

# 5 FULL-LENGTH Montana MAST

## GRADE 5 MATH

### ★ PRACTICE TESTS ★



5 FULL-LENGTH  
PRACTICE TESTS



COMPLETE  
STANDARDS  
REVIEW



SKILL PRACTICE,  
WORD PROBLEMS,  
AND MORE!

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



$$12 \times 3 = 36$$



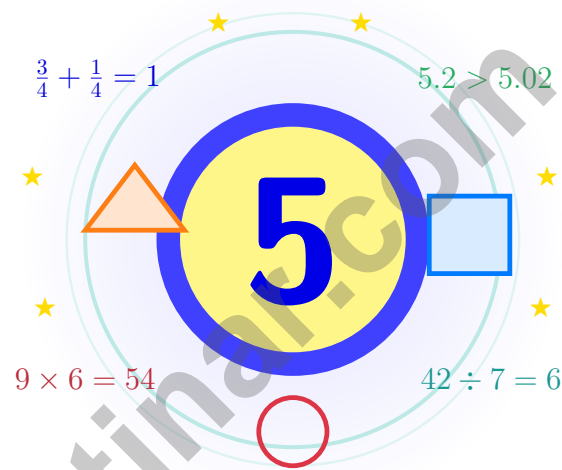
$$\frac{7}{10} = 0.7$$



**BUILT FOR SUCCESS. DESIGNED TO HELP EVERY STUDENT.**

# 5 Montana MAST Grade 5 Math Practice Tests

*A five-checkpoint expedition for curious Grade 5 thinkers*



Five full tests, a friendly quick review, smart strategy pages, and student-tested support that turn Grade 5 practice in The Treasure State into a steady quest of real growth.

**Jay Daie and Reza Nazari**



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# Suit Up, Montana – Five Checkpoints Ahead

A five-checkpoint expedition for curious Grade 5 thinkers

## For Every Curious Mind in Montana

This book is your practice zone, not a place to be perfect. Each of the five tests gives you a chance to notice clues, choose a strategy, check your thinking, and come back stronger for the next round. Math is like the Montana sky: wide, open, and full of room for clear, careful thinking.

Some questions will feel easy right away. Some will make you slow down, draw, estimate, or retry. That is excellent news. It means your math brain is doing real work.

### Notice

Read closely and spot what the problem is really asking.

### Try

Pick a plan and work through it one step at a time.

### Level Up

Use every correction like a clue for what to practice next.

**A strong quest habit for Montana:** slow down, write neatly, estimate before you solve, and keep going even when a problem looks tricky at first. That is exactly how confident math students are built.

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# Five Tests, Five Lessons

A simple routine that turns five tests into real growth

## Step 1: Power Up

**Warm up with the quick review.**  
Wake up important ideas before you begin so your brain is ready to use them.

## Step 2: Take the Checkpoint

**Take one full practice test.**  
Find a quiet space, work carefully, and let accuracy matter more than speed.

## Step 3: Decode Mistakes

**Check your answers honestly.**  
Circle missed questions and look for patterns. Which skill or habit needs another try?

## Step 4: Bring the Lesson Forward

**Study, fix, and retry.**  
Read the explanation, repair the work, and carry that lesson into the next test.

## A Five-Week Montana Quest Map

Week	Mission Focus
Week 1	Take Test 1 like a wide-sky morning – notice everything.
Week 2	Take Test 2 and notice one habit that grew steadier.
Week 3	Take Test 3 and lift fractions, decimals, and conversions.
Week 4	Take Test 4 and slow down on multi-step problems.
Week 5	Take Test 5 with calm focus from start to finish.



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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





5) Evaluate:  $24 - 2 \times (3 + 5)$

A. 8

C. 26

B. 16

D. 44

6) A baker needs 80 ounces of flour for a recipe. How many pounds is that? (Use: 1 pound = 16 ounces)

80 ounces of flour

→ ? pounds

(1 lb = 16 oz)

A. 4 pounds

C. 6 pounds

B. 5 pounds

D. 8 pounds

7) What is  $14.80 - 6.37$ ?

A. 7.95

C. 8.52

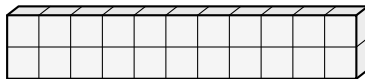
B. 9.20

D. 8.43

8) A trip is 2 hours 45 minutes. Express the total time in minutes.

*Record your answer in the space provided.*

9) A rectangular prism has dimensions 11 units by 1 unit by 2 units. How many unit cubes does it contain?



A. 22 unit cubes

C. 14 unit cubes

B. 11 unit cubes

D. 24 unit cubes



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1) What is  $9 \div \frac{1}{3}$ ?

A. 27

C. 18

B. 9

D. 36

2) A composite classroom model is made from two non-overlapping rectangular prisms. Prism A is 7 inches long, 4 inches wide, and 5 inches tall. Prism B is 6 inches long, 4 inches wide, and 3 inches tall. What is the total volume?

