

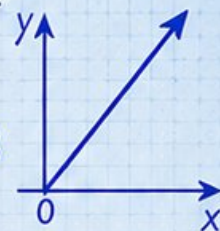
# 3 Montana MAST

GRADE  
**6**  
MATH

## PRACTICE TESTS

Standards Aligned Problem Solving  
For Comprehensive Assessment Programs

$$y = 2x + 3$$



$$\frac{3}{5} + \frac{2}{10} = \frac{8}{10} = \frac{4}{5}$$

$$36\% \text{ of } 150 = ?$$



**3** | PRINTED  
TESTS



**2** | ONLINE  
TESTS



Build  
Confidence



Master Key  
Math Skills



Answer Explanations  
for Every Question

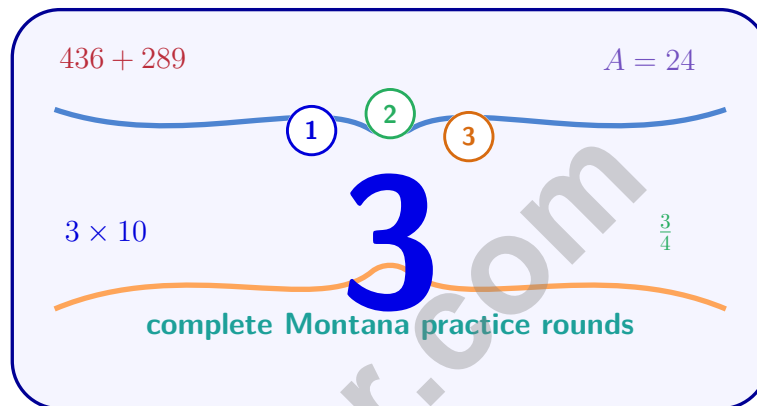


Test-Taking  
Strategies That Work

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

# 3 Montana MAST Grade 6 Math Practice Tests

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



Three 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**



# Copyright ©

**Testinar Inc**



Published by Testinar Inc

[Testinar.com](http://Testinar.com)

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the author, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law, including Section 107 or 108 of the 1976 United States Copyright Act.

This publication is independently produced and has no official connection to any state, district, or national testing program.

Test names and organizational names used herein are the property of their respective trademark holders.



*Copyright ©*

# Welcome, Montana Math Explorer!

Three focused rounds using big-sky math stamina

This book gives you three 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.

Read

Plan

Check

## How to Use This Book

A three-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?

Three MAST tests, 120 questions, and a full review path

Part	What You Will Practice
Tests 1–2	Foundation rounds for ratios, rational numbers, operations, and careful reading.
Test 3	Final stamina round for expressions, equations, geometry, data, problem models, and mixed review.
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.



Scan me!  
For more practice  
& answers

# Table of Contents

★ Practice Test 1	_____	14
★ Practice Test 2	_____	27
★ Practice Test 3	_____	44
Practice Test Answer Keys	_____	63
Practice Test Answers and Explanations	_____	66

1) Evaluate:  $\frac{-72}{-9}$

A. 8

C. -63

B. -8

D. 63

2) Luis has \$12. His friend gives him  $d$  dollars. How much money does Luis have now?

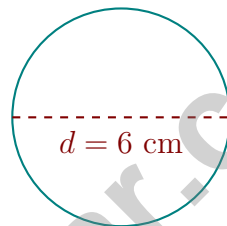
A.  $12 - d$

C.  $12d$

B.  $12 + d$

D.  $\frac{12}{d}$

Circle B



3)

Circle B has a diameter of 6 cm. What is its approximate area using  $\pi \approx 3.14$ ?

A.  $18.84 \text{ cm}^2$

C.  $37.68 \text{ cm}^2$

B.  $28.26 \text{ cm}^2$

D.  $56.52 \text{ cm}^2$

4) A dataset has  $\text{min} = 4$ ,  $Q_1 = 9$ ,  $\text{median} = 14$ ,  $Q_3 = 19$ ,  $\text{max} = 29$ . What is the upper whisker length?

A. 5

C. 14

B. 10

D. 25



5) A vehicle travels at a constant speed. The graph shows the relationship between time and distance. If the point (2, 110) is on the line (meaning 2 hours → 110 miles), which equation models this relationship?

