

4

Montana MAST

Grade 3

MATH

PRACTICE TESTS

Standards-Aligned Practice



STANDARDS-ALIGNED

Practice to build skills and boost confidence



4 FULL-LENGTH TESTS

Realistic questions to prepare for test day



ANSWER KEYS & EXPLANATIONS

Detailed solutions to learn and improve



4 Montana MAST Grade 3 Math Practice Tests

Standards-Aligned Review with Mixed Practice and Answer Key



Four focused 30-question missions for Grade 3 math: number facts, fractions, measurement, data, area, shapes, answer keys, and clear explanations for every item.

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Welcome to the Montana Math Launch

Four missions, careful work, and a stronger Grade 3 thinker



Read the mission. Show the work. Check the answer. Launch again.

To the Grade 3 Mission Leader

This book is a four-mission practice launch for the Montana MAST. Each test gives you a fresh chance to multiply, divide, read graphs, compare fractions, measure, find area, and explain math in a way someone else can follow.

Montana has big skies, mountain trails, and wide-open places where focus carries you forward. Good math uses the same habit: pause, check the details, and move forward with a steady plan.

Notice

Find the numbers, units, and question before choosing a path.

Model

Draw an array, number line, table, or quick equation.

Verify

Ask whether your answer fits the story and the unit.

Launch promise: I will slow down at the important moments, show the work I can, and use every miss as a clue for the next mission.

How to Use This Book

A four-mission routine for steady Grade 3 growth

1. Warm Up the System

Read the review pages first. Remind your brain how equal groups, fractions, clocks, graphs, and area models work.

2. Fly One Mission

Take one complete 30-question test. Keep your work neat enough that you can check it later.

3. Review the Flight

Use the answer key, then pause. A wrong answer is useful when you can name what happened.

4. Repair and Relaunch

Rework a few missed questions before starting the next test. The repair step is where the score begins to move.

A Four-Session Plan

Session 1	Take Test 1 and mark the topics that need attention.
Session 2	Take Test 2 and focus on showing every step clearly.
Session 3	Take Test 3 and watch for units, labels, and two-step problems.
Session 4	Take Test 4 and finish with calm, careful checking.

Best mission habit: After checking answers, write one sentence: “Next time I will pay attention to _____.”



Test Overview

What each Grade 3 math mission asks you to do

Each practice test has 30 questions. Across four tests, you will practice the kind of Grade 3 math thinking used on the Montana MAST: reading carefully, choosing a strategy, doing accurate computation, and explaining enough work to make your answer clear.

Multiple Choice

Look for the best answer. Estimate first when you can, cross out choices that do not fit, and reread the question before you choose.

Open Response

Write the answer and show the reason. A good Grade 3 response may use a drawing, equation, table, number line, or a few clear words.

Math Ideas Inside the Four Tests

- multiplication, division, arrays, missing factors, and two-step word problems
- place value, rounding, addition, subtraction, and multiplying by tens
- unit fractions, number lines, equivalent fractions, and comparing fractions
- time, mass, liquid volume, picture graphs, bar graphs, and line plots
- area, perimeter, unit squares, rectangles, and shape categories

What strong MAST work looks like: the answer matches the question, the units make sense, and the work is clear enough to check.



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- 5) Noah has a rectangular piece of paper. It is 9 inches long and 2 inches wide. If he covers it with 1-inch by 1-inch unit squares, how many will he need?
- A. 11 unit squares C. 18 unit squares
 B. 14 unit squares D. 20 unit squares
- 6) Lily starts her chores at 2 : 09 PM. She finishes at 2 : 41 PM. How long did Lily spend on chores?
- A. 32 minutes C. 28 minutes
 B. 30 minutes D. 35 minutes
- 7) Lily is building a sandbox for her backyard. The sandbox is 8 feet long and 6 feet wide. What is the area of the sandbox?

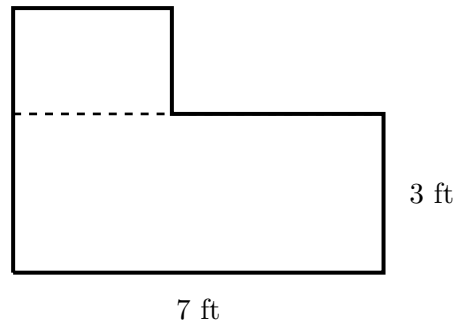


- A. 48 sq ft C. 14 sq ft
 B. 28 sq ft D. 56 sq ft



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- 8) An L-shaped patio is shown with dashed decomposition lines:



Bottom: 7 ft by 3 ft. Top: 3 ft by 2 ft. What is the total area?

