

10

Montana MAST

GRADE
6
MATH

PRACTICE TESTS

Standards-Aligned Review
Mixed Practice & Answer Key



10 PRINTED TESTS

Realistic practice to build confidence and mastery



2 ONLINE TESTS

Extra practice for continued success



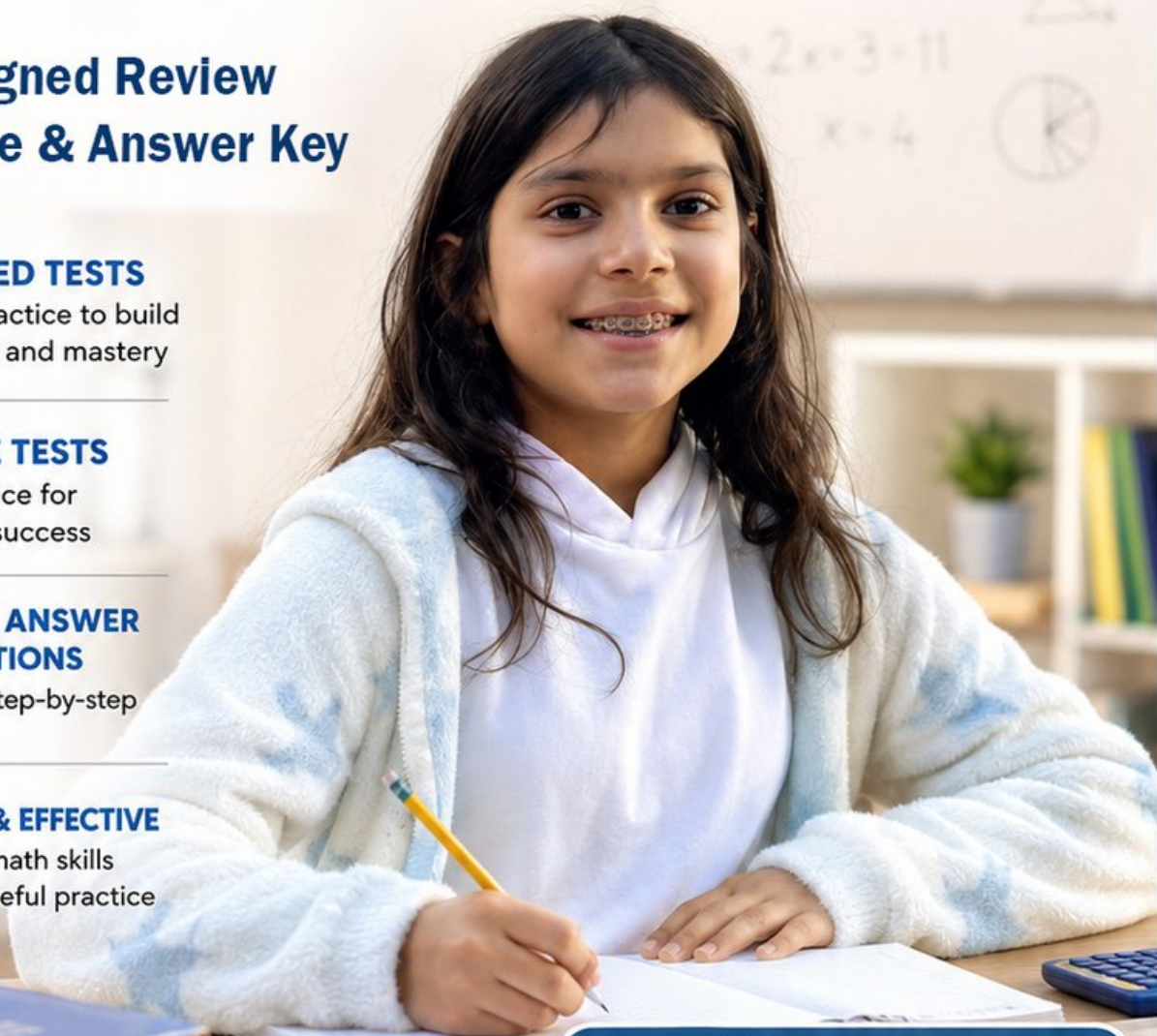
DETAILED ANSWER EXPLANATIONS

Learn with step-by-step solutions



FOCUSED & EFFECTIVE

Target key math skills with purposeful practice



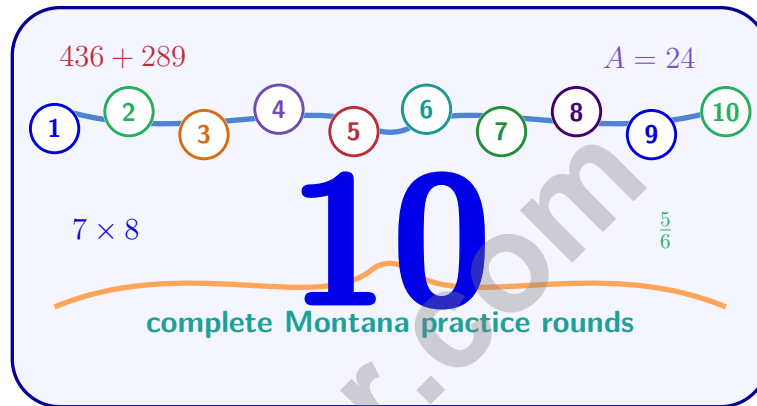
10 PRINTED TESTS
+ 2 ONLINE TESTS

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

PRACTICE • REVIEW • SUCCEED

10 Montana MAST Grade 6 Math Practice Tests

Standards-Aligned Wide-Open Reasoning for Montana Aligned to Standards Through-Year



Ten complete 40-question Grade 6 practice rounds for MAST, with ratios, rational numbers, expressions, equations, geometry, statistics, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari



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Welcome, Montana Math Explorer!

Ten steady rounds on a Big Sky review trail

This book gives you ten full Grade 6 practice tests for MAST. Each round uses open skies, mountain paths, and patient problem solving as a fresh mental backdrop while you read closely, choose a smart strategy, show your work, and check whether your answer makes sense.

Your Montana Practice Promise

Give your thinking space: write the setup clearly. I will slow down for the question, circle what matters, solve one step at a time, and use mistakes as clues for getting stronger.

Read

Plan

Check

How to Use This Book

A ten-session routine for wide-open reasoning

