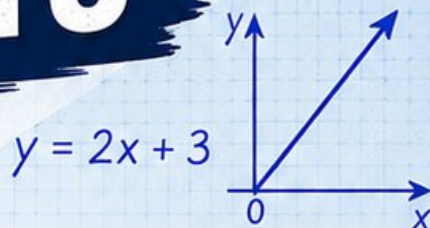


# 3 Minnesota MCA III

GRADE  
**6**  
MATH

## PRACTICE TESTS

Standards Aligned Problem Solving  
For Comprehensive Assessment Programs



$$\frac{3}{5} + \frac{2}{10} = \frac{8}{10} = \frac{4}{5}$$

36% of 150 = ?



**3** | PRINTED  
TESTS



**2** | ONLINE  
TESTS



Build  
Confidence



Master Key  
Math Skills



Answer Explanations  
for Every Question



Test-Taking  
Strategies That Work

# 3 Minnesota MCA-III Grade 6 Math Practice Tests

*Standards-Aligned North Star Review Habits for Minnesota Comprehensive Assessments*

$436 + 289$   $A = 24$

1 2 3

$3 \times 10$  3  $\frac{3}{4}$

complete Minnesota practice rounds

Three complete 40-question Grade 6 practice rounds for MCA-III, built for North Star review habits with ratios, rational numbers, expressions, equations, geometry, statistics, answer keys, and clear explanations for every item.

**Jay Daie and Reza Nazari**



# Copyright ©

**Testinar Inc**



Published by Testinar Inc

[Testinar.com](http://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 ©*

# Welcome, Minnesota Math Explorer!

Three focused rounds using North Star review habits

This book gives you three full Grade 6 practice tests for MCA-III. Each round uses lakeside paths, winter focus, and clear data reading as a fresh mental backdrop while you read closely, choose a smart strategy, show your work, and check whether your answer makes sense.

## Your Minnesota Practice Promise

Use the problem as your compass: note what is asked, solve in order, and verify the units.

Read

Plan

Check

## How to Use This Book

A three-session routine for North Star review habits

1. **Work in order.** Take one 40-question test at a time in a quiet place.
2. **Preview the skills.** Scan the quick review pages before beginning the first round.
3. **Correct actively.** Retry missed items before reading the full explanation.
4. **Mark confidence.** Put a small star beside problems where your plan felt strong.
5. **Plan the next round.** Use the growth log to choose one habit and one skill to practice.

**Minnesota review rhythm:** Take one test, review the cold spots, and warm up the next round with targeted practice.



## What Is Inside?

Three MCA-III tests, 120 questions, and a full review path

Part	What You Will Practice
Tests 1–2	Foundation rounds for ratios, rational numbers, operations, and careful reading.
Test 3	Final stamina round for expressions, equations, geometry, data, problem models, and mixed review.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. North star review habits means recognizing the skill even when the next question changes topic, changes format, or asks for an explanation.



Scan me!  
For more practice  
& answers

# Table of Contents

★ Practice Test 1	_____	13
★ Practice Test 2	_____	27
★ Practice Test 3	_____	43
Practice Test Answer Keys	_____	61
Practice Test Answers and Explanations	_____	64

