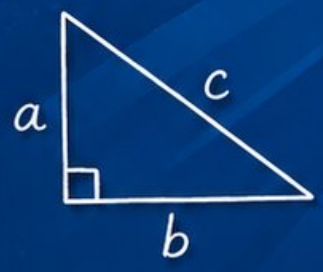
4 Montana MAST

GRADE 6 MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

$2x + 5 = 21$
$x = 8$



$\frac{3}{4} + \frac{1}{2} = \frac{5}{4}$

4 PRINTED TESTS

2 ONLINE TESTS

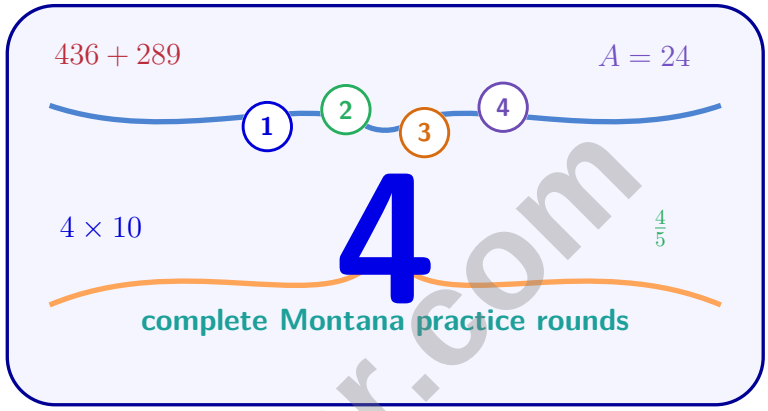
- Build Confidence
- Master Key Math Skills
- Answer Explanations for Every Question
- Test-Taking Strategies That Work

USE THESE TWO ADDITIONAL ONLINE PRACTICE TESTS

FOR EXTRA REVIEW AFTER THE PRINTED TESTS IN THIS BOOK.

4 Montana MAST Grade 6 Math Practice Tests

Standards-Aligned Big-Sky Math Stamina for Montana Aligned to Standards Through-Year



Four complete 40-question Grade 6 practice rounds for MAST, built for big-sky math stamina 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!

Four focused rounds using big-sky math stamina

This book gives you four full Grade 6 practice tests for MAST. Each round uses wide valleys, mountain passes, and patient problem routes 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 the problem space: read, draw or list, solve, and check the scale of the answer.

How to Use This Book

A four-session routine for big-sky math stamina

1. **Work in order.** Take one 40-question test at a time in a quiet place.
2. **Preview the skills.** Scan the quick review pages before beginning the first round.
3. **Correct actively.** Retry missed items before reading the full explanation.
4. **Mark confidence.** Put a small star beside problems where your plan felt strong.
5. **Plan the next round.** Use the growth log to choose one habit and one skill to practice.

Montana review rhythm: Work one round, mark the tough climbs, and practice those skills before the next ascent.

What Is Inside?

Four MAST tests, 160 questions, and a full review path

Part	What You Will Practice
Tests 1–2	Foundation rounds for ratios, rational numbers, operations, and careful reading.
Tests 3–4	Skill-building and final stamina rounds with expressions, equations, geometry, data, and problem models.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Big-sky math stamina means recognizing the skill even when the next question changes topic, changes format, or asks for an explanation.

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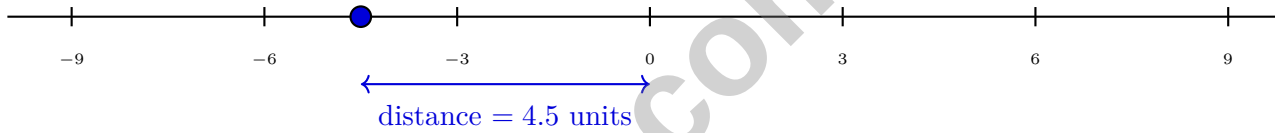
1) On a spelling test, 36 out of 40 students passed. What percent passed?

☐ A. 36%
☐ C. 90%
☐ B. 80%
☐ D. 95%

2) A thermometer reads $-5°$F in the morning. By afternoon, the temperature has risen by $8°$F. What is the new temperature?

☐ A. $13°$F
☐ C. $-13°$F
☐ B. $3°$F
☐ D. $-3°$F

3)



If a point is 4.5 units from zero, which number could it be?