1. **Preview the skills.** Read the quick review pages before the first test.
2. **Take one test at a time.** Work in a quiet place and answer all 40 questions.
3. **Mark your confidence.** Put a small star beside problems you solved with a strong plan.
4. **Check, then retry.** For missed questions, try the problem again before reading the explanation.
5. **Track your next move.** Use the growth log to name one habit and one skill for the next test.

Montana review rhythm: Test one day, correct carefully the next day, then return for the next round when your corrections feel clear.



What Is Inside?

Ten MAST tests, 400 questions, and a full review path

Part	What You Will Practice
Tests 1–3	Warm-up rounds for ratios, rational numbers, operations, and careful reading.
Tests 4–6	Skill-building rounds with expressions, equations, geometry, data, and problem models.
Tests 7–9	Stamina rounds for mixed review, neat work, and flexible strategy choices.
Test 10	Final Montana 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. Wide-open reasoning means recognizing the skill even when the next question changes topic.



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& answers

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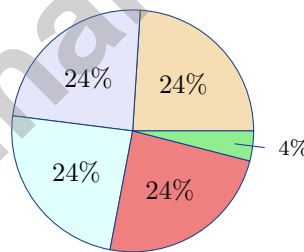
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- 1) Which type of graph is BEST for comparing two different datasets side-by-side?
- A. Single bar graph C. Stem-and-leaf plot
 B. Histogram D. Double-bar graph
- 2) Five friends have the following number of books: 12, 15, 18, 10, 20. What is the mean number of books per friend?

