

# 10 COMPLETE

# Montana

# MAST

# GRADE 5

# MATH

# PRACTICE TESTS

Standards-Based Review with  
Mixed Practice and Detailed Answer Key



### 10 Complete Practice Tests

Build confidence and test readiness



### Standards-Based Review

Covers key Grade 5 math standards



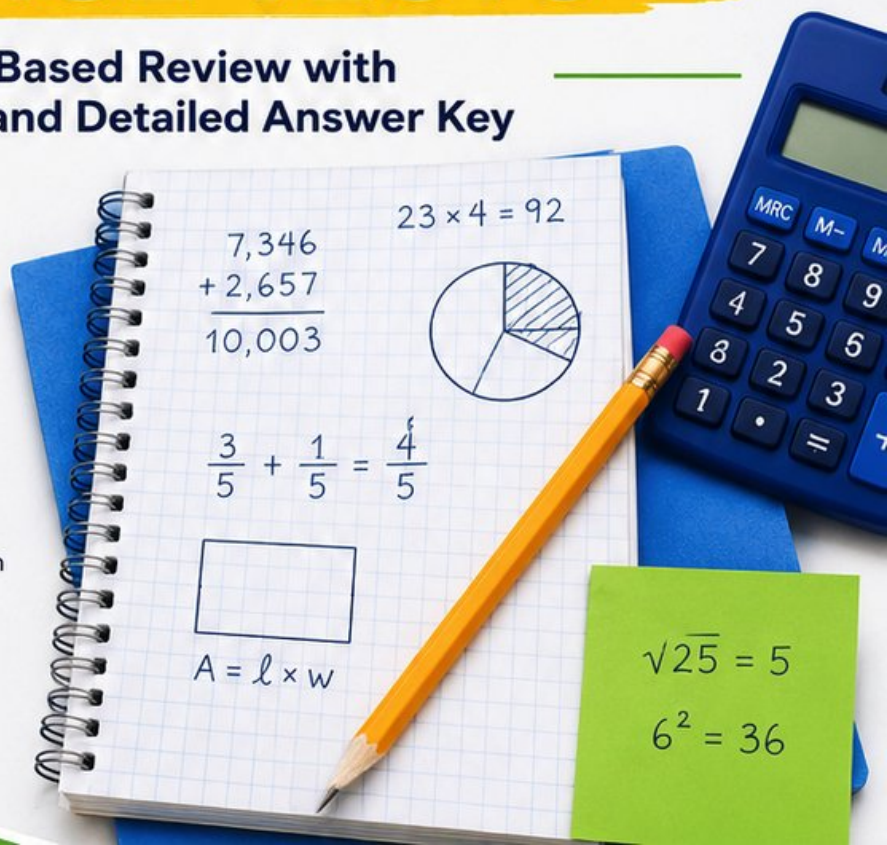
### Mixed Practice

Variety of question types to strengthen skills



### Detailed Answer Key

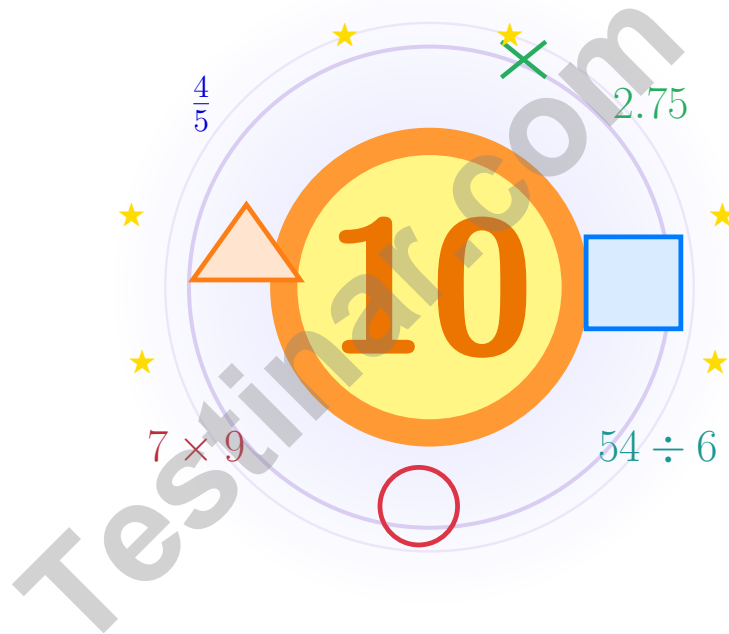
Step-by-step explanations for every question



**PREPARE.  
PRACTICE.  
SUCCEED!**

# 10 Montana MAST Grade 5 Math Practice Tests

*Bright review, thoughtful practice, and steady confidence for Grade 5*



Ten full tests, a focused quick review, and student-friendly support that keeps practice clear and encouraging.

