

# 7

# Montana

# MAST

## GRADE 5

# MATHEMATICS

## PRACTICE TESTS

✓  
PRACTICE  
PREPARE  
SUCCEED

★★★

Comprehensive Standards-Aligned  
Review for Strong Grade 5  
Math Performance



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

$$2.4 + 1.6 = 4.0$$

$$A = \frac{bh}{2}$$



**7 FULL-LENGTH  
PRACTICE TESTS**

Realistic style  
questions



**STANDARDS-  
ALIGNED**

Covers all Grade 5  
standards



**BUILD CONFIDENCE**

Target weak areas  
and improve  
performance



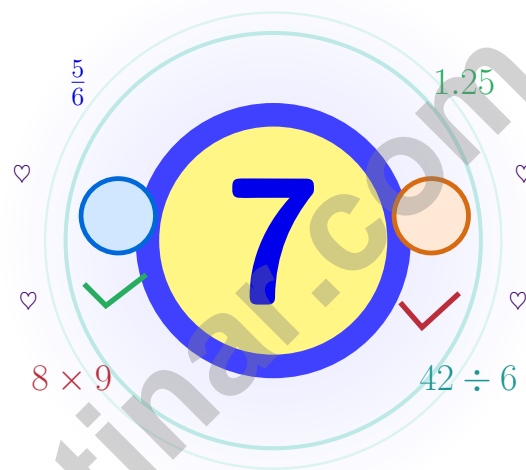
**ACHIEVE SUCCESS**

Develop skills,  
stay prepared,  
excel on test day

★ PRACTICE TODAY. PERFORM TOMORROW. **SUCCEED** FOREVER. ★

# 7 Montana MAST Grade 5 Math Practice Tests

*A seven-step expedition for curious Grade 5 thinkers*



Seven full tests, a concise review, and helpful support that turns Grade 5 practice in The Treasure State into steady, confident growth from page one to the final check.

**Jay Daie and Reza Nazari**



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# Hello, Montana – Seven Tests, Steady Growth

Seven chances to read carefully, solve smartly, and grow stronger

## To Montana Students Who Love a Puzzle

This practice book is your steady companion for seven tests, not a place to be perfect. Math is like the Montana sky: wide, open, and full of room for clear, careful thinking.

Use these seven tests like stepping-stones. Take one test at a time, check your answers honestly, and notice which skills need more attention. Small improvements add up across seven rounds.

### Look

Look at the problem like a detective looks at a clue.

### Test

Test your idea with one careful step at a time.

### Grow

Grow stronger by reviewing exactly what tripped you up.

**A strong habit for Montana mathematicians:** read carefully, estimate when it helps, show your steps, and keep going even when a question feels tricky. That is how steady math confidence is built.

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# How This Book Wants to Help

A simple routine that turns practice into progress

## Step 1: Read

**Read the quick review pages first.**  
Spend a few minutes waking up your memory before the test begins.

## Step 2: Try

**Try one full test with full attention.**  
Work in a calm spot and focus on careful thinking before speed.

## Step 3: Reflect

**Reflect on which skills want more sunlight.**  
Circle missed questions and notice which topics keep showing up.

## Step 4: Lift

**Lift those skills before the next test.**  
Read the explanation, repair the work, and bring that lesson into the next test.

### A Good 7-Week Montana Rhythm

|               |                                                                |
|---------------|----------------------------------------------------------------|
| <b>Week 1</b> | Take Test 1 like a wide-sky morning.                           |
| <b>Week 2</b> | Take Test 2 and slow down on word problems.                    |
| <b>Week 3</b> | Take Test 3 and lift fraction and decimal work.                |
| <b>Week 4</b> | Take Test 4 and pay close attention to labels and units.       |
| <b>Week 5</b> | Take Test 5 and compare your habits with your first test.      |
| <b>Week 6</b> | Take Test 6 and practice staying calm during tricky questions. |
| <b>Week 7</b> | Take Test 7 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                     | Metric                                  |
|-------------------------------|-----------------------------------------|
| 1 foot (ft) = 12 inches (in.) | 1 meter (m) = 100 centimeters (cm)      |
| 1 yard (yd) = 3 feet (ft)     | 1 centimeter (cm) = 10 millimeters (mm) |
| 1 yard (yd) = 36 inches (in.) | 1 kilometer (km) = 1,000 meters (m)     |

### CAPACITY

| Customary                          | Metric                               |
|------------------------------------|--------------------------------------|
| 1 cup (c) = 8 fluid ounces (fl oz) | 1 liter (L) = 1,000 milliliters (mL) |
| 1 pint (pt) = 2 cups (c)           |                                      |
| 1 quart (qt) = 2 pints (pt)        |                                      |
| 1 gallon (gal) = 4 quarts (qt)     |                                      |

### WEIGHT AND MASS

| Customary                     | Metric                             |
|-------------------------------|------------------------------------|
| 1 pound (lb) = 16 ounces (oz) | 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  |







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1) Estimate:  $5\frac{6}{7} - 2\frac{1}{9}$ .

