

# 9

# Massachusetts MCAS

GRADE

# 6

MATH

# PRACTICE TESTS

Standards-Aligned Review  
Mixed Practice & Answer Key



## 9 PRINTED TESTS

Realistic practice to build confidence and mastery



## DETAILED ANSWER EXPLANATIONS

Learn with step-by-step solutions



## FOCUSED & EFFECTIVE

Target key math skills with purposeful practice



## BUILD CONFIDENCE

Strengthen problem solving and test-taking skills



**9 PRINTED TESTS**  
**+2 ONLINE TESTS**

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

**PRACTICE TODAY.**  
**SUCCEED TOMORROW.**



PRACTICE



REVIEW



SUCCEED

# 9 Massachusetts MCAS Grade 6 Math Practice Tests

*Standards-Aligned Bay State Math Accuracy for Massachusetts Comprehensive Assessment System*

The graphic shows a horizontal number line with nine numbered circles (1-9) connected by a blue line. Above the line are the equations  $436 + 289$  (above circle 1),  $A = 24$  (above circle 8), and  $7 \times 8$  (below circle 3). Below the line are the fraction  $\frac{5}{6}$  (below circle 9) and a large blue number 9. An orange arc underlines the number 9, with the text "complete Massachusetts practice rounds" written below it.

Nine complete 40-question Grade 6 practice rounds for MCAS, built for Bay State math accuracy 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, Massachusetts Math Explorer!

Nine focused rounds using Bay State math accuracy

This book gives you nine full Grade 6 practice tests for MCAS. Each round uses historic streets, harbor routes, and exact problem 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 Massachusetts Practice Promise

Read like a scholar and solve like a planner: define the task, show work, and check.

Read

Plan

Check

## How to Use This Book

A nine-session routine for Bay State math accuracy

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

**Massachusetts review rhythm:** Complete a round, study the explanation, and write one correction rule for the next test.



## What Is Inside?

Nine MCAS tests, 360 questions, and a full review path

Part	What You Will Practice
Tests 1–3	Foundation rounds for ratios, rational numbers, operations, and careful reading.
Tests 4–6	Skill-building rounds with expressions, equations, geometry, data, and problem models.
Tests 7–9	Final stamina rounds for mixed review, neat work, and flexible strategy choices.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Bay state math accuracy 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	_____	14
★ Practice Test 2	_____	30
★ Practice Test 3	_____	45
★ Practice Test 4	_____	60
★ Practice Test 5	_____	76
★ Practice Test 6	_____	91
★ Practice Test 7	_____	107
★ Practice Test 8	_____	123
★ Practice Test 9	_____	140
<b>Practice Test Answer Keys</b>	_____	<b>157</b>
<b>Practice Test Answers and Explanations</b>	_____	<b>163</b>

1) If you need a triangle with area  $75 \text{ cm}^2$  and base 15 cm, what height is needed?

A. 5 cm

C. 15 cm

B. 20 cm

D. 10 cm

2) Expand  $6(2 + 9)$ .

A.  $12 + 54$

C.  $6 + 18$

B.  $12 + 9$

D. 66

3) What is the reflection of the point  $(2, 6)$  across the  $x$ -axis?

A.  $(-2, 6)$

C.  $(-2, -6)$

B.  $(2, -6)$

D.  $(6, 2)$

4) A baker needs to convert  $\frac{3}{4}$  of a pound of flour to ounces. How many ounces of flour does the baker need?

5) A map uses a scale of 1 inch = 15 miles. The distance from City A to City B on the map is 3.5 inches. What is the actual distance?

A. 52.5 miles

C. 45 miles

B. 50 miles

D. 60 miles

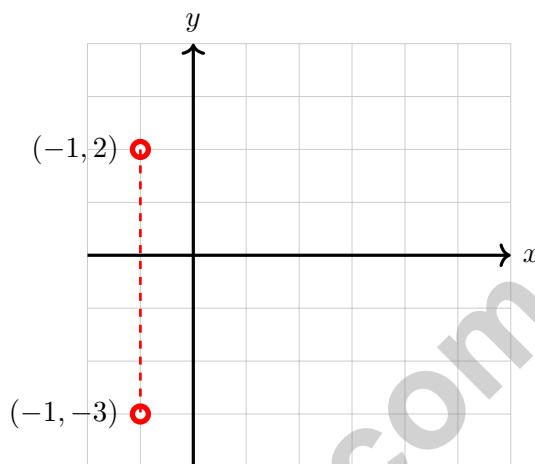




11) Which number is located at the position labeled as  $-1.2$  on a number line?

- A.  $-\frac{6}{5}$   
 B.  $-\frac{5}{4}$

- C.  $-1$   
 D.  $-\frac{1}{2}$



12)

What is the distance between  $(-1, 2)$  and  $(-1, -3)$ ?

- A. 4 units  
 B. 5 units

- C. 6 units  
 D. 7 units

13) Which expression is equivalent to  $4(3x + 2)$ ?