**Jay Daie and Reza Nazari**



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# Welcome!

This book is a place to practice bravely and think clearly

## Dear Grade 5 Mathematician

This book gives you ten chances to read carefully, solve thoughtfully, and build steady math confidence. Some problems will feel friendly right away. Some will take more patience. Both kinds help you grow.

The goal is not to feel perfect before you begin. The goal is to practice honest effort, learn from corrections, and notice how much stronger your thinking becomes over time.

### Read

Slow down and understand the task.

### Solve

Show clear steps and good choices.

### Learn

Use mistakes as clues for what comes next.

**A strong habit from the start:** keep your work neat, estimate when it helps, write units carefully, and do not let one hard problem decide your mood for the whole page.



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# How to Use This Book

A simple routine that turns practice into real progress

## Step 1

**Warm up with the quick review.**

Spend a few minutes refreshing the ideas before the test begins.

## Step 2

**Take one full practice test.**

Work in a calm spot and aim for careful thinking before speed.

## Step 3

**Check your work honestly.**

Circle missed questions and notice which skills need another look.

## Step 4

**Fix and reflect.**

Read the explanation, repair the work, and bring that lesson into the next test.



**A Good 10-Week Rhythm**

<b>Week 1</b>	Take Test 1 and notice your starting strengths.
<b>Week 2</b>	Take Test 2 and slow down on word problems.
<b>Week 3</b>	Take Test 3 and sharpen multiplication and division checks.
<b>Week 4</b>	Take Test 4 and focus on fractions and decimals.
<b>Week 5</b>	Take Test 5 and watch your labels and units closely.
<b>Week 6</b>	Take Test 6 and practice calmer pacing.
<b>Week 7</b>	Take Test 7 and compare your habits with the earlier weeks.
<b>Week 8</b>	Take Test 8 and focus on tidy, checkable work.
<b>Week 9</b>	Take Test 9 and compare your progress with the way you worked in the earlier weeks.
<b>Week 10</b>	Take Test 10 and finish with steady, confident effort while using every strong habit you built.



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## Grade 5 Mathematics Reference Materials

### PERIMETER AND AREA

Perimeter of Rectangle  $P = 2l + 2w$  or  $P = 2(l + w)$

Area of Rectangle  $A = l \times w$

Area of Triangle  $A = \frac{1}{2} \times b \times h$

Volume of Rectangular Prism  $V = l \times w \times h$

### LENGTH

#### Customary

1 foot (ft) = 12 inches (in.)

1 yard (yd) = 3 feet (ft)

1 yard (yd) = 36 inches (in.)

#### Metric

1 meter (m) = 100 centimeters (cm)

1 centimeter (cm) = 10 millimeters (mm)

1 kilometer (km) = 1,000 meters (m)

### CAPACITY

#### Customary

1 cup (c) = 8 fluid ounces (fl oz)

1 pint (pt) = 2 cups (c)

1 quart (qt) = 2 pints (pt)

1 gallon (gal) = 4 quarts (qt)

#### Metric

1 liter (L) = 1,000 milliliters (mL)

### WEIGHT AND MASS

#### Customary

1 pound (lb) = 16 ounces (oz)

#### Metric

1 kilogram (kg) = 1,000 grams (g)

1 gram (g) = 1,000 milligrams (mg)

### TIME

1 minute (min) = 60 seconds (sec)

1 week = 7 days

1 hour (hr) = 60 minutes (min)

1 year = 12 months

1 day = 24 hours (hr)

1 year = 52 weeks



1) A rectangular prism has a volume of  $432 \text{ in}^3$ . If length is 18 inches and height is 8 inches, what is the width?

A. 2 inches

B. 3 inches

C. 4 inches

D. 5 inches

2) Find:  $9 \times \frac{2}{6}$ .

*Record your answer in the space provided.*

3) A garden planter measures 11 inches long, 5 inches wide, and 7 inches tall. What is its volume?

A. 55 cubic inches

B. 385 cubic inches

C. 77 cubic inches

D. 35 cubic inches

4) At the start of the day, a thermometer reads  $72.45^\circ\text{F}$ . By evening, it drops to  $58.13^\circ\text{F}$ . What is the temperature change?