- 3) A family has a monthly income of \$3600. They allocate: 35% to rent, 15% to food, 10% to utilities. How much do they have remaining for other expenses?
- A. \$1080 C. \$1440
 B. \$1260 D. \$1800
- 4) A water fountain dispenses 8 ounces of water per second. Which statement describes a proportional relationship between water dispensed and time?
- A. After 0 seconds, 8 ounces have been dispensed C. The graph passes through (0, 8)
 B. After 5 seconds, 40 ounces have been dispensed D. After 5 seconds, 48 ounces have been dispensed



- 5) Keisha wants to save \$240 over 4 months. How much must she save per month?
- A. \$40 C. \$80
 B. \$60 D. \$120
- 6) A blueprint has a scale of 1 inch = 2 feet. A wall in the blueprint is 7 inches long. How long is the actual wall?
- A. 7 feet C. 14 feet
 B. 9 feet D. 28 feet
- 7) A gardener is arranging plants. They have 35 tomato plants and 49 pepper plants. They want to arrange them in rows with the same number of each type of plant per row, using all plants. How many rows can they make?
- A. 5 rows C. 35 rows
 B. 49 rows D. 7 rows



- 8) The circle graph shows data from 500 items. How many items are represented by the 4% section?
- A. 20 C. 10
 B. 15 D. 25

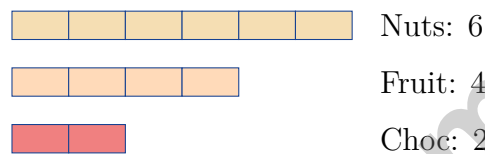


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9) A school's enrollment is divided between elementary and middle school in a ratio of 7 : 5. If the middle school has 250 students, how many students are in elementary school?

- A. 1000 students C. 500 students
 B. 175 students D. 350 students

10) A snack mix uses nuts, dried fruit, and chocolate in a 6 : 4 : 2 ratio. The diagram models this.



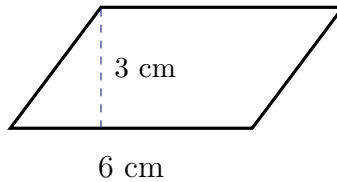
What is the simplified ratio of nuts to (dried fruit plus chocolate)?

- A. 1 : 1 C. 6 : 2
 B. 6 : 4 D. 3 : 2
- 11) A painter can paint 96 square feet in 4 hours. At this rate, how many square feet can the painter paint in 8 hours?
- A. 100 square feet C. 200 square feet
 B. 384 square feet D. 192 square feet
- 12) A factory produces 360 widgets in 8 hours. What is the production rate in widgets per hour?
- A. 40 widgets/hr C. 50 widgets/hr
 B. 45 widgets/hr D. 60 widgets/hr



- 1) Children under 12 can eat from the kids' menu. Which inequality represents this, where a is age in years?
- A. $a \geq 12$ C. $a < 12$
 B. $a > 12$ D. $a \leq 12$

Parallelogram

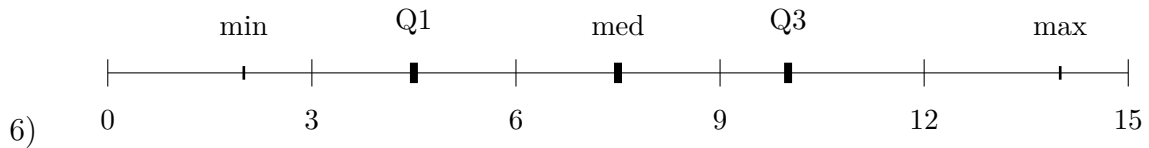


- 2) What is the area of the parallelogram?
- A. 9 cm^2 C. 27 cm^2
 B. 18 cm^2 D. 36 cm^2
- 3) Four vertices are at $(3, 1)$, $(8, 1)$, $(8, 3)$, and $(3, 3)$. What type of quadrilateral is this?
- A. Rectangle C. Triangle
 B. Trapezoid D. Pentagon
- 4) Which of these is a statistical question?
- A. How tall am I? C. How many minutes do students in my class spend on homework each night?
 B. What is the capital of Texas? D. How many days are in a year?



