

4

COMPLETE

Minnesota MCA III

Grade

MATH

5

PRACTICE TESTS

Standards-Based Test Prep with
Mixed Review, Word Problems,
and **Full Answer Key**



- ✓ **4 COMPLETE PRACTICE TESTS**
Built to reflect the test format and rigor



- ✓ **COVERS ALL ESSENTIAL TOPICS**
Numbers & Operations, Fractions, Decimals, Geometry, Measurement, Data & Probability, and more



- ✓ **STRENGTHEN SKILLS & CONFIDENCE**
Mixed review, challenging questions, and strategic practice



- ✓ **FULL ANSWER KEY INCLUDED**
Detailed explanations for every question



**BUILD STRONG
MATH SKILLS
& TEST READINESS**



**IMPROVE ACCURACY,
SPEED, AND
PROBLEM SOLVING**



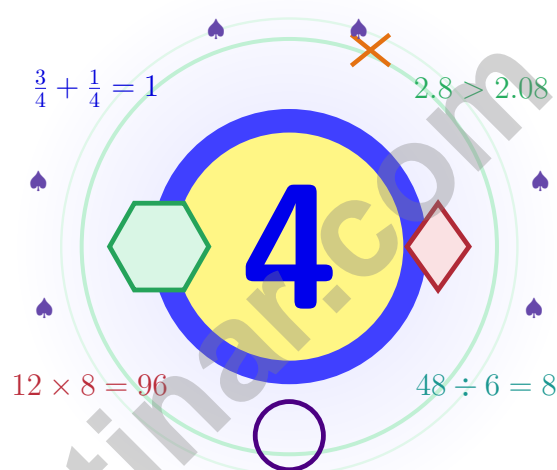
**PERFECT FOR
CLASSROOM,
HOME, OR
SELF-STUDY**



**ALIGNED TO
MINNESOTA
STATE STANDARDS
(MCA III)**

4 Minnesota MCA-III Grade 5 Math Practice Tests

Four practice tests, four growth checks, one calm routine



Four full tests, a smart quick review, mission-style strategy pages, and student-tested support that help Grade 5 mathematicians from The Land of 10,000 Lakes build calm, careful, confident habits.

Jay Daie and Reza Nazari



Copyright ©

Testinar Inc



Published by Testinar Inc

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 ©

Minnesota Mathematicians, Step into Mission Control

A four-test adventure built for steady, brave thinking

An Invitation to Grade 5 in Minnesota

This book gives you four chances to read closely, solve carefully, and level up your math thinking. Math practice is like canoeing the Boundary Waters – balanced strokes, patient eyes, and a calm trust in the route.

You do not need to feel perfect before you begin. You just need to stay curious, use strategies, and learn from every correction. That is how confident mathematicians are built.

Look

Look at the problem like a careful detective.

Test

Test your idea one careful step at a time.

Repair

Repair what was off and try the next one.

A strong mission habit for Minnesota: keep your work neat, estimate when it helps, label units carefully, and never let one hard question decide your mood for the whole page.

A Simple Path Through Four Tests

A four-step routine that turns practice into real improvement

Step 1: Read

Read the quick review pages first.
Wake up the big Grade 5 ideas before the test starts so your brain is already warmed up.

Step 2: Try

Try one full test with full attention.
Find a calm corner, settle in, and aim for careful, honest choices before quick ones.

Step 3: Reflect

Reflect on which skills want more sunlight.
Circle missed questions, sort out what went sideways, and notice which skills are calling for attention.

Step 4: Lift

Lift those skills before the next test.
Read the explanation, fix the work, and carry that lesson into the very next test.

A Four-Week Minnesota Mission Map

Week	Mission Focus
Week 1	Take Test 1 and pick your first lake. Even strokes start the trip right.
Week 2	Take Test 2 and lift word problems and step-showing.
Week 3	Take Test 3 to polish fractions, decimals, and measurement work.
Week 4	Take Test 4 with calm, careful, confident paddling.



Scan me

About These Four Tests

What these four practice tests help Grade 5 students build

These three practice tests prepare Grade 5 students in the Land of 10,000 Lakes for the Minnesota MCA-III with the calm focus of a long paddle. The goal is bigger than collecting right answers. Students are practicing how to read carefully, choose a strategy, solve step by step, and explain their reasoning clearly – the same way mathematicians do every day.

Selected-Response Questions

Students solve the problem and choose the best answer. Estimating first, crossing out weak choices, and checking for reasonableness can save time and points.

Constructed-Response Questions

Students show steps, explain a method, or support an answer with clear math. Strong reasoning matters because it shows how the answer was found.