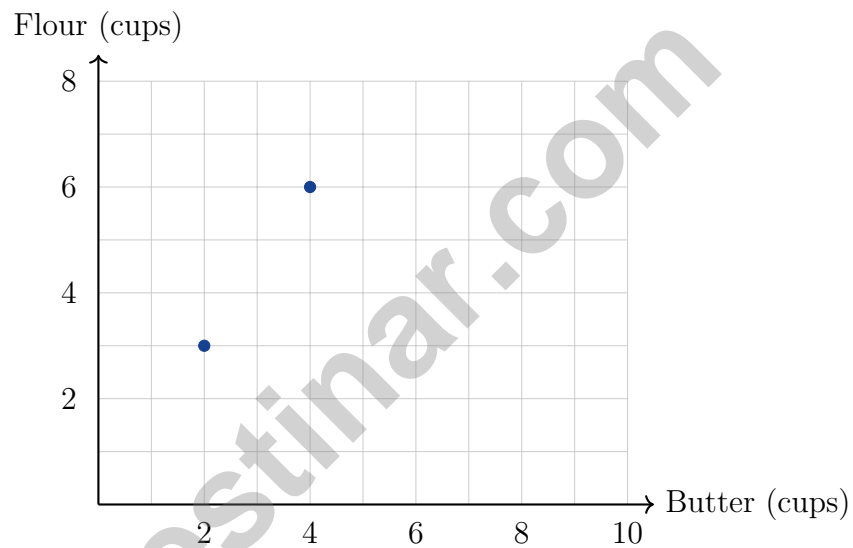
- 1) The distance  $d$  (in miles) traveled by a cyclist is related to time  $t$  (in hours) by the equation  $d = 20t$ . What does the number 20 represent in this context?
- A. The cyclist's speed in miles per hour     C. The time in hours  
 B. The distance traveled     D. The total hours of cycling
- 2) A plant must grow to a height of more than 12 inches to be considered mature. Which inequality represents the height  $h$ ?
- A.  $h \geq 12$      C.  $h < 12$   
 B.  $h \leq 12$      D.  $h > 12$
- 3) The data set is: 5, 7, 8, 9, 10, 11, 12, 50. Which value is an outlier?
- A. 5     C. 50  
 B. 12     D. 11
- 4) The mean of 5, 8, 12,  $x$  is 10. What is the value of  $x$ ?
- A. 15     C. 25  
 B. 18     D. 30
- 5) A clothing store stocks shirts and pants in a 3 : 2 ratio. If the store has 24 shirts, how many pants does it have?



Scan me!  
For more practice  
& answers

6) A factory packages 480 items in 8 boxes. What is the unit rate in items per box?

7) A bakery makes cookies using a 2:3 ratio of butter to flour (in cups). The graph has butter on the x-axis and flour on the y-axis. If a recipe uses 8 cups of butter, what is the y-coordinate of this point?



A. 10

B. 11

C. 12

D. 13

8) Write 19% as a decimal.

A. 0.019

B. 19.0

C. 1.9

D. 0.19



9) What is 15% of \$200?

A. \$20

B. \$25

C. \$30

D. \$35

10) If 3 notebooks cost \$9, how much will 7 notebooks cost?

A. \$18

B. \$20

C. \$21

D. \$27

11) A factory fills bottles with 500 mL of juice each. How many liters is needed to fill 6 bottles?

A. 0.3 liters

B. 3 liters

C. 30 liters

D. 300 liters

12) A clothing store offers layered discounts: first take 20% off, then take an additional 10% off the already-reduced price. If an item originally costs \$100, what is the final price?

A. \$70

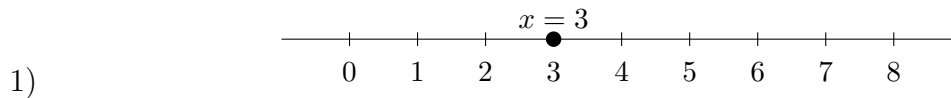
B. \$90

C. \$80

D. \$72



Scan me!  
For more practice  
& answers



Which number is less than  $x$ ?

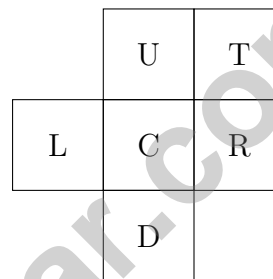
A. 4

C. 1

B. 5

D. 6

- 2) A net shows a rectangle in the center with 4 rectangles attached to each side and 1 more rectangle on top. How many faces does the solid have?



A. 4

C. 6

B. 5

D. 7

- 3) Point  $A$  is located at  $(3, 5)$ . If it is translated 4 units to the left and 2 units down, what are the coordinates of its image  $A'$ ?

A.  $(-1, 3)$

C.  $(-1, 7)$

B.  $(7, 7)$

D.  $(7, 3)$



Scan me!  
For more practice  
& answers

4) If the area of a circle is approximately  $113.04 \text{ cm}^2$  and  $\pi \approx 3.14$ , what is the diameter?

- A. 6 cm                       C. 18 cm  
 B. 24 cm                     D. 12 cm

5) Three students propose questions about movies. Which is statistical?

- A: "How long is the movie Frozen?"
- B: "How long are animated movies?"
- C: "When was the movie Frozen released?"