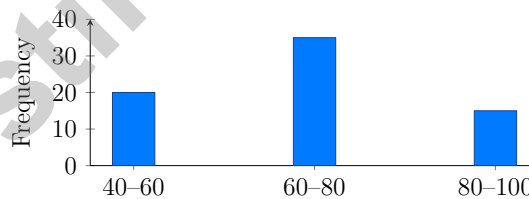
5) A student claims the median of 20, 5, 15, 10, 25 is 15 (the first middle number). Is this correct?

- A. Yes, the median is 15
- B. No, the correct median is 12.5
- C. No, must order first; median is 15
- D. No, the median is the sum, which is 75



A box plot summary shows min = 2, Q1 = 4.5, median = 7.5, Q3 = 10, max = 14. Find the range and IQR.

- A. Range = 12, IQR = 5.5
 - B. Range = 12, IQR = 3
 - C. Range = 7.5, IQR = 5.5
 - D. Range = 5.5, IQR = 2
- 7) The histogram shows test scores grouped in intervals. Based on the histogram, how many students scored between 60 and 80?



- A. 15 students
- B. 20 students
- C. 35 students
- D. 55 students



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- 1) If a stem-and-leaf plot has stems 0, 1, 2, 3, 4 and each stem has at least one leaf, what is the minimum number of data points?
- A. 1 C. 5
 B. 4 D. 10
- 2) Two students graphed the same ratio but made different errors. The correct ratio is 5:7 (x:y). Student A plotted (7, 5) and Student B plotted (5, 5). Which student's error is "swapped coordinates"?
- A. Student A D. Neither student made this specific error
 B. Student B error
 C. Both students made the same error
- 3) Write $\frac{4}{5}$ as a decimal and then as a percent.
- A. 0.45 and 45% C. 0.04 and 4%
 B. 1.25 and 125% D. 0.8 and 80%
- 4) A student's grade increased from 82 to 90. What is the percent increase, rounded to the nearest whole number?
- A. 10% C. 8%
 B. 9.8% D. 12%
- 5) A model train is built at a scale of 1 : 50. If the model is 8 inches long, how many inches long is the real train?
- A. 200 C. 400
 B. 300 D. 500



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6) What is $6,216 \div 38$?

A. 163

C. 165

B. 164

D. 168

7) A pizza is cut into 8 slices. One slice costs \$2.50. What is the total cost of the pizza?

A. \$18.00

C. \$16.00

B. \$20.00

D. \$22.00

8) What is the prime factorization of 84?

A. $2^2 \times 21$

C. 3×28

B. $2^2 \times 3 \times 7$

D. 4×21

9) What is the GCF of 9 and 12?

A. 2

C. 4

B. 6

D. 3

10) A submarine descends from the surface to a depth where its elevation is -340 meters. Which statement correctly describes this elevation?

A. The submarine is 340 meters above sea level

C. The submarine is at sea level

B. The submarine is 340 meters below sea level

D. The submarine's depth cannot be measured



Montana MAST Practice Test Answer Keys

How to use this section with a Grade 6 student:

1. check the answer first
2. mark questions to try again
3. rework the problem before reading the full explanation