A.  $14.32^\circ\text{F}$

B.  $14.58^\circ\text{F}$

C.  $13.58^\circ\text{F}$

D.  $15.42^\circ\text{F}$

5) Which fraction is equivalent to  $\frac{7}{10}$  with denominator 30?

A.  $\frac{14}{30}$

B.  $\frac{21}{30}$

C.  $\frac{24}{30}$

D.  $\frac{27}{30}$



6) “The sum of 8 and 4, divided by the difference of 10 and 6” equals:

- A.  $\frac{8 + 4}{10 - 6}$ 
 C.  $\frac{8}{4} + 10 - 6$   
 B.  $8 + \frac{4}{10 - 6}$ 
 D.  $\frac{8 - 4}{10 + 6}$

7) Dimensions 9 cm × 6 cm × 7 cm. Volume =?

- A. 378 cm<sup>3</sup>
 C. 54 cm<sup>3</sup>  
 B. 22 cm<sup>3</sup>
 D. 63 cm<sup>3</sup>

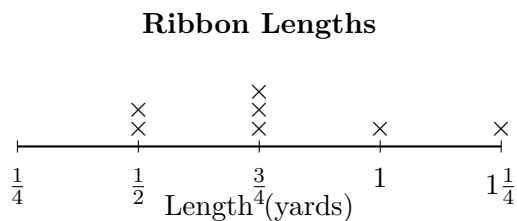
8) A store receipt shows:

Item	Price
Apple juice	\$2.35
Crackers	\$1.64
<b>Total</b>	<b>?</b>

What is the total cost?

- A. \$3.89
  C. \$4.09  
 B. \$4.99
  D. \$3.99

9) The line plot shows ribbon lengths measured by students:



What is the total length of the three ribbons that are each  $\frac{3}{4}$  yard long?

- A.  $1\frac{1}{2}$  yards
  C.  $\frac{3}{4}$  yard  
 B.  $2\frac{1}{4}$  yards
  D. 3 yards



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### TIME

1 minute (min) = 60 seconds (sec)    1 week = 7 days

1 hour (hr) = 60 minutes (min)    1 year = 12 months

1 day = 24 hours (hr)    1 year = 52 weeks



1) Without computing, which expression is greatest?

A.  $(12 + 5)$

C.  $(12 + 5) \div 2$

B.  $2 \times (12 + 5)$

D.  $(12 + 5) - 2$

2) How many  $\frac{1}{6}$ -hour music lessons can fit into 2 hours?

 A. 6 lessons C. 10 lessons B. 8 lessons D. 12 lessons

3) A triangle has angles of 30 degrees, 70 degrees, and 80 degrees. What type is it based on its angles?

 A. Acute C. Obtuse B. Right D. Equilateral

4) Which statement is true without calculating?

A.  $(100 + 30) + 25 > 100 + (30 + 25)$

B.  $(100 + 30) + 25 < 100 + (30 + 25)$

C.  $(100 + 30) + 25 = 100 + (30 + 25)$

 D. Cannot compare

5) Find the difference:  $\frac{3}{4} - \frac{1}{6}$ .

*Record your answer in the space provided.*



- 38) Write a division equation for:  $\frac{1}{3}$  yard of ribbon shared equally among 4 students.

*Record your answer in the space provided.*

- 39) A scale diagram compares two quantities. If Unit 1 equals  $(13 + 2)$ , and Unit 2 equals  $4 \times (13 + 2)$ , which expression equals Unit 2 minus Unit 1?

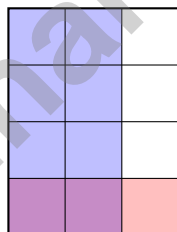
A. 3

B.  $4 \times (13 + 2)$

C.  $(13 + 2)$

D.  $3 \times (13 + 2)$

- 40) The area model below has 3 equal columns and 4 equal rows. Two columns are shaded one way, and one row is shaded another way. Which product does the double-shaded region show?



A.  $\frac{3}{4} \times \frac{4}{5}$

B.  $\frac{1}{2} \times \frac{3}{5}$

C.  $\frac{2}{3} \times \frac{1}{4}$

D.  $\frac{3}{5} \times \frac{2}{3}$

## End of Practice Test

Nice work. Pause, breathe, and check your answers with care.