- A.  $12x + 2$   
 B.  $7x + 6$

- C.  $3x + 8$   
 D.  $12x + 8$

14) To qualify for a school club, you must have no less than a 3.0 grade point average. Which inequality describes the minimum GPA  $g$ ?

- A.  $g < 3.0$   
 B.  $g > 3.0$

- C.  $g \leq 3.0$   
 D.  $g \geq 3.0$





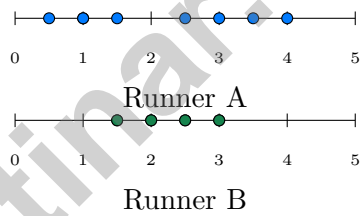


1) A student plotted two points on a number line. The distance between them is 13 units. One point is at  $-4$ . Which could be the other point to the left of  $-4$ ?

- A.  $-17$ 
 C.  $9$   
 B.  $-9$ 
 D.  $17$

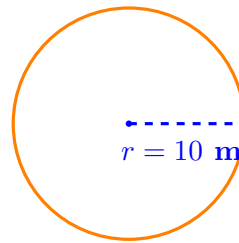
2) Find the median of the data set 2, 3, 4, 5, 100.

3) Two runners' sprint times (seconds) over 8 races. Which runner has more consistent sprint times?



- A. Runner A
  C. Both are equally consistent  
 B. Runner B
  D. Cannot determine from dot plots

## Circular Field



4)

A circular field has a radius of 10 meters. Using  $\pi \approx 3.14$ , what is the area?

- A.  $31.4 \text{ m}^2$                        C.  $314 \text{ m}^2$   
 B.  $62.8 \text{ m}^2$                        D.  $628 \text{ m}^2$

5) A teacher asks: “What is a typical shoe size for sixth graders?”  
Which statement is true?

- A. This is not statistical because all sixth graders wear the same shoe size.     C. This is statistical because the teacher asked it.  
 B. This is non-statistical because it is about shoes.                       D. This is statistical because shoe sizes vary among sixth graders.

6) A teacher reports: “Most students scored between 75–85. A few students scored in the 60s, and one scored 95.” Which shape best describes this distribution?

- A. Symmetric                       C. Skewed left  
 B. Bimodal                       D. Skewed right



Scan me!  
For more practice  
& answers

**Massachusetts MCAS Practice Test Answer Keys**

**How to use this Massachusetts MCAS 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 Bay State math accuracy
3. rework the problem before reading the full explanation, using this reminder:  
Read like a scholar and solve like a planner: define the task, show work, and check.

**A calm Massachusetts correction routine turns every missed item into useful practice. Complete a round, study the explanation, and write one correction rule for the next test.**



Scan me!  
For more practice  
& answers

## Massachusetts Practice Test Answers and Explanations

Review the nine printed MCAS tests with accurate, reflective, and ready for the next page habits.