A calm correction routine turns every missed item into useful practice.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice D is correct.** **(6.NS.5)** A double-bar graph places two bars side-by-side for each category, making direct comparison easy. Single bars, histograms, and stem-and-leaf plots don't show side-by-side comparison.
- 2) **The correct answer is 15.** **(6.SP.2)** Mean = $\frac{12 + 15 + 18 + 10 + 20}{5} = \frac{75}{5} = 15$.
- 3) **Choice C is correct.** **(6.SP.5)** Total allocated: $35\% + 15\% + 10\% = 60\%$. Remaining: $100\% - 60\% = 40\%$ of $\$3600 = 0.40 \times 3600 = \1440 .
- 4) **Choice B is correct.** **(6.NS.3)** Using $w = 8t$ (water = 8 ounces per second): after 5 seconds, $w = 8 \times 5 = 40$ ounces. The graph passes through the origin, not (0, 8).
- 5) **Choice B is correct.** **(6.SP.4)** Monthly savings: $\$240 \div 4 = \60 .
- 6) **Choice C is correct.** **(6.NS.8)** Multiply: $7 \times 2 = 14$ feet.
- 7) **Choice D is correct.** **(6.EE.1)** This is a GCF problem. The GCF of 35 and 49 is 7. So they can make 7 rows with 5 tomato and 7 pepper plants per row.
- 8) **Choice A is correct.** **(6.EE.3)** 4% of 500 is $0.04 \times 500 = 20$ items.
- 9) **Choice D is correct.** **(6.EE.8)** Middle school is the 5-part amount, and it equals 250. Each part is $250 \div 5 = 50$, so elementary school has $7 \times 50 = 350$ students.
- 10) **Choice A is correct.** **(6.G.4)** Nuts have 6 parts. Dried fruit plus chocolate also has $4 + 2 = 6$ parts, so the ratio is 6 : 6, which simplifies to 1 : 1.
- 11) **Choice D is correct.** **(6.SP.4)** Find the unit rate: $96 \div 4 = 24$ square feet per hour. Then multiply by 8 hours: $24 \times 8 = 192$ square feet.
- 12) **Choice B is correct.** **(6.EE.3)** $360 \div 8 = 45$ widgets per hour.
- 13) **The correct answer is 4.** **(6.EE.4)** Ordered data: 68, 69, 70, 71, 72, 73, 75. $Q_1 = 69$, $Q_3 = 73$, so IQR = $73 - 69 = 4$.
- 14) **Choice B is correct.** **(6.EE.3)** The ratio is 8 : 2 or 4 : 1. When fish are 32 (multiply by 4), plants are $2 \times 4 = 8$.
- 15) **Choice D is correct.** **(6.EE.5)** For the ratio 5:2, we have sugar = $\frac{2}{5} \times$ flour. Check: (5, 2): $2 = \frac{2}{5}(5)$ ✓; (10, 4): $4 = \frac{2}{5}(10)$ ✓; (15, 6): $6 = \frac{2}{5}(15)$ ✓; (20, 9): $\frac{2}{5}(20) = 8 \neq 9$ ✗. Point D is not on the line.
- 16) **Choice B is correct.** **(6.EE.9)** $\frac{1}{8} = \frac{12.5}{100} = 12.5\%$.
- 17) **The correct answer is 80.** **(6.G.1)** Order the data (already ordered). There are 10 values. The median is the average of the 5th and 6th values: $(80 + 80) / 2 = 80$.
- 18) **Choice C is correct.** **(6.SP.3)** 45% of 120 = $0.45 \times 120 = 54 \text{ m}^2$.
- 19) **The correct answer is Statements A, B, D, and E are correct; C is false.** **(6.SP.3)** A: $2.5 \times 2 \times 4 = 20 \text{ m}^3$ ✓. B: $16 \times 3 = 48 \text{ in}^3$ ✓. C: $3 \times 4 \times 5 = 60 \text{ ft}^3$ (not 70) ✗. D: $6 \times 2 \times 3 = 36 \text{ cm}^3$ ✓. E: $10 \times 5 = 50 \text{ m}^3$ ✓.
- 20) **Choice D is correct.** **(6.SP.4)** Unit rate: $45 \div 3 = 15$ dollars per hour. Verify: $90 \div 6 = 15$ and $135 \div 9 = 15$.
- 21) **Choice A is correct.** **(6.SP.4)** Multiply: $3 \times 1000 = 3000$ meters.
- 22) **Choice B is correct.** **(6.RP.1)** $\frac{9}{16} \times \frac{4}{3} = \frac{36}{48} = \frac{3}{4}$.
- 23) **Choice B is correct.** **(6.EE.6)** Check each one: $2,500 \div 25 = 100$, $3,000 \div 24 = 125$ ✓, $3,600 \div 30 = 120$, and $2,750 \div 25 = 110$. The match is choice B because $24 \times 125 = 3,000$.
- 24) **Choice A is correct.** **(6.EE.8)** Sharing 18.4 across four equal groups yields 4.6. Multiply back cheerfully: $4 \times 4.6 = 18.4$ feels just right.
- 25) **Choice D is correct.** **(6.SP.3)** $24 + 36 = 60$. Choice A: $6(4 + 6) = 60$ ✓. Choice B: $12(2 + 3) = 60$ ✓. Choice C: $4(6 + 9) = 60$ ✓. Choice D: $3(7 + 12) = 57$ ✗. Only Choice D is not equivalent to 60.
- 26) **Choice D is correct.** **(6.NS.1)** 7°C colder means we subtract 7 from the starting temperature: $3 - 7 = -4^\circ\text{C}$.
- 27) **Choice C is correct.** **(6.G.2)** From 0 to 1 divided into quarters, the third quarter mark is at $\frac{3}{4}$.
- 28) **Choice B is correct.** **(6.G.3)** Quadrant II has negative x and positive y . The point $(-3, 5)$ fits this pattern.
- 29) **The correct answer is 12.** **(6.SP.4)** IQR = $Q_3 - Q_1 = 24 - 12 = 12$.