- A. Question A                       C. Question C  
 B. Question B                     D. None of them

6) What is the interquartile range of the ordered data set: 12, 15, 18, 20, 25, 28, 32?

- A. 10                               C. 17  
 B. 20                               D. 13

7) A trapezoid has an area of 80 sq ft, one base of 14 ft, and a height of 10 ft. What is the length of the other base?



1) Which expression is equivalent to  $3(x + 5)$ ?

A.  $3x + 15$

C.  $3x + 8$

B.  $x + 15$

D.  $3x + 5$

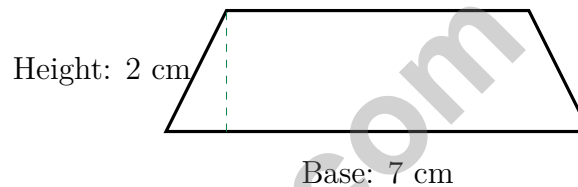
2) Which triangle has the same area as a rectangle with length 12 cm and width 5 cm?

A. Base 6 cm, height 10 cm

C. Base 12 cm, height 5 cm

B. Base 10 cm, height 12 cm

D. Base 20 cm, height 3 cm



3)

Base: 7 cm

What is the area of the parallelogram?

A.  $9 \text{ cm}^2$

C.  $18 \text{ cm}^2$

B.  $28 \text{ cm}^2$

D.  $14 \text{ cm}^2$

4) A rectangular aquarium has volume 50 liters, width  $\frac{5}{2}$  dm, and height 4 dm. Find the length.

A. 2 dm

C. 10 dm

B. 20 dm

D. 5 dm

5) A quadrilateral has vertices at  $(1, 2)$ ,  $(4, 2)$ ,  $(5, 6)$ , and  $(2, 6)$ . What is the length of the top side?

A. 2 units

C. 4 units

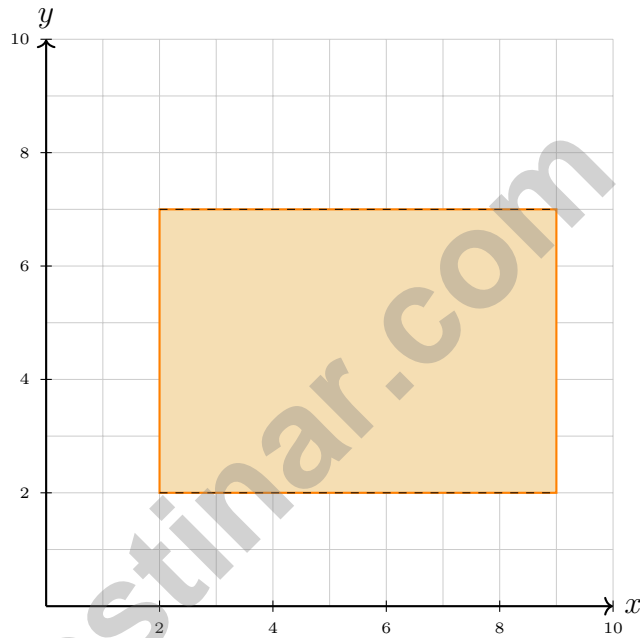
B. 3 units

D. 5 units



Scan me!  
For more practice  
& answers

- 6) A mountaineer climbs from sea level to an elevation of 4000 feet, then descends 2500 feet. At what elevation is the mountaineer now?



7)

A rectangle on a map has vertices at  $(2, 2)$ ,  $(9, 2)$ ,  $(9, 7)$ , and  $(2, 7)$ , representing a city block. If each unit represents 100 meters, what is the area in square meters?

- |   |  |
|---|--|
| <input type="checkbox"/> A. 35,000 sq. m  | <input type="checkbox"/> C. 3,500,000 sq. m  |
| <input type="checkbox"/> B. 350,000 sq. m | <input type="checkbox"/> D. 35,000,000 sq. m |

**Minnesota MCA-III Practice Test Answer Keys**

**How to use this Minnesota MCA-III answer section with a Grade 6 student:**

1. check the answer first, then write one quick reason the choice is correct
2. mark questions to try again, especially the skills that feel connected to North Star review habits
3. rework the problem before reading the full explanation, using this reminder:  
Use the problem as your compass: note what is asked, solve in order, and verify the units.