### Practice Test 1 Answers and Explanations

- Choice D is correct. **(6.G.A.1)**  $75 = \frac{1}{2} \times 15 \times h \Rightarrow h = 10$  cm.
- Choice A is correct. **(6.NS.B.4)** Distributive property:  $6(2 + 9) = 6 \cdot 2 + 6 \cdot 9 = 12 + 54 = 66$ . Choice A shows the expanded form before simplifying.
- Choice B is correct. **(6.NS.C.8)** Reflection across the  $x$ -axis changes the sign of the  $y$ -coordinate while the  $x$ -coordinate remains the same. The point  $(2, 6)$  becomes  $(2, -6)$ .
- The correct answer is 12. **(6.RP.A.2)** Multiply:  $\frac{3}{4}$  pound  $\times$  16 oz/pound = 12 ounces.
- Choice A is correct. **(6.RP.A.3)** Multiply:  $3.5 \times 15 = 52.5$  miles.
- Choice A is correct. **(6.NS.B.2)**  $9,108 \div 52 = 175$  remainder 8. Check:  $52 \times 175 = 9,100$ , and  $9,100 + 8 = 9,108$ . So the whole-number quotient is 175.
- Choice B is correct. **(6.NS.B.4)**  $84 = 4 \times 21 = (2 \times 2) \times (3 \times 7) = 2^2 \times 3 \times 7$ . Options A, C, and D contain composite numbers.
- Choice B is correct. **(6.NS.C.5)** Starting at 0:  $+50 - 35 + 20 = 35$  points.
- Choice A is correct. **(6.SP.B.4)** The points shown are the same distance from zero on opposite sides, so they are opposites.
- The correct answer is 12. **(6.SP.B.4)**  $\frac{\$360}{\$30 \text{ per month}} = 12$  months.
- Choice A is correct. **(6.SP.B.4)**  $-1.2 = -\frac{12}{10} = -\frac{6}{5}$ .
- Choice B is correct. **(6.NS.C.8)** Same  $x$ -coordinate  $(-1)$ :  $|2 - (-3)| = |2 + 3| = 5$  units.
- Choice D is correct. **(6.EE.A.3)** Distribute:  $4(3x + 2) = 4 \cdot 3x + 4 \cdot 2 = 12x + 8$ .
- Choice D is correct. **(6.EE.B.8)** "No less than 3.0" means 3.0 or more:  $g \geq 3.0$ .
- Choice C is correct. **(6.G.A.1)** Area of the parallelogram =  $40 \times 15 = 600$  m<sup>2</sup>.
- Choice C is correct. **(6.G.A.2)**  $V = 4.5 \times 3 \times 2.667 = 4.5 \times 3 \times \frac{8}{3} = 4.5 \times 8 = 36$  cm<sup>3</sup>.
- Choice A is correct. **(6.G.A.1)** Base:  $9 - 1 = 8$  units. Height:  $9 - 1 = 8$  units. Area =  $\frac{1}{2} \times 8 \times 8 = 32$  square units.
- Choice B is correct. **(6.NS.C.8)** The  $y$ -coordinate stays  $-2$ ; the  $x$ -coordinate changes sign from  $-4$  to 4. This is reflection over the  $y$ -axis.
- Choice B is correct. **(6.SP.A.2)** MAD (mean absolute deviation) is calculated by finding the distance from each point to the mean, then averaging these distances.
- The correct answer is 35% of  $\$40 = 0.35 \times 40 = \$14$  (discount); Sale price is  $\$40 - \$14 = \$26$ . Choices A and B are correct. **(6.RP.A.3)** Discount: 35% of  $\$40 = 0.35 \times 40 = \$14$ , so choice A is correct. Sale price:  $\$40 - \$14 = \$26$ , so choice B is correct. Choice C ( $\$28$ ) and choice D ( $\$25$ ) are incorrect discount/price combinations. Choice E ( $\$35$ ) confuses the percent with the original price and is incorrect.
- Choice B is correct. **(6.NS.A.1)** 30% of 700 is  $0.30 \times 700 = 210$  items.
- Choice D is correct. **(6.RP.A.3)** Each section is 25% of the whole. 25% of 200 =  $0.25 \times 200 = 50$  students per section.
- Choice B is correct. **(6.NS.B.3)** Work left to right:  $8.9 - 3.4 = 5.5$ , then  $5.5 - 1.2 = 4.3$ .
- The correct answer is 50. **(6.EE.C.9)** Entertainment percentage:  $100\% - 40\% - 35\% = 25\%$  of  $\$200 = 0.25 \times 200 = \$50$ .
- Choice B is correct. **(6.NS.C.7)** From least to most:  $-100 < -15 < 250$ .
- Choice A is correct. **(6.NS.B.3)**  $3 - 8 = 3 + (-8) = -5$ . Rewrite subtraction as adding the opposite.
- Choice A is correct. **(6.EE.A.1)**  $3^2 = 3 \times 3 = 9$ . Option B:  $2^3 = 8$ . Option C:  $1^9 = 1$ . Option D:  $3 \times 3^2 = 3 \times 9 = 27$ .



Scan me!  
For more practice  
& answers

Notes From the Math Gardener

---

## Hi, Math Gardener!

◇ Look at how much you grew! 9 tests is like 9 weeks of taking care of your math garden. Every problem was a seed. Every try was water. ◇

★ **Gardeners say:** growth takes time. You can't see roots, but they are there. You can't always feel smarter, but you are. Your math garden is full! ★

### Garden Check-Up

- **Roots:** STRONG! Your basic math is solid.
- **Stems:** STURDY! You can do step-by-step problems.
- **Leaves:** GREEN! You have lots of math tools.
- **Flowers:** BRIGHT! You feel proud of your work.

**Gardener tip:** keep watering your math garden long after the test. Every habit you built will grow with you for years!

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 Gardener

# PRACTICE MORE. ACHIEVE MORE.

This **Grade 6 Math Practice Tests** book is designed to help students strengthen their math skills, master important concepts, and build the confidence they need to excel on any test.

With 9 full-length printed tests and 2 online tests, students get the review, practice, and realistic test experience they need to improve accuracy, develop problem-solving abilities, and reach their full potential.

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

## PERFECT FOR:

- ✓ Classroom Practice
- ✓ Homework & Review
- ✓ Independent Learning
- ✓ Test Preparation
- ✓ Skill Reinforcement
- ✓ Building Confidence

★ PRACTICE TODAY.  
SUCCEED TOMORROW.

## WHAT STUDENTS WILL 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 math concepts aligned with standards.



### Test Confidence

Get familiar with test formats and improve accuracy.



### 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

Extra online practice to reinforce learning and build confidence.

## MORE PRACTICE. GREATER RESULTS.

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



9 PRINTED  
PRACTICE TESTS



2 ONLINE  
PRACTICE TESTS



DETAILED ANSWER  
EXPLANATIONS