A.  $d = 50t$

C.  $d = 110t$

B.  $d = 55t$

D.  $d = 220t$

6) A soccer team won 80% of its games. Which decimal represents this percent?

A. 0.008

C. 8.0

B. 0.80

D. 80.0

7) A bike's price decreases from \$250 to \$200. What is the percent decrease?

A. 15%

C. 25%

B. 50%

D. 20%

8) A smoothie recipe uses strawberries and bananas in a 5 : 3 ratio. If the recipe calls for 15 strawberries, how many bananas should be added?

9) Which pair of ratios is equivalent?

A. 4 : 5 and 8 : 15

C. 2 : 9 and 4 : 20

B. 5 : 6 and 10 : 13

D. 3 : 7 and 6 : 14



Scan me!  
For more practice  
& answers

10) Which conversion uses a correct ratio table?

A. 

Gallons	Quarts
1	3

C. 

Gallons	Quarts
1	8

B. 

Gallons	Quarts
1	2

D. 

Gallons	Quarts
1	4

11) Casey earns \$500 per month. She spends \$200 on rent and \$100 on food, then saves 38% of what is left. How much does she save?

A. \$76

C. \$102

B. \$84

D. \$120

12) A table has an error. Three data points should show a proportional relationship between  $x$  and  $y$ , but one point breaks the pattern.

<b>x</b>	1	3	5
<b>y</b>	5	15	27

Which point should be changed to make the table proportional with constant  $k = 5$ ?

A. Change (1, 5) to (1, 5) (no change)

C. Change (5, 27) to (5, 25)

B. Change (3, 15) to (3, 15) (no change)

D. The table already shows proportionality

13) Marcus earns \$250 per week mowing lawns. He budgets 40% for expenses, 25% for savings, and the rest for spending. How much does he save each week?

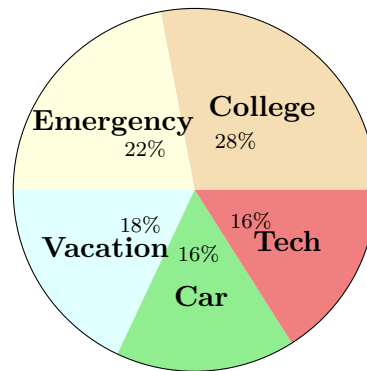
A. \$100 (40% spent)

C. \$62.50 (25% saved)

B. \$95 (35% remaining)

D. \$35 (14% miscalc.)





1)

The pie chart shows savings goals. If total savings is \$5000, how much is allocated to the College fund?

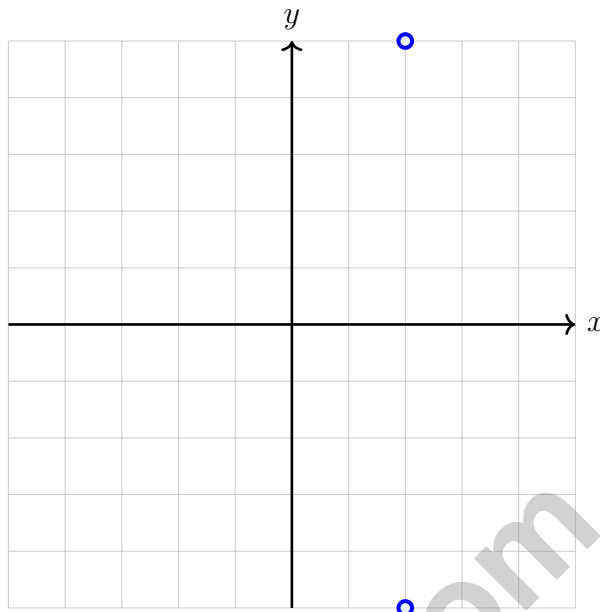
- A. \$1000                       C. \$1400  
 B. \$1200                       D. \$1600

2) A cube is unfolded into a net. Starting with 6 faces arranged in a T-shape, how many ways can you refold it into a cube (considering each rotation as the same cube)?

- A. 1                                       C. 3  
 B. 2                                       D. 6



Scan me!  
For more practice  
& answers



3)

Which transformation maps  $(2, 5)$  to  $(2, -5)$ ?