**A calm Minnesota correction routine turns every missed item into useful practice. Take one test, review the cold spots, and warm up the next round with targeted practice.**



Scan me!  
For more practice  
& answers

## Minnesota Practice Test Answers and Explanations

Review the three printed MCA-III tests with clear, calm, and ready for the next signal habits.

### Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** (6.2.1.1) In the equation  $d = 20t$ , 20 is the constant rate of change (the speed), and  $t$  is the time.
- 2) **Choice D is correct.** (6.2.3.1) “More than 12” means strictly greater:  $h > 12$ .
- 3) **Choice C is correct.** (6.2.2.1) The value 50 is far separated from the other values, which cluster between 5 and 12. It is an outlier that would affect the mean significantly.
- 4) **Choice A is correct.** (6.1.3.3) Mean =  $\frac{5 + 8 + 12 + x}{4} = 10 \Rightarrow 5 + 8 + 12 + x = 40 \Rightarrow x = 15$ .
- 5) **The correct answer is 16.** (6.2.2.1) Shirts are the 3-part amount. Since  $24 \div 3 = 8$ , each part is 8, and pants are 2 parts:  $2 \times 8 = 16$ .
- 6) **The correct answer is 60 items per box.** (6.1.2.3) Divide total items by number of boxes:  $480 \div 8 = 60$  items per box.
- 7) **Choice C is correct.** (6.1.1.1) The ratio is butter:flour = 2:3. If butter = 8, the scale factor is  $8 \div 2 = 4$ . So flour =  $3 \times 4 = 12$  cups. The point is (8, 12).
- 8) **Choice D is correct.** (6.1.1.3) To convert a percent to a decimal, divide by 100 (or move the decimal two places left).  $19\% = 0.19$ .
- 9) **Choice C is correct.** (6.1.3.5)  $15\% \times \$200 = 0.15 \times 200 = \$30$ .
- 10) **Choice C is correct.** (6.1.2.4) Unit price:  $9 \div 3 = 3$  per notebook. For 7 notebooks:  $3 \times 7 = 21$  dollars.
- 11) **Choice B is correct.** (6.1.2.4) Total mL:  $6 \times 500 = 3000$  mL. Convert:  $3000 \div 1000 = 3$  liters.
- 12) **Choice D is correct.** (6.3.1.1) After first discount:  $\$100 - 0.20 \times 100 = \$80$ . After second discount:  $\$80 - 0.10 \times 80 = \$72$ .
- 13) **Choice C is correct.** (6.2.1.2) For  $y = \frac{2}{3}x$ , when  $x = 6$ ,  $y = \frac{2}{3}(6) = 4$ , so (6, 4) is on the line. The other points do not satisfy the equation: (2, 4) would need  $y = \frac{4}{3}$ , (3, 3) would need  $y = 2$ , and (6, 9) would need  $y = 4$ .
- 14) **Choice D is correct.** (6.1.1.6) If 15% of salary is \$180, then salary =  $\$180 \div 0.15 = \$1200$ .
- 15) **The correct answer is 30 mph.** (6.1.2.4)  $45 \div \frac{3}{2} = 45 \times \frac{2}{3} = 30$  miles per hour.
- 16) **Choice C is correct.** (6.1.2.2) Actual dimensions:  $4 \times 10 = 40$  km and  $6 \times 10 = 60$  km. Area:  $40 \times 60 = 2400$  km<sup>2</sup>.
- 17) **Choice B is correct.** (6.1.3.2) You are counting how many  $\frac{1}{4}$ -cup servings fit inside 2 cups—that’s a division problem:  $2 \div \frac{1}{4}$ . Rewrite as  $2 \times 4$ , which equals 8 servings.
- 18) **Choice A is correct.** (6.1.3.5)  $8,925 \div 35 = 255$  exactly. Verify:  $35 \times 255 = 8,925$ .
- 19) **Choice A is correct.** (6.1.3.1) Multiply both by 10:  $54 \div 6 = 9$ .
- 20) **Choice B is correct.** (6.1.1.6)  $50 = 2 \times 25 = 2 \times 5 \times 5 = 2 \times 5^2$ . Options A and C use composite numbers; D is not factored.
- 21) **Choice A is correct.** (6.1.1.6) The GCF of 12 and 20 is 4. So  $12 + 20 = 4(3 + 5)$ . Choice B uses GCF 2, which is correct but not the greatest common factor. Choice A uses the greatest common factor.
- 22) **The correct answer is Girls to boys is 10 : 15 = 2 : 3 (Choice A is correct). Boys to total is 15 : 25 = 3 : 5 (Choice B is correct).** (6.1.2.3) Choice A is correct because girls to boys is 10 : 15, which simplifies to 2 : 3. Choice B is correct because boys to total is 15 : 25, which simplifies to 3 : 5. The other choices either flip the order, swap which group is named first, or use the wrong total (10 girls out of 25 students is 2 : 5, not 1 : 3).
- 23) **Choice A is correct.** (6.1.1.2) 5 units to the left of  $-2$  is  $-2 - 5 = -7$ , and 5 units to the right is  $-2 + 5 = 3$ . Both are in choice A.
- 24) **Choice B is correct.** (6.1.1.1) Absolute value  $|-25| = 25$  represents the magnitude of the temperature change, not its direction.
- 25) **Choice A is correct.** (6.1.1.1) Ordering from smallest (most negative) to largest:  $-3 < -0.5 < 1 < 2.5$ .
- 26) **Choice D is correct.** (6.1.1.1) A positive  $x$ -coordinate ( $p > 0$ ) and negative  $y$ -coordinate ( $q < 0$ ) places a point in Quadrant IV (lower right).