A. 140 cubic inches

C. 72 cubic inches

B. 212 cubic inches

D. 240 cubic inches

3) A student claims: "To subtract  $5\frac{1}{2} - 3\frac{3}{4}$ , I first convert to fourths:  $5\frac{2}{4} - 3\frac{3}{4}$ ." Is this a correct first step?

A. Yes, fourths are the least common denominator

C. No, must use halves as the common denominator

B. No, the conversions are wrong

D. Cannot convert; denominators are too different

4) A paint can holds  $1\frac{1}{2}$  gallons. How many gallons are in 7 paint cans?

A.  $10\frac{1}{2}$  gallons

C. 9 gallons

B. 11 gallons

D.  $8\frac{1}{2}$  gallons

5) What is the value of  $50 \times 100$ ?

Expression	Value
$50 \times 10$	500
$50 \times 100$	?
$50 \times 1,000$	50,000

A. 500

C. 50,000

B. 5,000

D. 500,000



## 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  $V = l \times w \times h$

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### TIME

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

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



1) Which expression produces a product with 2 trailing zeros?

A.  $30 \times 5$

C.  $3 \times 5$

B.  $8 \times 7$

D.  $20 \times 5$

2) A child grows from 100 cm to 115 cm. What is the growth in meters?

A. 0.15 meters

C. 1.15 meters

B. 0.25 meters

D. 1.5 meters

3) Simplify the result:  $8\frac{4}{6} - 3\frac{2}{6}$  and reduce to lowest terms.

A.  $5\frac{1}{3}$

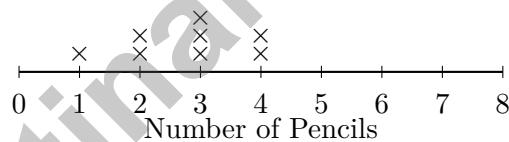
C.  $5\frac{1}{2}$

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

D.  $5\frac{1}{6}$

4) The line plot shows the number of pencils students sharpened on 8 days:

**Pencils Sharpened (Days 1–8)**



How many data points are shown on the line plot?

A. 6

C. 9

B. 7

D. 8

5) A measurement shows rope lengths: 2.34 m and 1.52 m. What is the total length?