☐ A. 4.5 only
☐ C. Both 4.5 and −4.5
☐ B. −4.5 only
☐ D. 0 only

4) On a number line, the distance from −4 to 2 is equal to the distance from 0 to which number?

☐ A. −6
☐ C. 6
☐ B. 3
☐ D. 8

5) The ratio of red marbles to blue marbles in a bag is 5 : 3. If there are 15 red marbles, how many blue marbles are there?

6) What is the reflection of $(-4, -5)$ across the x-axis?

☐ A. $(4, 5)$
☐ B. $(-4, 5)$
☐ C. $(4, -5)$
☐ D. $(-4, -5)$

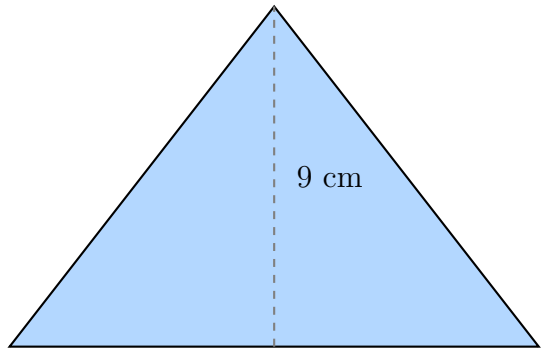
7)

Submarine Depth	Value
Sub A	−800 ft
Sub B	−450 ft
Sub C	−600 ft

Which submarine is deepest?

☐ A. Sub A
☐ B. Sub B
☐ C. Sub C
☐ D. All the same

8) An isosceles triangle has a base of 14 cm. A perpendicular line from the top vertex to the base has length 9 cm. What is the area?



☐ A. 23 cm^2
☐ B. 28 cm^2
☐ C. 56 cm^2
☐ D. 63 cm^2

9) A garden bed is shaped like a trapezoid with parallel sides of 8 ft and 12 ft and a height of 6 ft. How many square feet is the garden bed?

☐ A. 60 ft^2
☐ B. 48 ft^2
☐ C. 26 ft^2
☐ D. 120 ft^2

1) A data set in order: $4, 6, 8, 10, 12, 14$. The median is 9. What are Q1 and Q3?

☐ A. Q1 = 6, Q3 = 12
☐ B. Q1 = 6, Q3 = 14
☐ C. Q1 = 4, Q3 = 12
☐ D. Q1 = 8, Q3 = 12

2) A student asks: "Do sixth graders prefer soccer or basketball?"
This is a statistical question. What is the population?

☐ A. Soccer players
☐ B. Basketball players
☐ C. All sixth graders
☐ D. Students who answered the survey

3) A bag contains 3 red marbles, 5 blue marbles, and 2 green marbles. If one marble is drawn at random, what is the probability that it is blue?

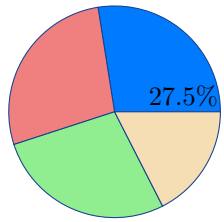
☐ A. $\frac{1}{10}$
☐ B. $\frac{1}{5}$
☐ C. $\frac{1}{2}$
☐ D. $\frac{5}{8}$

4) A store records daily sales (in hundreds of dollars):

Stem	Leaf
8	2, 5, 7
9	1, 3, 4, 6, 8
10	2, 5, 7

How many days had sales of at least \$900 (stem ≥ 9)?

☐ A. 3
☐ B. 5
☐ C. 11
☐ D. 8



5) A survey asked 360 people about favorite season. The circle graph shows 27.5% prefer summer. How many people prefer summer?

☐ A. 99
☐ B. 90
☐ C. 108
☐ D. 117

6) Why might a data analyst choose a line graph over a bar graph to display monthly sales data across a year?

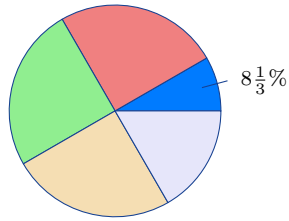
☐ A. To show parts of a whole more clearly
☐ B. To display categorical information better
☐ C. To reduce the amount of ink used in printing
☐ D. To emphasize the trend and flow over time

7) Find the Mean Absolute Deviation for: $6, 8, 10, 12, 14$.

8) Which ratio is equivalent to $5 : 15$?