Grade 5 Ideas That Show Up Again and Again

- place value, comparing numbers, and rounding
- multi-digit addition, subtraction, multiplication, and division
- fractions, mixed numbers, and decimals
- perimeter, area, volume, and measurement conversions
- tables, line plots, patterns, and coordinate points
- geometry and multi-step real-world problem solving

What strong MCA-III-style work looks like: accurate math, readable steps, the right labels or units, and a final answer that really matches the question being asked.



Table of Contents

★ Practice Test 1	_____	17
★ Practice Test 2	_____	32
★ Practice Test 3	_____	47
★ Practice Test 4	_____	64
Practice Test Answer Keys	_____	78
Practice Test Answers and Explanations	_____	81

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

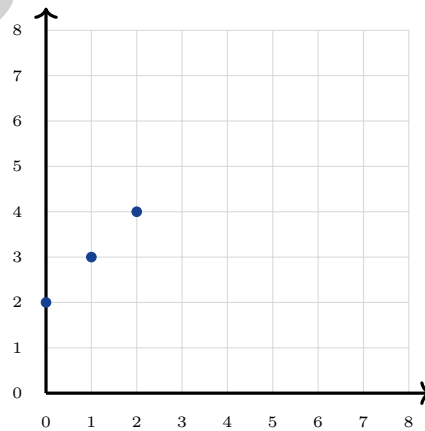
1 minute (min) = 60 seconds (sec) 1 week = 7 days

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

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

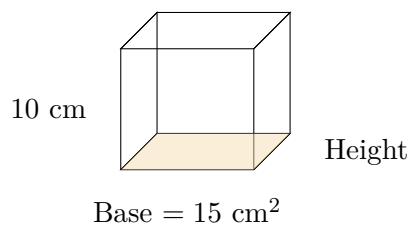


- 1) A factory produces 1,200 toys per day. In 15 days, how many toys are produced?
- A. 16,000 toys C. 18,000 toys
 B. 17,000 toys D. 15,000 toys
- 2) A composite model building is made from two non-overlapping rectangular prisms. Prism A is 9 inches long, 4 inches wide, and 3 inches tall. Prism B is 6 inches long, 4 inches wide, and 5 inches tall. What is the total volume?
- A. 108 cubic inches C. 120 cubic inches
 B. 228 cubic inches D. 264 cubic inches
- 3) Add: $3\frac{5}{12} + 1\frac{7}{12}$
- A. $4\frac{1}{12}$ C. 5
 B. $4\frac{7}{12}$ D. $5\frac{1}{12}$
- 4) Which phrase matches $8 \times (6 - 2)$?
- A. 8 times 6 minus 2 C. The difference of 8 times 6 and 2
 B. 8 times the difference of 6 and 2 D. 2 less than 8 times 6
- 5) A graph displays $(0, 2)$, $(1, 3)$, $(2, 4)$. If the pattern continues, which point comes next?



- A. $(3, 5)$ C. $(3, 4)$
 B. $(4, 6)$ D. $(2, 5)$





6)

Using $V = B \times h$, find volume.

A. 25 cm^2

C. 5 cm^3

B. 25 cm^3

D. 150 cm^3

7) A car travels 156.78 miles. Round to the nearest whole mile for fuel estimate.

A. 156 mi

C. 156.8 mi

B. 156.7 mi

D. 157 mi

8) Find the difference: $5\frac{1}{3} - 2\frac{2}{3}$.

Record your answer in the space provided.

9) A rectangular prism has volume 100 unit cubes. Its length is 10 and its width is 5. What must its height be?

A. 2 units

C. 5 units

B. 4 units

D. 10 units



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

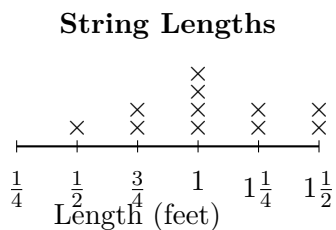
1 minute (min) = 60 seconds (sec) 1 week = 7 days

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

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



1) The line plot displays string lengths (in feet) from a craft project:



What is the total length of the strings that are 1 foot or $1\frac{1}{4}$ feet long?

- | | |
|---|---|
| <input type="checkbox"/> A. $5\frac{1}{2}$ feet | <input type="checkbox"/> C. 7 feet |
| <input type="checkbox"/> B. $8\frac{1}{2}$ feet | <input type="checkbox"/> D. $6\frac{1}{2}$ feet |
- 2) A farmer plants rows in a field. Row A has $(20 + 5)$ plants. Row B has $3 \times (20 + 5)$ plants. Without calculating, which is true?
- | | |
|---|--|
| <input type="checkbox"/> A. Row A has 3 more plants | <input type="checkbox"/> C. Row B has 3 times as many plants |
| <input type="checkbox"/> B. Row B has 3 more plants | <input type="checkbox"/> D. They have equal plants |
- 3) Triangle P has side lengths 6 cm, 6 cm, and 8 cm. Classify Triangle P by its sides.