- A. 6 sq ft C. 21 sq ft
 B. 27 sq ft D. 42 sq ft
- 9) Mr. Kim buys 6 cases of juice with 9 bottles in each case. He donates 15 bottles to the school. How many bottles does he have left?
- A. 24 C. 48
 B. 39 D. 54
- 10) There are 9 students with 4 crayons each. How many crayons total?

- 11) Lily sees a number line from 0 to 1 with 8 equal parts. She wants to find $\frac{2}{8}$. How many tick marks does she count from 0?
- A. 8 ticks C. 2 ticks
 B. 4 ticks D. 1 tick



5) What is 7×7 ?

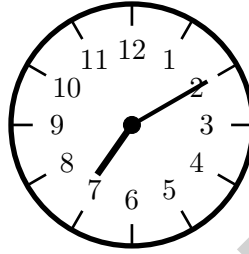
A. 42

C. 56

B. 63

D. 49

6) Mia draws a clock with the hour hand on 7 and the minute hand on 2. What time does Mia's clock show?



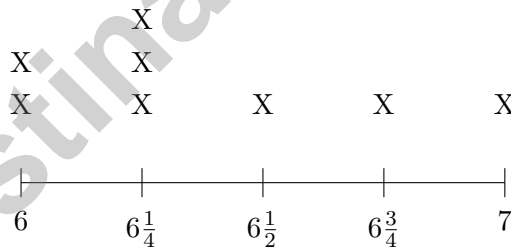
A. 7 : 10

C. 2 : 35

B. 7 : 12

D. 2 : 07

7) A line plot shows jump rope lengths in feet: $6, 6\frac{1}{4}, 6\frac{1}{2}, 6\frac{3}{4}, 7$.



How many jump ropes are at least $6\frac{1}{4}$ feet long?

A. 5

C. 7

B. 6

D. 8



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1) Which of these does NOT show the associative property?

- A. $(2 \times 3) \times 4 = 2 \times (3 \times 4)$
- B. $(5 \times 2) \times 3 = 5 \times (2 \times 3)$
- C. $5 \times 2 = 2 \times 5$
- D. $(3 \times 3) \times 2 = 3 \times (3 \times 2)$

2) There are 20 cookies in 4 equal bags. Find $20 \div 4$ to show how many cookies are in each bag.

3) A line plot shows desk surface measurements in inches: 24, $24\frac{1}{2}$, 25, $25\frac{1}{2}$, 26. The counts are: 0 at 24 inches, 2 at $24\frac{1}{2}$ inches, 5 at 25 inches, 1 at $25\frac{1}{2}$ inches, and 2 at 26 inches. Which measurement appears most often?

- A. $24\frac{1}{2}$ inches
- B. 25 inches
- C. $25\frac{1}{2}$ inches
- D. 26 inches

4) Lily has 2 equal pieces of a sandwich. She eats 1 piece. What fraction did she eat?

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



5)

How many unit squares are in this rectangle?

- A. 8
- B. 12
- C. 16
- D. 62

Practice Test Answer Keys

How to use this section with a Grade 3 student:

1. check the answer first
2. mark questions to try again
3. rework the problem before reading the full explanation