☐ A. $1 : 2$
☐ B. $5 : 10$
☐ C. $10 : 30$
☐ D. $1 : 3$

1)



A hospital surveyed 600 patients. The circle graph shows $8\frac{1}{3}\%$ rated care as excellent. How many patients rated care as excellent?

☐ A. 50
☐ B. 40
☐ C. 60
☐ D. 75

2) What is $6{,}292 \div 34$? Round to the nearest whole number if there is a remainder.

☐ A. 185
☐ B. 187
☐ C. 190
☐ D. 192

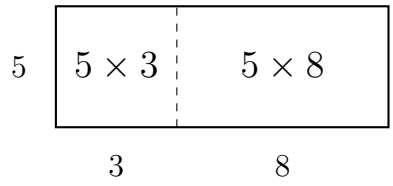
3) Compute: $10.5 - 4.75 + 2.1$

☐ A. 16.35
☐ B. 8.15
☐ C. 7.75
☐ D. 7.85

4) Which pair of numbers are coprime (GCF = 1)?

☐ A. 12 and 18
☐ B. 8 and 15
☐ C. 10 and 20
☐ D. 6 and 9

5) A student tries to use the area model below to find $5(3+8)$ but makes an error. The student writes: $5(3+8) = 15+8 = 23$. What is the error?



☐ A. 5 was only distributed to the first term

☐ B. The sum $3+8$ should equal 11, not both terms

☐ C. $5(3+8)$ should simplify to 55, not 23

☐ D. Choices A and C are both correct

6) Which fraction is equivalent to -0.75?

☐ A. $-\frac{1}{4}$

☐ B. $-\frac{1}{2}$

☐ C. $-\frac{2}{3}$

☐ D. $-\frac{3}{4}$

Montana MAST Practice Test Answer Keys

How to use this Montana MAST answer section with a Grade 6 student:

1. check the answer first, then write one quick reason the choice is correct
2. mark questions to try again, especially the skills that feel connected to big-sky math stamina
3. rework the problem before reading the full explanation, using this reminder: Give the problem space: read, draw or list, solve, and check the scale of the answer.

A calm Montana correction routine turns every missed item into useful practice. Work one round, mark the tough climbs, and practice those skills before the next ascent.

Montana Practice Test Answers and Explanations

Review the four printed MAST tests with patient, strong, and ready for the next climb habits.