- A. Reflection over the  $y$ -axis
- B. Translation up
- C. Translation right
- D. Reflection over the  $x$ -axis

4) A student rewrites a non-statistical question to make it statistical. Which is the BEST rewrite?

Original: “How old is my teacher?”

- A. How old are the teachers at our school?
- B. In what year was my teacher born?
- C. How many teachers are there?
- D. What is the average age of all teachers in the United States?



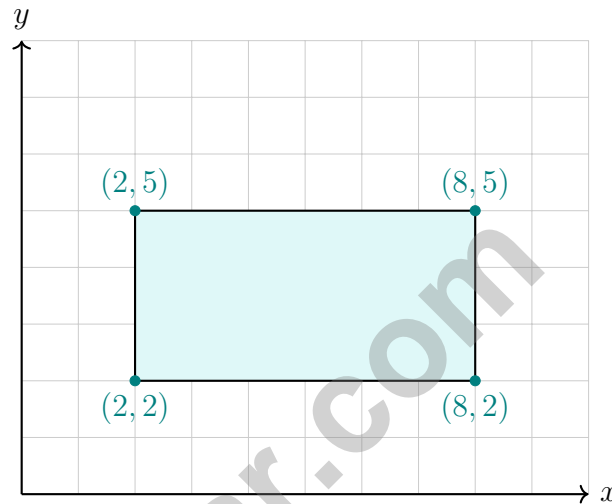
4) A rectangular prism has a base area of  $12 \text{ in}^2$  and a height of 5 in. What is its volume?

A.  $17 \text{ in}^3$

B.  $24 \text{ in}^3$

C.  $36 \text{ in}^3$

D.  $60 \text{ in}^3$



5)

What is the perimeter of this rectangle?