A calm correction routine turns every missed item into useful practice.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice D is correct.** **(3.OA.A.4)** Divide: $32 \div 4 = 8$ columns. Check: $4 \times 8 = 32$.
- 2) **Choice C is correct.** **(3.MD.C.5)** Multiply length by width: $10 \times 8 = 80$ square feet.
- 3) **Choice D is correct.** **(3.MD.C.6)** $9 \times 4 = 36$ unit squares.
- 4) **Choice D is correct.** **(3.NF.A.3b)** $\frac{3}{6} = \frac{1}{2}$. Choices A, B, and C are all equivalent to $\frac{1}{2}$. Only $\frac{2}{3}$ is not equivalent.
- 5) **Choice C is correct.** **(3.MD.C.5a)** Area = $9 \text{ in} \times 2 \text{ in} = 18$ square inches = 18 unit squares.
- 6) **Choice A is correct.** **(3.MD.A.1)** From 2 : 09 to 2 : 41: count up from 9 to 41. That is $41 - 9 = 32$ minutes.
- 7) **Choice A is correct.** **(3.MD.C.7b)** Area = length \times width = $8 \times 6 = 48$ square feet.
- 8) **Choice B is correct.** **(3.MD.C.7d)** Bottom: $7 \times 3 = 21$ sq ft. Top: $3 \times 2 = 6$ sq ft. Total: $21 + 6 = 27$ sq ft.
- 9) **Choice B is correct.** **(3.OA.D.8)** Step 1: Find total bottles: $6 \times 9 = 54$ bottles. Step 2: Subtract: $54 - 15 = 39$ bottles left. (Choice D is step 1 only; choice C is incorrect.)
- 10) **The correct answer is 36.** **(3.OA.A.1)** $9 \times 4 = 36$.
- 11) **Choice C is correct.** **(3.NF.A.2b)** $\frac{2}{8}$ means 2 out of 8 equal parts. Count 2 ticks from 0.
- 12) **Choice A is correct.** **(3.NBT.A.2)** Regroup 803 as 7 hundreds, 9 tens, 13 ones. Ones: $13 - 7 = 6$. Tens: $9 - 6 = 3$ (after regrouping ones). Hundreds: $7 - 3 = 4$ (after regrouping tens). Answer: 436.
- 13) **Choice A is correct.** **(3.MD.C.7)** Area = $8 \times 1 = 8$ square yards.
- 14) **The correct answer is 8.** **(3.OA.C.7)** $72 \div 9 = 8$.
- 15) **Choices A and B are correct.** **(3.OA.B.6)** The fact family for 5, 6, and 30 includes multiplication facts and related division facts. Options A ($5 \times 6 = 30$) and B ($30 \div 5 = 6$) are correct. C, D, and E are addition or subtraction statements, so they are not part of this multiplication/division fact family.
- 16) **Choice B is correct.** **(3.NF.A.3d)** Same numerator (3), different denominators, same chocolate bar: fourths are larger pieces than eighths. So $\frac{3}{4}$ is more than $\frac{3}{8}$. Noah has more because he has 3 larger pieces.
- 17) **Choice C is correct.** **(3.NF.A.2a)** Each step is one eighth. Five steps from 0 land at $\frac{5}{8}$.
- 18) **Choice D is correct.** **(3.OA.A.3)** Divide: $35 \div 5 = 7$ cards per friend.
- 19) **Choice A is correct.** **(3.G.A.2)** $\frac{1}{4}$ of a rectangle divided into 4 equal parts means coloring 1 part.
- 20) **Choice C is correct.** **(3.NBT.A.3)** $6 \times 50 = 300$ is the greatest because $300 > 280$, $300 > 240$, and $300 > 180$.
- 21) **Choice D is correct.** **(3.OA.D.9)** Skip counting by an even number always gives all even numbers.
- 22) **Choice C is correct.** **(3.OA.B.5)** An array for 4×3 has 4 columns and 3 rows. Option C shows the correct array.
- 23) **Choice C is correct.** **(3.NBT.A.1)** The ones digit is 6. Since $6 \geq 5$, round up: 816 rounds to 820.
- 24) **Choice A is correct.** **(3.NF.A.1)** Picture A shows a rectangle divided into 2 equal parts with 1 part shaded, which is $\frac{1}{2}$.
- 25) **Choice B is correct.** **(3.MD.B.4)** Shorter than $6\frac{3}{4}$ inches includes 6 , $6\frac{1}{4}$, and $6\frac{1}{2}$ inches: that is $1 + 2 + 3 = 6$ pencils.
- 26) **The correct answer is 30 square units.** **(3.MD.C.7a)** Multiply width by height: $6 \times 5 = 30$ square units. A sketch helps verify by counting rows and columns.
- 27) **Choice C is correct.** **(3.MD.B.3)** $7 \times 5 = 35$ cupcakes.
- 28) **Choice C is correct.** **(3.G.A.1)** A square, rhombus, and rectangle are all parallelograms (opposite sides parallel and equal). A trapezoid has only one pair of parallel sides, so it is not a parallelogram.
- 29) **Choice C is correct.** **(3.MD.C.5b)** Counting rows and columns: 5 units wide and 3 units tall gives $5 \times 3 = 15$ unit squares.
- 30) **Choice A is correct.** **(3.MD.C.7c)** Width is 4. Heights are 4 and 3, totaling 7. Distributive: $4 \times (4 + 3) = 28$.

Practice Test 2 Answers and Explanations



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◇ Look what you did! 4 full practice tests. That's hundreds of math problems. You started as a learner. You are now a math athlete. ◇

★ **Champions know:** hard work pays off. You did the hard work. Your math skills are strong because you practiced. ★

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- **Speed:** STRONG! You move at the right pace.
- **Accuracy:** SHARP! You catch your own mistakes.
- **Mindset:** CHAMPION! You believe in yourself.

Champion tip: on test day, walk in proud. You trained for this. You are ready!

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

Jay Daie

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