A. 3

C. 5

B. 6

D. 4

2) Pattern: 3, 6, 12, 24, ... What's next?

A. 30

C. 36

B. 72

D. 48

3) Without calculating, how does  $(100 - 25)$  compare to  $(100 - 25) + 50$ ?

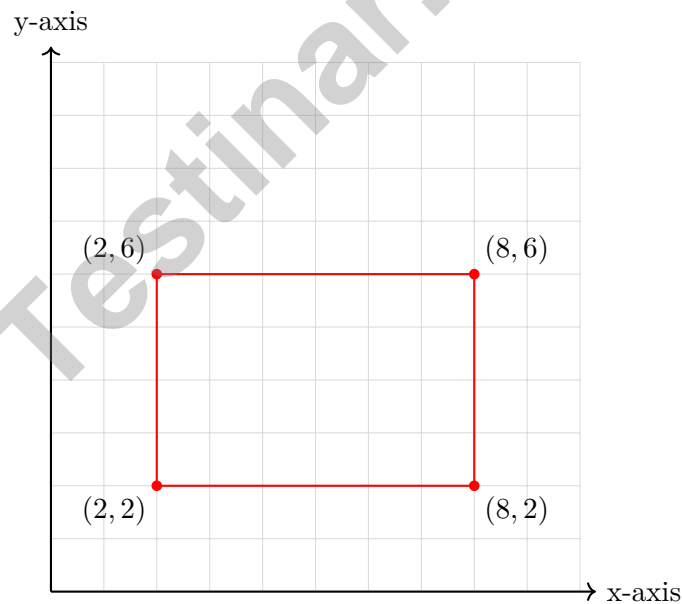
A. 50 less

C. Same

B. 50 more

D. Cannot tell

4) A design on the grid has vertices at  $(2, 2)$ ,  $(2, 6)$ ,  $(8, 6)$ , and  $(8, 2)$ . What is the perimeter of this shape in units?



A. 20 units

C. 28 units

B. 24 units

D. 16 units



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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) Three teams share a prize of \$240. Each team then spends \$15 on supplies. Which expression represents how much each team has left?

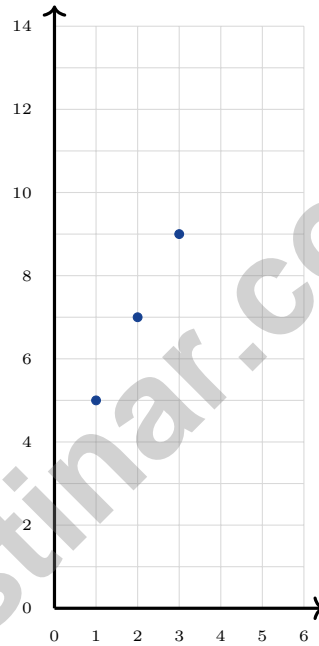
A.  $(240 - 15) \div 3$

B.  $240 \div 3 + 15$

C.  $240 - 15 \times 3$

D.  $(240 \div 3) - 15$

2) A graph displays the first three points in a pattern: (1, 5), (2, 7), and (3, 9). Which point should be plotted next?



A. (4, 11)

B. (4, 10)

C. (5, 11)

D. (3, 11)

3) Estimate the product of  $23 \times 18$  by rounding each factor to the nearest ten, then multiply.

