600$

☐ C. $6s^2 = 600$

☐ B. $s^3 = 600$

☐ D. $2s + 2s + 2s = 600$

2) A student writes: $(-7) \times 5 = 35$. What error did the student make?

☐ A. Forgot to apply the negative sign

☐ C. Multiplied the absolute values incorrectly

☐ B. Added instead of multiplied

☐ D. Used the wrong order of operations

3) A movie theater applies a \$1.50 processing fee to online ticket orders. If a customer buys 4 tickets at \$12 each, what is the total cost?

☐ A. \$48.00

☐ C. \$50.00

☐ B. \$52.50

☐ D. \$49.50

4) A young person invests \$400 at 3% annual compound interest and leaves it untouched for 5 years. Approximately how much will the account contain?

Year	Balance
0	\$400.00
1	\$412.00
2	\$424.36
3	\$437.09
4	\$450.21
5	\$463.72

☐ A. \$460

☐ C. \$485

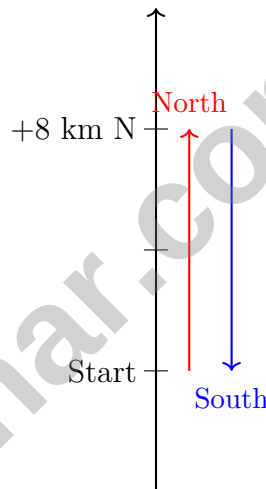
☐ B. \$520

☐ D. \$463


5) Two triangles have sides (3, 4, 5) and (5, 12, 13), respectively. Which statement is correct?

- ☐ A. Both are right triangles and congruent
- ☐ B. Both are right triangles but not congruent
- ☐ C. Only the first is a right triangle
- ☐ D. Neither is a right triangle

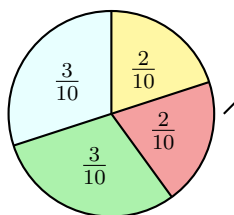
6) A scout hikes 8 kilometers north, then 8 kilometers south. Using a signed number model where north is positive, what is the total displacement?



- ☐ A. 16 km north
- ☐ B. 8 km north
- ☐ C. 0 km (back at start)
- ☐ D. 8 km south



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7)

A spinner with four unequal sections is spun 350 times. Section A has probability $\frac{3}{10}$ and Section B has probability $\frac{2}{10}$. How many times would you expect to see either Section A or Section B?

☐ A. 70 times

☐ C. 140 times

☐ B. 105 times

☐ D. 175 times

8) Which statement is true?

☐ A. $-5 + 3 = 8$
☐ C. $4 + (-9) = 5$
☐ B. $-12 + 20 = -8$
☐ D. $-5 + 3 = -2$

9) A diver begins at sea level (0 meters) and descends 25 meters. Then she ascends 8 meters. What is her final depth below sea level? Write your answer as an integer.

10) A student evaluates $2x + 3y$ when $x = -4$ and $y = 2$, and writes: " $2(-4) + 3(2) = -8 + 6 = -2$." Is this correct?

☐ A. No, the error is in the multiplication of $2x$
☐ C. No, negative times positive is positive

☐ B. No, the error is in the addition step

☐ D. Yes, the answer is -2


1) A charity collects \$150.50 on Monday, \$225.75 on Tuesday, and spends \$180.25 on supplies. How much is left?

☐ A. \$196.00

☐ C. \$195.50

☐ B. \$405.75

☐ D. \$195.00

2) Which perfect square is closest to 70?

☐ A. 64 (which is 8^2)

☐ C. 49 (which is 7^2)

☐ B. 81 (which is 9^2)

☐ D. 100 (which is 10^2)

3) A composite figure is made of a rectangle (8 ft by 5 ft) with a square (3 ft by 3 ft) attached to one side. What is the total area?

☐ A. 40 ft²

☐ C. 49 ft²

☐ B. 45 ft²

☐ D. 56 ft²

4) A triangular prism has volume 126 cubic inches. If the triangular base has area 18 in², what is the height of the prism?

☐ A. 7 in

☐ C. 9 in

☐ B. 8 in

☐ D. 144 in

5) A triangle has two angles of 45° and 65°. If one side is 10 cm, how many distinct triangles can be drawn?

☐ A. Infinitely many

☐ C. 1

☐ B. 0

☐ D. 2



6) A circle has a diameter of 24 cm. What is half the radius?

☐ A. 3 cm

☐ C. 12 cm

☐ B. 6 cm

☐ D. 24 cm

7) A rectangular prism has length 7 in, width 5 in, and height 4 in. If each dimension is increased by 1 inch, by how much does the surface area increase?