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Hi, Math Champion!

◇ You trained hard! 10 full practice tests is real practice. Your math game is way better now than when you started. ◇

★ **Coach's truth:** kids who practice get better. You practiced. You got better. That's how it works!
★

Your Game Stats

- **Energy:** HIGH! You can finish a long test.
- **Smart Plays:** You know lots of strategies.
- **Calm Head:** You stay cool with hard problems.
- **Game-Day Ready:** You feel strong and prepared.

Coach's tip: the night before the test, get good sleep. Eat a good breakfast. Bring a sharp pencil. Trust your training!

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

Jay Daie

Your Math Coach

PRACTICE MORE. ACHIEVE MORE. SUCCEED!

This **Grade 6 Math Practice Tests** book is designed to help students build strong math skills, deepen their understanding of key concepts, and gain the confidence they need to succeed on any test.

With 10 full-length printed tests and 2 online tests, students get the review, practice, and realistic test experience they need to improve accuracy, strengthen problem-solving abilities, and reach their full potential.

Perfect for classroom use, homework, test preparation, and extra practice at home.

PERFECT FOR:

- ✓ Classroom Practice
- ✓ Homework & Review
- ✓ Independent Learning
- ✓ Test Preparation
- ✓ Skill Reinforcement
- ✓ Building Confidence



**CONFIDENCE TODAY.
SUCCESS TOMORROW!**

WHAT STUDENTS WILL GAIN



Stronger Math Skills

Build a solid foundation through targeted practice and review.



Better Problem Solving

Develop logical thinking and effective solution strategies.



Deepen Understanding

Reinforce key math concepts aligned with standards.



Test Confidence

Get familiar with test formats and improve accuracy.



Achieve Success

Build confidence and perform your best on test day.

TOPICS COVERED

- ✓ Ratios & Rates
- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Geometry
- ✓ Fractions & Decimals
- ✓ Percents
- ✓ Statistics & Probability
- ✓ Data Analysis
- ✓ Measurement & Conversions
- ✓ And More!



2 ONLINE TESTS

Extra online practice to reinforce learning and build confidence.

MORE PRACTICE. GREATER RESULTS.

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



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DETAILED ANSWER
EXPLANATIONS