Record your answer in the space provided.



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



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) Pattern table. Find the missing value.

Expression	Result
0.12×10	1.2
0.12×100	12
$0.12 \times 1,000$	120
$0.12 \times 10,000$?

- A. 1,200 C. 120
 B. 12,000 D. 12

2) The model shows $\frac{1}{8}$ of a whole split into 3 equal parts. What fraction of the whole is each small part?

$\frac{1}{8}$ split into 3



1 whole split into 8 equal parts

- A. $\frac{1}{8}$ C. $\frac{1}{11}$
 B. $\frac{1}{3}$ D. $\frac{1}{24}$
- 3) A storage box has length 9 in, width 4 in, height 5 in. Find its volume.

Record your answer in the space provided.



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.

Testinar.com



Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** (5.1.3.3) Choose the operation from the story, then keep the unit with the answer. Multiply: $1,200 \times 15 = 18,000$ toys. This confirms the answer.
- 2) **Choice B is correct.** (5.3.2.2) Find each part first: Prism A is $9 \times 4 \times 3 = 108$ cubic inches, and Prism B is $6 \times 4 \times 5 = 120$ cubic inches. Because the parts do not overlap, add them: $108 + 120 = 228$ cubic inches.
- 3) **Choice C is correct.** (5.1.2.3) Add: $3\frac{5}{12} + 1\frac{7}{12} = 4\frac{12}{12} = 5$.
- 4) **Choice B is correct.** (5.2.2.1) The parentheses tell us that $6 - 2$ is one grouped amount: “the difference of 6 and 2.” Then 8 is multiplied by that difference.
- 5) **Choice A is correct.** (5.1.3.4) The second coordinate is always 2 more than the first. Each coordinate increases by 1, so the next point is (3, 5).
- 6) **Choice D is correct.** (5.3.2.4) $V = B \times h = 15 \times 10 = 150 \text{ cm}^3$.
- 7) **Choice D is correct.** (5.1.3.3) The tenths digit is 7. Since $7 \geq 5$, round ones up: $156 \rightarrow 157$. So 156.78 miles rounds to 157 miles.
- 8) **The correct answer is $2\frac{2}{3}$.** (5.1.2.3) Rewrite $5\frac{1}{3} = 4\frac{4}{3}$ (borrow). Subtract: $(4 - 2) + (\frac{4}{3} - \frac{2}{3}) = 2\frac{2}{3}$.
- 9) **Choice A is correct.** (5.3.2.3) The base has $10 \times 5 = 50$ unit cubes. Since $100 \div 50 = 2$, the prism has 2 layers.
- 10) **Choice D is correct.** (5.1.2.2) $16 \times \frac{3}{2} = 24$ ounces. Since $\frac{3}{2}$ is greater than 1, the scaled amount is greater than the original amount.
- 11) **Choice C is correct.** (5.1.2.2) $34 \times 10 = 340$. Multiply by 10 by appending one zero.
- 12) **Choice B is correct.** (5.2.1.2) V is 4 right and 9 up \Rightarrow (4, 9); W is 1 right and 2 up \Rightarrow (1, 2); X is 9 right and 5 up \Rightarrow (9, 5).
- 13) **Choice B is correct.** (5.4.1.2) 1 centimeter = 10 millimeters. Divide: $450 \div 10 = 45$ cm.
- 14) **Choice B is correct.** (5.2.2.1) $\text{LCM}(2,5) = 10$. $\frac{1}{2} = \frac{5}{10}$ and $\frac{1}{5} = \frac{2}{10}$. $\frac{5}{10} + \frac{2}{10} = \frac{7}{10}$ mile.
- 15) **The correct answer is 18.** (5.1.2.3) $36 \times 5 = 180$. Place the decimal one digit from the right: $18.0 = 18$.
- 16) **Choice A is correct.** (5.2.2.1) The divisor is the grouped expression. First find $(2 \times 5) = 10$, then divide: $50 \div 10 = 5$.
- 17) **Choice D is correct.** (5.4.1.2) 1 gallon = 4 quarts = 8 pints = 16 cups. So 3 gallons = $3 \times 16 = 48$ cups.
- 18) **Choices A, B are correct.** (5.3.2.1) An equilateral triangle has three equal sides, and a right triangle has one 90° angle. C describes isosceles, and D contradicts obtuse.
- 19) **Choice A is correct.** (5.1.3.4) Add the four yields: $200 + 250 + 225 + 275 = 950$ pounds. Keeping the same unit makes the total easy to compare.
- 20) **Choice D is correct.** (5.3.1.1) The matching tick marks show that triangle D has 3 equal sides. An equilateral triangle also has 3 equal angles, making it a regular polygon.
- 21) **Choice B is correct.** (5.1.2.1) 76 out of 100 squares shaded represents $\frac{76}{100} = 0.76$.
- 22) **The correct answer is $3\frac{1}{3}$.** (5.1.2.2) Convert the mixed numbers: $2\frac{2}{3} = \frac{8}{3}$ and $1\frac{1}{4} = \frac{5}{4}$. Multiply to get $\frac{40}{12}$, which simplifies to $\frac{10}{3} = 3\frac{1}{3}$.
- 23) **Choice D is correct.** (5.1.3.3) $\frac{4}{7} \approx \frac{1}{2}$, $\frac{9}{10}$ is close to 1, $\frac{1}{11} \approx 0$, and $\frac{8}{9} \approx 1$. All fit their benchmarks.
- 24) **Choice D is correct.** (5.3.2.2) Use the rectangular-prism volume formula: $9 \times 7 \times 8 = 504$. So the volume is 504 cubic meters.
- 25) **Choice D is correct.** (5.1.1.4) $\frac{7}{8} - \frac{3}{8} = \frac{4}{8} = \frac{1}{2}$ of the tank.
- 26) **Choice A is correct.** (5.1.1.1) In expanded form, $7.346 = 7 + 0.3$ (tenths) $+ 0.04$ (hundredths) $+ 0.006$ (thousandths).
- 27) **Choice B is correct.** (5.3.2.3) Area measures 2D flat space (square units); volume measures 3D solid space (cubic units). These are fundamentally different and use different unit types.
- 28) **Choice D is correct.** (5.3.1.1) Rectangles include the rectangle-only region and the intersection: $6 + 3 = 9$.
- 29) **Choice A is correct.** (5.1.3.4) The x-coordinate is the time in hours, 9, and the y-coordinate is the temperature, 15 degrees Celsius.
- 30) **Choice A is correct.** (5.1.2.2) Total cells: $4 \times 2 = 8$. Shaded cells: 3. Overlap is $\frac{3}{8}$.