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Grade 5 Mathematics

10

Questions: 40 Duration: No time limit

Calculator Policy: Calculators are not allowed



## Practice Test Answer Keys

### How to use this section:

1. check your answer
2. circle missed questions
3. rework them before reading the explanation

**Good correction habits build strong scores.**

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## Practice Test Answers and Explanations

### Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** (5.MD.4) The known length and height make groups of  $18 \times 8 = 144$  cubic inches. Since  $432 \div 144 = 3$ , the width is 3 inches.
- 2) **The correct answer is 3.** (5.NF.4) First simplify  $\frac{2}{6}$  to  $\frac{1}{3}$ . Then  $9 \times \frac{1}{3} = \frac{9}{3} = 3$ .
- 3) **Choice B is correct.** (5.MD.5) Use the rectangular-prism volume formula:  $11 \times 5 \times 7 = 385$ . So the volume is 385 cubic inches.
- 4) **Choice A is correct.** (5.NBT.7) Line up decimal points and subtract place by place.  $72.45 - 58.13 = 14.32$  degrees Fahrenheit. This confirms the answer.
- 5) **Choice B is correct.** (5.NF.2) The denominator 10 is multiplied by 3 to make 30. Multiply the numerator by 3:  $\frac{7}{10} = \frac{21}{30}$ .
- 6) **Choice A is correct.** (5.OA.2) The amount being divided is the sum  $8 + 4$ , and the divisor is the difference  $10 - 6$ . That is why both parts need grouping in the fraction.
- 7) **Choice A is correct.** (5.MD.4)  $V = 9 \times 6 \times 7 = 378 \text{ cm}^3$ .
- 8) **Choice D is correct.** (5.NBT.7) Add:  $\$2.35 + \$1.64 = \$3.99$  (hundredths:  $5 + 4 = 9$ ; tenths:  $3 + 6 = 9$ ; dollars:  $2 + 1 = 3$ ).
- 9) **Choice B is correct.** (5.MD.2) There are 3 X marks above  $\frac{3}{4}$  yard.  $\frac{3}{4} + \frac{3}{4} + \frac{3}{4} = \frac{9}{4} = 2\frac{1}{4}$  yards.
- 10) **Choice B is correct.** (5.NF.1)  $\text{LCM}(10,5) = 10$ .  $\frac{1}{5} = \frac{2}{10}$ .  $\frac{3}{10} + \frac{2}{10} = \frac{5}{10} = \frac{1}{2}$  meter.
- 11) **Choice C is correct.** (5.NBT.2) Multiply by 100: move decimal 2 places right:  $3.6 \times 100 = 360$ .
- 12) **Choice B is correct.** (5.NF.2)  $\frac{2}{3} = \frac{2 \times 4}{3 \times 4} = \frac{8}{12}$  is correct. The other options are all false.
- 13) **Choice C is correct.** (5.MD.4) Volume =  $6 \times 4 \times 7 = 168$  cubic feet.
- 14) **Choice B is correct.** (5.NF.7) The total is 6 wholes and each counted piece is one fourth. So the matching equation is  $6 \div \frac{1}{4} = n$ .
- 15) **The correct answer is  $\frac{1}{3}$ .** (5.OA.2) Dividing the whole amount  $(6 + 9)$  by 3 splits it into 3 equal parts. One part is  $\frac{1}{3}$  of the original value.
- 16) **Choice B is correct.** (5.NF.2)  $1\frac{1}{12} \approx 1$  and  $\frac{7}{8} \approx 1$ . So  $1\frac{1}{12} + \frac{7}{8} \approx 1 + 1 = 2$ . All others sum to less than 1.
- 17) **Choice D is correct.** (5.G.2) The first three points have second coordinates 3 more than the first. For  $(4, 8)$ ,  $4 + 3 = 7$ , not 8.
- 18) **Choice B is correct.** (5.OA.1) The parentheses give  $20 + 10 = 30$ . Then  $3 \times 30 = 90$ , and  $150 - 90 = 60$ .
- 19) **Choice D is correct.** (5.NBT.2)  $6,800 \div 100 = 68$ . The divisor must be  $10^2 = 100$ .
- 20) **Choices A, D are correct.** (5.OA.3) Pattern Q adds twice as much as Pattern P, so matching terms in Q are double the terms in P, and Q grows faster. B is false after one step, and C is false at the 3rd term.
- 21) **Choice D is correct.** (5.NF.7)  $8 \div \frac{1}{2} = 8 \times 2 = 16$ . It will take 16 nights.
- 22) **Choice B is correct.** (5.NBT.4) 7.19 has a tenths digit of 1 and hundredths digit of 9. Since  $9 \geq 5$ , round the tenths up from 1 to 2, giving 7.2.
- 23) **Choice A is correct.** (5.G.1) In an ordered pair  $(x, y)$ , the first number tells how far to move right, and the second number tells how far to move up.
- 24) **Choice C is correct.** (5.NBT.2) Multiplying by 10 makes the number 10 times as large, so each digit moves one place to the left in the place-value chart. The decimal point appears one place to the right, giving 35.
- 25) **Choice A is correct.** (5.MD.5) The overlap has  $\frac{5}{6} \times \frac{2}{3} = \frac{10}{18}$ , which is 10 squares out of 18 total.
- 26) **Choice B is correct.** (5.MD.1) Divide the total weight by the weight of one ream:  $60 \div 5 = 12$  reams.
- 27) **Choice A is correct.** (5.NF.5)  $\frac{1}{3}$  is the smallest factor, so  $7 \times \frac{1}{3}$  is the smallest product.
- 28) **Choice A is correct.** (5.NF.2) LCD = 12.  $\frac{5}{6} = \frac{10}{12}$ ;  $\frac{3}{4} = \frac{9}{12}$ .  $\frac{10}{12} - \frac{9}{12} = \frac{1}{12}$ .
- 29) **Choice B is correct.** (5.NF.6) Area =  $\frac{4}{5} \times \frac{3}{4} = \frac{12}{20}$ , which simplifies to  $\frac{3}{5} \text{ m}^2$ .
- 30) **The correct answer is 0.04.** (5.NBT.2) Move the decimal point one place left:  $0.4 \rightarrow 0.04$ .