A. 3.76 m

C. 3.96 m

B. 3.86 m

D. 4.86 m



## 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

- Choice C is correct.** **(5.NBT.2)** Multiplying by 1,000 moves the decimal three places right:  $1.2 \rightarrow 12 \rightarrow 120 \rightarrow 1,200$ .
- Choice D is correct.** **(5.NF.7)** Start with one unit fraction,  $\frac{1}{9}$ , and share it into 3 equal parts. Each part is  $\frac{1}{9} \div 3 = \frac{1}{27}$  of the whole.
- Choice B is correct.** **(5.NBT.6)**  $936 \div 13 = 72$  packs. Check:  $13 \times 72 = 936$ .
- Choice B is correct.** **(5.MD.1)** 1 meter = 100 centimeters. Multiply:  $7.5 \times 100 = 750$  cm.
- Choice A is correct.** **(5.OA.1)** First simplify inside the parentheses:  $3 + 5 = 8$ . Then multiply,  $2 \times 8 = 16$ , and subtract from 24 to get 8.
- Choice B is correct.** **(5.MD.1)** Since 16 ounces = 1 pound, divide 80 by 16:  $80 \div 16 = 5$  pounds.
- Choice D is correct.** **(5.NBT.7)**  $14.80 - 6.37 = 8.43$ . Borrow from ones place:  $14.80 - 6.37 = 8.43$ .
- The correct answer is 165.** **(5.MD.1)** Convert the hours first: 2 hours is  $2 \times 60 = 120$  minutes. Add 45 minutes to get  $120 + 45 = 165$  minutes.
- Choice A is correct.** **(5.MD.4)** The prism has one row of 11 cubes in each layer. With 2 layers,  $11 \times 1 \times 2 = 22$  unit cubes.
- Choice A is correct.** **(5.MD.3)** Compare the two container volumes by subtracting. Container B holds  $48 - 36 = 12$  cubic inches more than Container A.
- Choice C is correct.** **(5.NBT.2)** The nonzero parts make  $2 \times 5 = 10$ , which contributes one trailing zero. The factors already have four zeros, so the product has 5 zeros.
- Choice B is correct.** **(5.NBT.2)** When multiplying by 10, each digit shifts one place left: 4 (tens)  $\rightarrow$  4 (hundreds), 2 (ones)  $\rightarrow$  2 (tens), 0 fills the ones place.
- Choice B is correct.** **(5.NBT.2)**  $875 \times 10^2 = 875 \times 100 = 87,500$ , so the exponent is 2.
- The correct answer is hexagon.** **(5.G.3)** A hexagon has 6 sides. Because all sides and angles are equal, regular hexagon is a more specific name, but hexagon is also correct.
- Choice C is correct.** **(5.NF.5)**  $2 \times \frac{3}{2} = 3$ . Scaling by  $\frac{3}{2}$  increases the height by half.
- Choice C is correct.** **(5.G.2)** Both stores have the same y-coordinate (5), so the distance is measured horizontally. The distance is  $7 - 2 = 5$  blocks.
- Choice B is correct.** **(5.NBT.1)** The digit in the hundredths place is 8. The number is 5.382.
- Choices A, B are correct.** **(5.G.4)** A rhombus is a parallelogram with four equal-length sides. It does not have to have right angles, and it does have equal-length sides, so C and D are false.
- Choice A is correct.** **(5.NF.2)** Multiples of 5: 5, 10, 15, 20, ... Multiples of 4: 4, 8, 12, 16, 20, ... The least common denominator is 20.
- Choice A is correct.** **(5.NF.6)** This asks for  $\frac{1}{2}$  of  $\frac{3}{4}$  pound, so multiply:  $\frac{1}{2} \times \frac{3}{4} = \frac{3}{8}$  pound.
- Choice B is correct.** **(5.NBT.2)**  $7.4 \times 10 = 74$  and  $74 \times 1 = 74$ , so they are equal.
- Choice D is correct.** **(5.NF.5)**  $\frac{2}{4} = \frac{1}{2}$ , so both products are equal.
- Choice D is correct.** **(5.G.4)** Figure D is a rhombus with no right angles. It has two pairs of parallel sides, so it is a parallelogram, but it is not a rectangle.
- Choice C is correct.** **(5.NF.2)**  $9\frac{3}{5} \approx 10$  and  $4\frac{2}{9} \approx 4$ . So  $9\frac{3}{5} - 4\frac{2}{9} \approx 10 - 4 = 6$ .
- Choice D is correct.** **(5.NBT.7)** All have 45 ones. Tenths: 45.506 has 5, 45.56 has 5, 45.065 has 0. Between first two, hundredths: 45.506 has 0, 45.56 has 6. So  $45.56 > 45.506 > 45.065$ .
- Choice C is correct.** **(5.G.2)** Point C is at (5, 8). Moving 4 units down subtracts 4 from the y-coordinate:  $8 - 4 = 4$ . The x-coordinate stays 5. So point D is at (5, 4).
- The correct answer is  $\frac{3}{8}$ .** **(5.NF.2)**  $\frac{1}{4} = \frac{2}{8}$ . Difference:  $\frac{5}{8} - \frac{2}{8} = \frac{3}{8}$ .
- Choice B is correct.** **(5.OA.3)** The outputs go 5, 7, 9, 11. Each time the input increases by 1, the output increases by 2.
- Choice C is correct.** **(5.NBT.2)** Divide total grains by number of people:  $2,000 \div 100 = 20$  grains per person.
- Choice A is correct.** **(5.OA.2)** The parentheses tell us to divide 6 by 2 first. Then the result is multiplied by 4, matching choice A.



Conductor's Final Rehearsal Notes

Greetings, Master Conductor!

★ Brilliant performance! You've conducted five complete mathematical symphonies, orchestrating solutions with precision and harmony like a world-class conductor! Each problem required you to coordinate multiple mathematical elements, maintain tempo, and create elegant solutions. Your mathematical musicianship has developed beautifully through this intensive rehearsal period! ★

◇ **Here's what great conductors know:** they don't just read the notes they understand the entire composition and how every part connects. You've developed that same comprehensive understanding through these five tests! You see how mathematical concepts relate to each other and how to bring them together into coherent solutions. That's mathematical mastery! ◇

**Orchestra Performance Review**

- **Rhythm and Timing:** You pace yourself effectively through tests without rushing!
- **Harmony:** You balance different problem-solving methods beautifully!
- **Technical Mastery:** You execute mathematical procedures with confidence!
- **Performance Ready:** You're prepared for opening night on test day!

**Remember this musical wisdom:** the best performances happen when musicians stop thinking about technique and simply play from the heart. After five complete rehearsals, your mathematical techniques have become second nature. On test day, trust your preparation and let your knowledge flow naturally. You're ready for a standing ovation!

Want to share your mathematical compositions or discuss a particularly elegant solution? Send your musical insights to [reza@testinar.com](mailto:reza@testinar.com). I appreciate mathematical artistry!

**Reza Nazari & Jay Daie**

Your Math Coaches for Confident Test Days

# 5 FULL-LENGTH TESTS. STRONG SKILLS. BRIGHTER RESULTS.



Build confidence and master math with **5 full-length** practice tests designed to reflect the real test experience. This book provides the practice, review, and support students need to succeed in Grade 5 and beyond!

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with consistent  
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