Practice Test 1 Answers and Explanations

1) **Choice C is correct.** 6.RP.2 $\frac{36}{40} = \frac{9}{10} = \frac{90}{100} = 90\%$ (simplify, then write with denominator 100).
2) **Choice B is correct.** 6.NS.5 A temperature rise of 8°F means we add 8 to the starting temperature: $-5 + 8 = 3$°F.
3) **Choice C is correct.** 6.SP.4 Both numbers are 4.5 units from zero (one on each side). $|4.5| = 4.5$ and $|-4.5| = 4.5$.
4) **Choice C is correct.** 6.SP.4 Distance from -4 to 2 is $2 - (-4) = 6$. Distance from 0 to 6 is also 6.
5) **The correct answer is 9.** 6.RP.3 Ratio 5 : 3 with 15 red marbles: each part is $15 \div 5 = 3$ marbles. Blue marbles: $3 \times 3 = 9$.
6) **Choice B is correct.** 6.NS.8 Reflection across the x-axis changes the sign of the y-coordinate only. The point $(-4, -5)$ becomes $(-4, 5)$.
7) **Choice A is correct.** 6.NS.7 The most negative value is the deepest. $-800 < -600 < -450$, so Sub A at -800 ft is deepest.
8) **Choice D is correct.** 6.G.1 $A = \frac{1}{2} \times 14 \times 9 = 63$ cm^2.
9) **Choice A is correct.** 6.G.1 Area of trapezoid $= \frac{1}{2}(8 + 12) \times 6 = \frac{1}{2}(20)(6) = 60$ ft^2.
10) **Choice D is correct.** 6.G.2 $V = 10 \times 7 \times 2 = 70 \times 2 = 140$ in^3.
11) **Choice D is correct.** 6.G.3 Length $= 6 - 1 = 5$ units; width $= 4 - 1 = 3$ units. Area $= 5 \times 3 = 15$ square units.
12) **Choice C is correct.** 6.G.1 Base: $10 - 2 = 8$ units. Height: $8 - 2 = 6$ units. Area $= \frac{1}{2} \times 8 \times 6 = 24$ square units.
13) **Choice B is correct.** 6.EE.9 Number of months: \$600 ÷ \$40 per month = 15 months.
14) **Choice D is correct.** 6.NS.3 A negative divided by a positive is negative: $\frac{-20}{4} = -5$.
15) **Choice B is correct.** 6.EE.6 Water lost $= 3 \times 2 = 6$ gallons. Remaining $= g - 6$ gallons.
16) **Choice D is correct.** 6.RP.1 Circle X: $A \approx 3.14 \times 3^2 = 28.26$ cm^2. Circle Y: $A \approx 3.14 \times 6^2 = 113.04$ cm^2. Ratio: $\frac{113.04}{28.26} = 4$.
17) **Choice B is correct.** 6.RP.1 A smaller box means a smaller IQR, indicating less spread in the middle 50% of the data.
18) **Choice D is correct.** 6.RP.3 Actual dimensions: $6 \times 5 = 30$ m and $4 \times 5 = 20$ m. Area: $30 \times 20 = 600$ sq m.
19) **Choice B is correct.** 6.NS.1 You are counting how many $\frac{1}{4}$-cup servings fit inside 2 cups—that's a division problem: $2 \div \frac{1}{4}$. Rewrite as 2×4, which equals 8 servings.
20) **Choice A is correct.** 6.NS.2 $9{,}360 \div 48 = 195$. Check: $48 \times 195 = 9{,}360$.
21) **Choice A is correct.** 6.NS.3 Multiply both by 10: $54 \div 6 = 9$.
22) **The correct answer is The constant of proportionality is 4, and the cost per unit is \$4.** 6.RP.3 A is correct because $k = \frac{8}{2} = 4$. B is correct because the cost per unit is \$4. The equation is $y = 4x$, so Choice C is false; Choice D is false because the graph passes through $(0, 0)$; Choice E gives the wrong unit rate.
23) **Choice A is correct.** 6.NS.4 Following the tree: $60 = 6 \times 10 = (2 \times 3) \times (2 \times 5) = 2 \times 2 \times 3 \times 5 = 2^2 \times 3 \times 5$.
24) **Choice B is correct.** 6.NS.4 GCF of 15 and 10 is 5. Thus $15 + 10 = 5(3 + 2)$. Choice A uses factor 3 (not the greatest); Choice C uses 2 (not a common factor of both); Choice D uses 10 but yields 30, not 25.
25) **Choice D is correct.** 6.NS.8 Horizontal side: $|6 - 0| = 6$ units. Vertical side: $|5 - 2| = 3$ units. The longer side is 6 units.
26) **Choice B is correct.** 6.NS.3 $6 - (-5) + (-3) = 6 + 5 - 3 = 11 - 3 = 8$.
27) **Choice D is correct.** 6.EE.3 Weight changes: $180 - 12 - 8 + 5 = 180 - 20 + 5 = 165$ lbs.

Author's Note

Cheer Squad Final Pep Talk

Hi, Math Star!

◇ 4 practice tests! That's a LOT of work, and you did it ALL. I am cheering so loud right now. You earned every clap and every cheer! ◇

⋆ **Cheerleader truth:** confidence is built by showing up. You showed up 4 times. That's real confidence. It is not pretend! ⋆

Cheer Roll Call

- **Effort:** 100% YOU SHOWED UP!
- **Heart:** BIG!
- **Skills:** STRONG and growing!
- **Spirit:** BRIGHT!

Cheer tip: on test day, be your own cheerleader. Whisper to yourself: "I can do this. I practiced." Tiny cheers make a big difference!

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

Jay Daie

Your Math Cheerleader

PRACTICE TODAY.
SUCCEED TOMORROW!

This book includes 4 full-length Math practice tests and 2 online tests to help Grade 6 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:

- 4 Full-Length Printed Tests
- 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.

WHAT YOU'LL GAIN

Stronger Math Skills
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.

TOPICS COVERED

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

2 ONLINE TESTS

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

VISIT TESTINAR.COM/MATH6
FOR MORE PRACTICE TESTS AND LEARNING RESOURCES

PRACTICE REGULARLY | STAY FOCUSED | SOLVE CONFIDENTLY | SUCCEED BRIGHTLY

PREPARE TODAY. SUCCEED TOMORROW!