



# 6

# Massachusetts

# MCAS



# GRADE 5 MATH

## PRACTICE TESTS

Complete Standards-Based Practice  
— for Grade 5 Math Success —



$$A = \frac{1}{2}bh$$



$$5^2 = 25$$



**6 FULL-LENGTH PRACTICE TESTS**

Realistic style questions



**STANDARDS-BASED PRACTICE**

Covers all Grade 5 Math standards



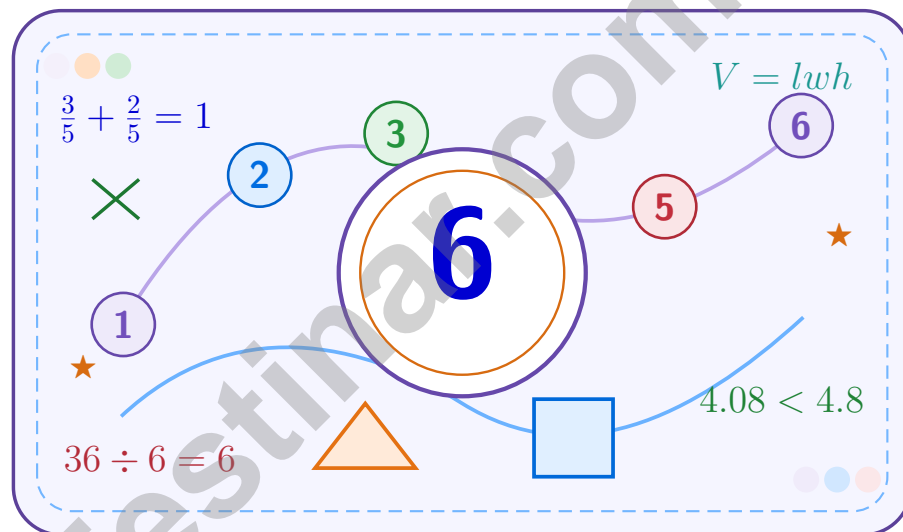
**BUILD CONFIDENCE. IMPROVE SCORES.**

Target weak areas and achieve success

★ STRONG PRACTICE. BRIGHT FUTURE. ★

# 6 Massachusetts MCAS Grade 5 Math Practice Tests

*A six-step confidence climb with clear review, smart strategy, and practice that gets stronger every round*



Six full tests, a focused skill booster, and student-friendly support from start to finish for Grade 5 mathematicians who want to climb higher.

Jay Daie and Reza Nazari



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# Welcome to the Confidence Climb

This book is here to help you practice with purpose and rise step by step

## To the Grade 5 Mathematician

This practice book is a place to think, try, fix, and grow. You do not have to be perfect on the first question or the first test. What matters most is careful effort, clear work, and learning from each round of practice.

Use these six 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 fast.

### Try

Give each problem your best thinking.

### Check

Study mistakes and learn what happened.

### Rise

Bring that lesson into the next round.

**A strong habit for every page:** 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.

# How to Use This Book

A simple practice routine that turns six tests into steady growth

## Step 1: Warm Up

**Start with the quick review.**  
Spend a few minutes refreshing the ideas before you start a test.

## Step 2: Take the Test

**Take one full practice test.**  
Work in a quiet space and let accuracy matter more than speed.

## Step 3: Study the Pattern

**Check your work honestly.**  
Circle missed questions and notice patterns in the mistakes.

## Step 4: Learn, Then Retry

**Read the explanation and try again.**  
Learning happens after the test too. Fixing mistakes is one of the smartest parts of practice.

## A Six-Week Climb Map

Week	Mission Focus
<b>Week 1</b>	Take Test 1 and review any place-value or operation slips.
<b>Week 2</b>	Take Test 2 and focus on showing neat, easy-to-read work.
<b>Week 3</b>	Take Test 3 and give extra time to fractions or decimals if needed.
<b>Week 4</b>	Take Test 4 and slow down on word problems and units.
<b>Week 5</b>	Take Test 5 and compare your score and habits with earlier rounds.
<b>Week 6</b>	Take Test 6 and finish with calm, careful, confident work that uses everything you practiced before.