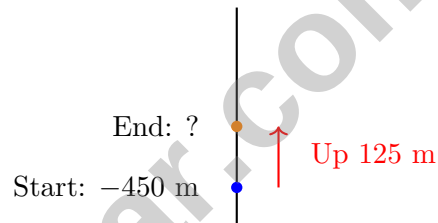
☐ A. 24 in²

☐ C. 70 in²

☐ B. 48 in²

☐ D. 96 in²

8) A submarine is at a depth of -450 meters. It ascends (moves up) 125 meters. What is its new depth?



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1) **Two Estimates: Which is Better?**

Estimate X: 55 vs. Actual 60 Estimate Y: 62 vs. Actual 60

- ☐ A. Estimate X is better ☐ C. Both equally good
☐ B. Cannot compare ☐ D. Estimate Y is better

2) A freelancer earns income variably: Month 1 earns \$2,500, Month 2 earns \$1,800, Month 3 earns \$3,200. They always save 20% of earnings. How much did they save across all three months?

- ☐ A. \$1,300 ☐ C. \$1,700
☐ B. \$1,900 ☐ D. \$1,500

Savings \$400/month	Expenses \$1600/month
------------------------	--------------------------

3)

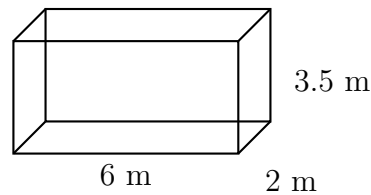
Based on the diagram, what percent of a \$2 000 monthly income goes to savings?

- ☐ A. 10% ☐ C. 20%
☐ B. 15% ☐ D. 25%

4) Two shops have different pricing on the same jacket. Shop A: originally \$80, marked down 15%. Shop B: originally \$75, marked down 10%. Which shop has the lower final price?

- ☐ A. Shop A; \$68 ☐ C. They cost the same.
☐ B. Shop A; \$65 ☐ D. Shop B; \$67.50





5)

A rectangular prism has dimensions $6\text{ m} \times 3.5\text{ m} \times 2\text{ m}$. Calculate the surface area.

☐ A. 49 m^2

☐ C. 80 m^2

☐ B. 73 m^2

☐ D. 147 m^2

6) A coin is flipped 100 times. Heads appears 48 times. Based on this simulation, which is the estimated probability of flipping heads?

☐ A. 0.40

☐ C. 0.50

☐ B. 0.48

☐ D. 0.52

7) Solve: $3 - \frac{x}{2} \geq 9$

☐ A. $x \leq -12$

☐ C. $x > 12$

☐ B. $x \geq -12$

☐ D. $x < -6$

8) A polling company uses a phone directory to call residents and ask about voting intentions. What bias might this method have?