A. 18 units

B. 16 units

C. 12 units

D. 22 units



Scan me!  
For more practice  
& answers

## 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.**



Scan me!  
For more practice  
& answers

## Montana Practice Test Answers and Explanations

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

### Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** (6.NS.3) Negative divided by negative is positive:  $\frac{-72}{9} = 8$ .
- 2) **Choice B is correct.** (6.EE.6) Receiving money means adding to what he already has:  $12 + d$ .
- 3) **Choice B is correct.** (6.RP.1) Radius  $r = \frac{6}{2} = 3$  cm. Area =  $\pi r^2 \approx 3.14 \times 3^2 = 3.14 \times 9 = 28.26$  cm<sup>2</sup>.
- 4) **Choice B is correct.** (6.RP.1) The upper whisker extends from Q<sub>3</sub> to max:  $29 - 19 = 10$  units long.
- 5) **Choice B is correct.** (6.RP.3) The unit rate (speed) is  $\frac{110 \text{ miles}}{2 \text{ hours}} = 55$  miles per hour. The equation is  $d = 55t$ , where  $d$  is distance and  $t$  is time.
- 6) **Choice B is correct.** (6.RP.2)  $80\% = \frac{80}{100} = 0.80$ .
- 7) **Choice D is correct.** (6.RP.1) Decrease is  $\$250 - \$200 = \$50$ . Percent decrease is  $\frac{50}{250} = 0.20 = 20\%$ .
- 8) **The correct answer is 9.** (6.RP.1) Strawberries are the 5-part amount. Since  $15 \div 5 = 3$ , each part is 3, and bananas are 3 parts:  $3 \times 3 = 9$ .
- 9) **Choice D is correct.** (6.RP.3) Check:  $6 : 14 = (6 \div 2) : (14 \div 2) = 3 : 7$ . The other pairs are not equivalent.
- 10) **Choice D is correct.** (6.RP.1) The correct conversion is 1 gallon = 4 quarts.
- 11) **Choice A is correct.** (6.SP.4) Remainder after rent and food:  $\$500 - \$200 - \$100 = \$200$ . Savings: 38% of  $\$200 = 0.38 \times 200 = \$76$ .
- 12) **Choice C is correct.** (6.EE.9) For  $k = 5$ , (1, 5) and (3, 15) both fit because  $5/1 = 5$  and  $15/3 = 5$ . The point (5, 27) does not fit because  $27/5 = 5.4$ . Changing it to (5, 25) makes  $25/5 = 5$ .
- 13) **Choice C is correct.** (6.EE.9) Savings are 25% of  $\$250$ :  $0.25 \times 250 = \$62.50$ .
- 14) **Choice A is correct.** (6.RP.3) Multiply:  $3.5 \times 15 = 52.5$  miles.
- 15) **Choice A is correct.** (6.NS.1) The correct approach: flip  $\frac{1}{4}$  to get  $\frac{4}{1}$ , then multiply  $\frac{2}{3} \times \frac{4}{1} = \frac{8}{3} = 2\frac{2}{3}$ . The student multiplied by  $\frac{1}{4}$  without inverting it.
- 16) **Choice A is correct.** (6.NS.2)  $3,564 \div 12 = 297$ . Check:  $12 \times 297 = 3,564$ .
- 17) **Choice D is correct.** (6.NS.3) Reading the chart: 5 ones, 4 tenths, 8 hundredths gives 5.48.
- 18) **The correct answer is  $4 : 6 = 2 : 3$  (dividing by 2) and  $4 : 6 = 8 : 12$  (multiplying by 2).** (6.RP.1) Nice checking: Choice A works because  $4 : 6$  simplifies to  $2 : 3$ , and Choice B works because multiplying both parts of  $4 : 6$  by 2 gives  $8 : 12$ . The other choices change the relationship.
- 19) **Choice B is correct.** (6.NS.4) Since 7 and 11 are both prime and share no common factors, their LCM is their product:  $7 \times 11 = 77$ .
- 20) **Choice C is correct.** (6.NS.4) Total cookies:  $36 + 42 = 78$ . Factor using the distributive property:  $36 + 42 = 6(6 + 7) = 6 \cdot 13 = 78$ . So they sold 13 packs.
- 21) **Choice D is correct.** (6.NS.5) Numbers between  $-4$  and  $0$  are  $-3$ ,  $-2$ , and  $-1$ . The number  $-5$  is less than  $-4$ , so it is not between  $-4$  and  $0$ .
- 22) **Choice D is correct.** (6.SP.4)  $|-1| = 1$  and  $|1| = 1$ , so  $1 + 1 = 2$ .
- 23) **Choice B is correct.** (6.SP.4) Closest to zero means smallest absolute value.  $|-0.4| = 0.4$ , which is less than all other absolute values.
- 24) **The correct answer is 9 dollars per book.** (6.RP.2) Divide the total cost by the number of books:  $45 \div 5 = 9$  dollars per book.
- 25) **The correct answer is 12 gal/min.** (6.RP.2)  $144 \div 12 = 12$  gallons per minute.
- 26) **Choice A is correct.** (6.NS.8) All points on the  $y$ -axis have an  $x$ -coordinate of 0, regardless of the  $y$ -coordinate value.
- 27) **Choice A is correct.** (6.NS.7) The correct order is  $-4.2 < -4.1 < 0.3$ . Negatives are always less than positive numbers.



## Hi, Math Athlete!

◇ 3 practice tests done! That's serious training. Your math muscles are strong. You are in great shape for the big test. ◇

★ **Trainers know:** muscle memory is real. The more you practice, the more your brain knows what to do without thinking. You built that muscle memory! ★

### Athlete Performance

- **Endurance:** TOP! You can finish a long test.
- **Strength:** STRONG! You handle hard problems.
- **Speed:** JUST RIGHT! You don't rush.
- **Recovery:** GOOD! You bounce back from tough questions.

**Trainer tip:** on test day, drink water, breathe deeply, and warm up with the easier questions first. Your training will carry you the rest of the way!

If you want to share something or ask a question, please email me at [jay@testinar.com](mailto:jay@testinar.com).

**Jay Daie**

Your Math Trainer

# PRACTICE TODAY. SUCCEED TOMORROW!

This book includes 3 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:

- 3 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](https://www.testinar.com/math6)**  
FOR MORE PRACTICE TESTS  
AND LEARNING RESOURCES



PRACTICE  
REGULARLY



STAY  
FOCUSED



SOLVE  
CONFIDENTLY



SUCCEED  
BRIGHTLY

PREPARE TODAY. **SUCCEED TOMORROW!**