Dear Math Champion,

◇ Look at what you did. 4 full practice tests. Hundreds of math problems. Every one of them strengthened your mind. You walked into this prep series as a learner, and you are walking out as a math athlete who knows how to compete. ◇

★ **What champions know:** talent is helpful, but training is everything. You trained. You showed up. You did the work. That is why your skills are sharp today. ★

Champion's Skill Card

- **Focus:** MAXED OUT! You can lock onto a problem and stay there.
- **Speed:** CALIBRATED! You move quickly without rushing.
- **Accuracy:** HIGH! You catch your own mistakes.
- **Mindset:** CHAMPION-LEVEL! You believe in your skills.

Final champion tip: on test day, walk in like you have trained for it—because you have. Sit down. Breathe. Read carefully. Work steadily. Check confidently. You will be amazed at how prepared you actually are.

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

Jay Daie

Your Math Coaches (Champion-in-Training)

4 COMPLETE TESTS. CONFIDENCE. SUCCESS.



Give your child the practice and confidence they need to excel in **Grade 5 Math**. This book includes **4 full-length** practice tests designed to build skills, improve test readiness, and help students reach their full potential.

WHAT'S INSIDE:



4 COMPLETE PRACTICE TESTS

Full-length tests that reflect real test format and rigor.



COVERS ALL GRADE 5 TOPICS

Numbers & Operations, Fractions, Decimals, Geometry, Measurement, Data & Probability, and more.



MIXED REVIEW & WORD PROBLEMS

Build problem-solving skills with mixed review questions and real-world word problems.



DETAILED ANSWER KEY

Step-by-step explanations for every question to help students learn and improve.



BUILD CONFIDENCE & IMPROVE SCORES

Practice consistently, reduce test anxiety, and achieve your best score!



PRACTICE SMART. LEARN MORE. ACHIEVE YOUR BEST.



Strengthen
Math Skills



Improve
Accuracy
& Speed



Master
Essential
Concepts



Boost
Confidence
on Test Day



Visit testinar.com/math5
for more Grade 5 math resources
and practice materials!



Testinar

Smart Practice. Stronger Results.