**A Note From Your Math Friend**

---

**Hi, Math Star!**

◇ Wow! You finished 3 full practice tests. That is a LOT of math problems. You worked hard, and your brain got stronger every time. ◇

★ **Here is a big idea:** mistakes are okay! Every time you got something wrong, you got smarter. Through 3 tests, you learned that trying is the most important thing. ★

**Look What You Did!**

- **Hard Worker:** You did not give up!
- **Smart Thinker:** You used your math tools.
- **Brave Learner:** You tried hard problems.
- **Test Ready:** You feel proud and prepared.

**Big tip for test day:** take your time. Read each problem twice. Show your work. Check your answer. You can do this!

If you want to share something or ask a question, please email me at [jay@testinar.com](mailto:jay@testinar.com).

**Jay Daie**

Your Math Friend

# PRACTICE TODAY. SUCCEED TOMORROW!

This book includes 3 full-length Math practice tests and 2 online tests to help Grade 6 students build confidence, strengthen skills, and excel on standardized assessments.

Each practice test is carefully crafted to reflect the latest standards and includes a variety of question types, realistic test conditions, and detailed answer explanations.

Perfect for classroom use, homework, test preparation, and extra practice at home.

## THIS BOOK INCLUDES:

- 3 Full-Length Printed Tests
  - 2 Online Practice Tests
-  Detailed Answer Explanations

## MORE PRACTICE. GREATER RESULTS.

Give your child the tools to build strong math skills, confidence, and a positive attitude toward learning.

## WHAT YOU'LL GAIN



### Stronger Math Skills

Build a solid foundation through targeted practice and review.



### Better Problem Solving

Develop logical thinking and effective solution strategies.



### Deeper Understanding

Reinforce key concepts with clear explanations and meaningful practice.



### Test Confidence

Familiarize with test formats and improve accuracy and speed.



### Achieve Success

Build confidence and perform your best on test day.

## TOPICS COVERED

- ✓ Ratios & Rates
- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Geometry
- ✓ Fractions & Decimals
- ✓ Percents
- ✓ Statistics & Probability
- ✓ Data Analysis
- ✓ Measurement & Conversions
- ✓ And More!



## 2 ONLINE TESTS

Use these two additional online practice tests for extra review after the printed tests in this book.



**VISIT [TESTINAR.COM/MATH6](https://www.testinar.com/math6)**  
FOR MORE PRACTICE TESTS  
AND LEARNING RESOURCES



PRACTICE  
REGULARLY



STAY  
FOCUSED



SOLVE  
CONFIDENTLY



SUCCEED  
BRIGHTLY

PREPARE TODAY. **SUCCEED TOMORROW!**