☐ A. Neither; it is a random sample☐ C. Only calls during evening hours☐ B. Excludes people with unlisted phone numbers and cell-phone-only users☐ D. Leads respondents to lie about their voting plans**Scan me!**For more practice
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Missouri Assessment Program 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 Assessment Program practice test.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** (7.G.4-7.G.6) A cube has 6 faces, each with area s^2 . The surface area formula is $SA = 6s^2$. Setting this equal to 600 gives $6s^2 = 600$.
- 2) **Choice A is correct.** (7.NS.2) $(-7) \times 5 = -35$, not 35. The student multiplied correctly but forgot that negative times positive is negative.
- 3) **Choice D is correct.** (7.RP.3) Ticket cost = $4 \times 12 = \$48$. Total = $48 + 1.50 = \$49.50$.
- 4) **Choice D is correct.** (7.RP.3) $A = 400(1.03)^5 = 400 \times 1.1593 = 463.72 \approx 463$.
- 5) **Choice B is correct.** (7.G.1-7.G.5) For (3, 4, 5): $3^2 + 4^2 = 9 + 16 = 25 = 5^2$ ✓. For (5, 12, 13): $5^2 + 12^2 = 25 + 144 = 169 = 13^2$ ✓. Both are right triangles. Since they have different side lengths, they are not congruent.
- 6) **Choice C is correct.** (7.NS.1-7.NS.3) +8 (north) and -8 (south) are opposites. Their sum is zero: $8 + (-8) = 0$. The scout returns to the starting point.
- 7) **Choice D is correct.** (7.SP.5-7.SP.8) Section A: $\frac{3}{10} \times 350 = 105$. Section B: $\frac{2}{10} \times 350 = 70$. Combined: $105 + 70 = 175$ times.
- 8) **Choice D is correct.** (7.NS.1b) Check each: A: $-5 + 3 = -2$, not 8. B: $-5 + 3 = -2$ ✓. C: $4 + (-9) = -5$, not 5. D: $-12 + 20 = 8$, not -8.
- 9) **The correct answer is -17.** (7.NS.1-7.NS.3) After descending: $0 - 25 = -25$. After ascending 8 meters: $-25 - (-8) = -25 + 8 = -17$. She is 17 meters below sea level.
- 10) **Choice D is correct.** (7.EE.1-7.EE.2) The work is correct: $2(-4) + 3(2) = -8 + 6 = -2$.
- 11) **Choice B is correct.** (7.EE.1-7.EE.2) Factor: $12m + 20 = 4(3m + 5)$. Dimensions are 4 and $3m + 5$.
- 12) **Choice A is correct.** (7.EE.4b) "A number decreased by 10" is $n - 10$; "is less than or equal to 25" is ≤ 25 . (Note: D is a valid simplification but A is the direct translation.)
- 13) **Choice C is correct.** (7.NS.1-7.NS.3) Division by zero is undefined in mathematics. You cannot divide any number (positive, negative, or zero) by zero. Therefore $(-18) \div 0$ is **undefined**.
- 14) **Choice B is correct.** (7.NS.2d) $0.6 = \frac{6}{10}$. Find GCD(6, 10) = 2. Divide both: $\frac{6 \div 2}{10 \div 2} = \frac{3}{5}$. B is simplest form.
- 15) **Choice B is correct.** (7.NS.1-7.NS.3) $0.0089 = 8.9 \times 10^{-3}$. The coefficient must satisfy $1 \leq a < 10$.
- 16) **Choice A is correct.** (7.EE.1-7.EE.2) Quotient rule: $\frac{n^9}{n^4} = n^{9-4} = n^5$.
- 17) **Choice B is correct.** (7.EE.4a) Haircut is \$25 plus \$8 per treatment. Equation: $8t + 25 = 73$.
- 18) **Choice A is correct.** (7.EE.3-7.EE.4) If $x + 3 = 0$, then $x = -3$. The diagram starts at -3, arrow moves right 3 units to reach 0. Check: $-3 + 3 = 0$ ✓.
- 19) **The correct answer is 1.5.** (7.RP.1-7.RP.3) The unit rate is $6 \div 4 = 1.5$.
- 20) **Choice A is correct.** (7.G.1-7.G.5) Linear scale factor: $\frac{1 \text{ km}}{2 \text{ cm}} = 0.5 \text{ km/cm}$. Area scale factor: $(0.5)^2 = 0.25 \text{ km}^2/\text{cm}^2$. Actual area: $8 \times 0.25 = 2 \text{ km}^2$.
- 21) **The correct answer is A,C.** (7.RP.3) Choice A: $50\% = \frac{1}{2}$. Choice B: $75\% = \frac{3}{4}$, not $\frac{2}{3}$. Choice C: $\frac{3}{4} = 0.75 = 75\%$. Choice D is false because $\frac{1}{5} = 20\%$, not 25%.
- 22) **Choice A is correct.** (7.G.1-7.G.5) Using similar cones: $\frac{r}{8} = \frac{4}{12}$, so $r = 8 \times \frac{4}{12} = \frac{32}{12} = \frac{8}{3} \text{ cm}$.
- 23) **Choice D is correct.** (7.G.1-7.G.5) Complementary angles sum to 90° : $90 - 19 = 71^\circ$.
- 24) **Choice B is correct.** (7.G.4-7.G.6) $C = \pi d = 3.14 \times 4 = 12.56 \text{ in}$.
- 25) **Choice C is correct.** (7.SP.1-7.SP.4) Random selection from a complete list ensures every household has an equal chance of selection, avoiding bias. Options A and D select households more likely to own pets; option B has voluntary response bias. Only option C produces a representative sample.
- 26) **Choice A is correct.** (7.SP.1-7.SP.4) Week 1: \$450–465 (range = 15, mean = 456, tight cluster). Week 2: \$300–550 (range = 250, mean = 440, highly variable). Week 1 is much more predictable for planning.
- 27) **The correct answer is \$960.** (7.RP.3) Discount: $\frac{20}{100} \times 1200 = 240$. New price: $1200 - 240 = \$960$.
- 28) **Choice B is correct.** (7.SP.1-7.SP.4) With 10 students total, the median is between the 5th and 6th values: positions 1 (70), 2–3 (75), 4–7 (80). The 5th and 6th values are both 80, so median = 80.



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Hi, Stamina Builder!

◇ This broad and demanding book gave you seven strong Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. Completing practice tests builds more than math knowledge. It builds the focus needed to think clearly for a long stretch. ◇

★ **Remember this:** That stamina matters. On real test day, calm pacing can be just as important as remembering a formula. ★

Stamina Skills

- **Breathe:** Reset before a difficult page.
- **Pace:** Do not spend too long in one place.
- **Return:** Come back to skipped questions with fresh eyes.
- **Finish Strong:** Use the last minutes to check.

Grade 7 test-day tip: Practice a simple reset: pause, breathe, reread, then choose your next step.

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

Jay Daie

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Achieve Success

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