### Case Closed: Success Ahead

---

### Greetings, Math Detective!

◇ Outstanding investigation! You've cracked the code on 10 complete practice tests, examining every clue and solving every mathematical mystery like a brilliant detective! Each problem was a puzzle, and you methodically gathered evidence, analyzed patterns, and reached accurate conclusions. That analytical thinking you've developed will serve you well on test day and beyond! ◇

★ **Here's what master detectives know:** not every case solves itself immediately. Sometimes you need to examine the evidence from different angles, try various approaches, and remain persistent until you crack the code. You've practiced exactly that through these 10 tests! Your investigative skills have sharpened considerably, and you're ready to solve any mathematical mystery that comes your way! ★

#### Detective's Case File: Your Skills

- **Clue Collection:** You gather all important information from problems before solving!
- **Pattern Recognition:** You identify mathematical patterns like a trained investigator!
- **Evidence Analysis:** You evaluate which strategies work best for each problem type!
- **Case Resolution:** You stay focused until you've found the correct solution!

**Detective wisdom:** the best investigators take notes about their methods so they can solve similar cases faster in the future. Your brain has been doing exactly that throughout these 10 tests, storing successful strategies in your mental filing cabinet. On test day, you'll be able to retrieve those proven methods instantly!

If you want to share a proud moment or ask a question, please email me at [jay@testinar.com](mailto:jay@testinar.com). I'd love to hear from you!

**Jay Daie**

Your Math Detective Coach

# PRACTICE TODAY. MASTER TOMORROW.

Give your child the confidence to excel in **Grade 5 Math!**  
This book includes **10 complete practice tests** designed to build strong skills, improve test readiness, and achieve success.



# 10

## COMPLETE PRACTICE TESTS

- ✓ Realistic. Rigorous.
- ✓ Results-Driven.

More practice today for a **stronger** tomorrow.

## THIS BOOK HELPS YOUR CHILD:



### Build Confidence

Familiar, focused practice reduces anxiety and boosts self-belief.



### Strengthen Skills

Reinforces key math concepts through high-quality, standards-aligned questions.



### Improve Test Readiness

Full-length tests help students understand test format, pacing, and question types.



### Track Progress

Identify strengths and target areas with purposeful practice.



### Achieve Success

Better preparation leads to higher scores and bright futures.

## COVERS ALL ESSENTIAL TOPICS

- ✓ Whole Numbers & Operations
- ✓ Fractions & Decimals
- ✓ Algebraic Thinking
- ✓ Geometry
- ✓ Measurement & Data
- ✓ Graphing & Data Analysis
- ✓ Number Patterns
- ✓ Word Problems
- ✓ Ratio & Proportion
- ✓ Perimeter, Area & Volume
- ✓ And More!



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Aligned to Standards



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