A. 360

B. 380

C. 420

D. 400



## 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.NF.5)**  $5 \times \frac{1}{2} = 2\frac{1}{2}$ . The product is halfway between 0 and 5 because the scaling factor is  $\frac{1}{2}$ .
- 2) **The correct answer is 5.** **(5.OA.2)** The expression  $12 + 8$  is one amount. Multiplying it by 5 makes 5 copies of that amount, so the answer is 5.
- 3) **Choice C is correct.** **(5.OA.2)**  $9 \times 11 = 9 \times (10 + 1) = 9 \times 10 + 9 \times 1 = 9 \times 10 + 9$  by distributive property.
- 4) **Choice D is correct.** **(5.NBT.3)** In 7.84, the 8 is in the tenths place (0.8) and the 4 is in the hundredths place (0.04).
- 5) **Choice B is correct.** **(5.MD.1)** Since 1 mile = 5,280 feet, multiply 2 by 5,280:  $2 \times 5,280 = 10,560$  feet.
- 6) **Choice C is correct.** **(5.MD.5)**  $\frac{2}{5} \times \frac{1}{2} = \frac{2}{10} = \frac{1}{5}$ .
- 7) **Choice B is correct.** **(5.MD.2)** Add the weights shown by the line plot:  $\frac{1}{2} + 2\left(\frac{3}{4}\right) + 3(1) + 4\left(1\frac{1}{4}\right) = \frac{1}{2} + 1\frac{1}{2} + 3 + 5 = 10$  pounds.
- 8) **The correct answer is 49.** **(5.NBT.6)**  $24 \times 50 = 1,200$  is too big. Try  $24 \times 49 = 1,176$  exactly. Quotient: 49.
- 9) **Choice C is correct.** **(5.MD.3)** The crate has  $2 \times 3 = 6$  cubic meters in each layer and 2 layers. So  $6 \times 2 = 12$  cubic meters.
- 10) **Choice D is correct.** **(5.MD.3)** Volume counts cubic units inside the whole solid. Splitting into non-overlapping prisms lets you add the cubic units from each part.
- 11) **Choice A is correct.** **(5.NF.7)**  $\frac{1}{5} \div 3 = \frac{1}{5} \times \frac{1}{3} = \frac{1}{15}$ .
- 12) **Choice C is correct.** **(5.NBT.7)** The fastest time is the smallest:  $12.35 < 12.40 < 12.45 < 12.54$ . Casey's time of 12.35 seconds is fastest.
- 13) **Choice C is correct.** **(5.NBT.7)** In option C, first borrow 1 tenth so 11 hundredths can be used to subtract 8 hundredths. Then the tenths digit has become 1, so  $1 - 3$  requires borrowing from the ones place. Other options do not require borrowing from ones.
- 14) **Choice B is correct.** **(5.NF.4)** The six jumps each move  $\frac{1}{2}$ . Counting them lands at 3, so  $6 \times \frac{1}{2} = \frac{6}{2} = 3$ .
- 15) **Choice D is correct.** **(5.NBT.2)** To find the missing factor:  $54000 \div 1000 = 54$ .
- 16) **The correct answer is 36855.** **(5.NBT.5)**  $819 \times 5 = 4,095$  and  $819 \times 40 = 32,760$ . Sum:  $4,095 + 32,760 = 36,855$ .
- 17) **Choice A is correct.** **(5.NF.2)**  $\frac{2}{3} = \frac{2 \times 5}{3 \times 5} = \frac{10}{15}$  and  $\frac{3}{5} = \frac{3 \times 3}{5 \times 3} = \frac{9}{15}$ .
- 18) **Choice C is correct.** **(5.NF.7)** Each yard has 6 one-sixth-yard pieces.  $5 \div \frac{1}{6} = 5 \times 6 = 30$  cushions.
- 19) **Choice B is correct.** **(5.NBT.2)** Dividing by 1,000 moves the decimal 3 places left:  $64 \rightarrow 6.4 \rightarrow 0.64 \rightarrow 0.064$ .
- 20) **Choices A, B are correct.** **(5.NF.1)** C equals  $1\frac{1}{12}$ ; D equals  $1\frac{1}{2}$ .
- 21) **Choice B is correct.** **(5.NF.2)** LCD = 10.  $\frac{3}{5} = \frac{6}{10}$ ;  $\frac{1}{2} = \frac{5}{10}$ .  $\frac{6}{10} - \frac{5}{10} = \frac{1}{10}$ .
- 22) **Choice B is correct.** **(5.NBT.7)** When a number is multiplied by a factor less than 1, the product is smaller than the original number.
- 23) **The correct answer is 72 cubic feet.** **(5.MD.5)** The garden bed is a rectangular prism, so multiply the three dimensions:  $9 \times 4 \times 2 = 72$  cubic feet.
- 24) **Choice B is correct.** **(5.MD.5)** The base area is  $20 \times 4 = 80$  square centimeters. Since  $400 \div 80 = 5$ , the height is 5 cm.
- 25) **Choice C is correct.** **(5.MD.5)** Multiply:  $18.50 \times 20 = 370$  dollars per week.
- 26) **Choice A is correct.** **(5.MD.1)** Convert 3 kg to grams:  $3 \times 1000 = 3000$  g. Add:  $3000 + 250 = 3250$  g.
- 27) **The correct answer is isosceles.** **(5.G.4)** Two side lengths are equal, so Triangle P is isosceles.
- 28) **Choice B is correct.** **(5.OA.1)** The parentheses show the size of one group:  $(2 + 3)$  units. There are 3 equal groups, so the expression is  $3 \times (2 + 3)$ .
- 29) **Choice A is correct.** **(5.OA.3)** 24 cookies for 2 batches means 12 cookies per batch, so multiply the number of batches by 12.
- 30) **Choice A is correct.** **(5.NF.1)**  $\text{LCM}(4,2) = 4$ .  $\frac{3}{4} + \frac{2}{4} = \frac{5}{4} = 1\frac{1}{4}$  cups.
- 31) **Choice B is correct.** **(5.G.4)** A shape with opposite sides parallel and opposite sides equal is a parallelogram. The figure shown has these properties.



**Check Your Work**

---

**Dear Student,**

★ Seven tests gave you a powerful habit: checking. Checking turns good work into great work. It helps you catch small errors before they cost points. ★

◇ **Great test-takers check smartly:** they don't redo everything—they do quick checks that catch the most common mistakes. ◇

**Quick Check Ideas**

- **Estimate:** should the answer be about this size?
- **Opposite operation:** add to check subtraction; multiply to check division.
- **Units:** does the unit match the question?
- **Reread:** did you answer what was asked?

**You practiced checking** across seven tests—use it to earn points on test day.

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**Reza Nazari & Jay Daie**

Your Math Coaches (Check Smart)

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PREPARE  
SUCCEED



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