Scan me

# Test Overview

## What this practice book helps students do

These practice tests are designed to help Grade 5 students get comfortable with the kind of thinking used on the Massachusetts MCAS. The goal is bigger than only getting answers right. Students are practicing how to read closely, choose a strategy, solve carefully, and explain their work when needed.

### Selected-Response Questions

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

### Constructed-Response Questions

Students show their thinking, steps, models, or explanations. Even when unsure, writing what they know can help organize the problem.

### Grade 5 Skills You Will Practice Often

- place value, comparing numbers, and rounding
- multi-digit addition, subtraction, multiplication, and division
- fractions, decimals, and mixed numbers
- perimeter, area, volume, and measurement conversions
- coordinate points, patterns, graphs, and tables
- geometry and multi-step word problems

**What strong work looks like:** the answer is correct, the steps are clear, the labels or units are included, and the final result makes sense.



# Table of Contents

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Grade 5 Mathematics

1

Questions: 40 Duration: No time limit

Calculator Policy: Calculators are not allowed



## 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





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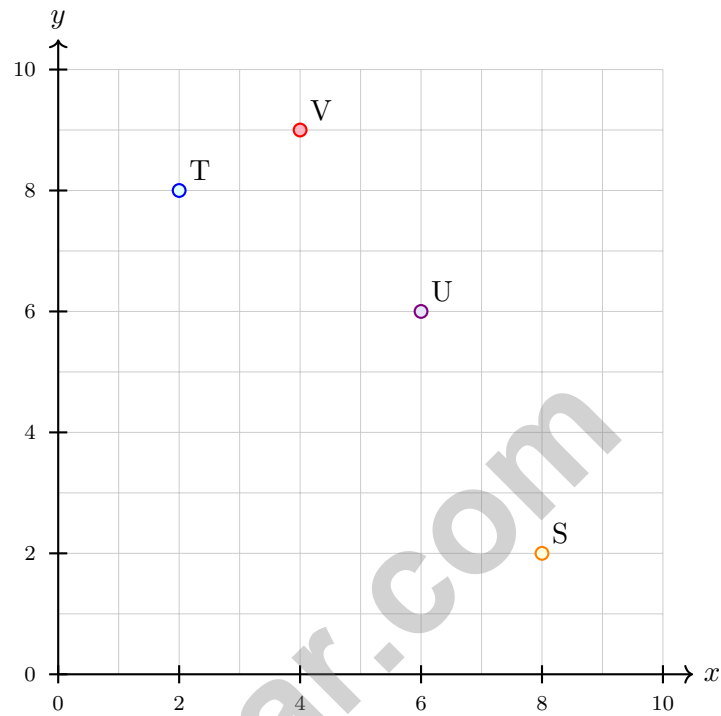
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1) Which point is located at (2, 8) on this coordinate plane?



A. Point S

B. Point T

C. Point U

D. Point V

2) Compare:  $36 \div 4$    $36 \div 6$

A. >

B. <

C. =

D. Cannot tell



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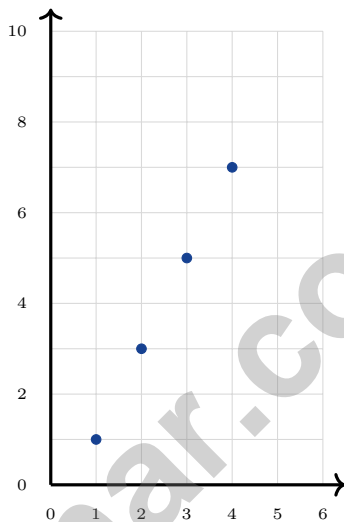
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1) A student lists ordered pairs from the rule “the output is half of the input”:  $(4, 2)$ ,  $(6, 3)$ ,  $(8, 4)$ ,  $(10, ?)$ . Find the missing output.

 A. 4 C. 6 B. 5 D. 10

2) Which rule best describes the pattern graphed below?

 A. Triple the first coordinate, then subtract 2 C. Subtract 1 from the first coordinate B. Add 1 to the first coordinate D. The second coordinate is double the first coordinate minus 1.

3) Alice brought  $1\frac{1}{2}$  lbs grapes, Bob  $2\frac{1}{4}$  lbs apples, Chris  $\frac{3}{4}$  lb cookies. Total?

 A.  $4\frac{1}{2}$  lbs C.  $4\frac{3}{4}$  lbs B.  $4\frac{1}{4}$  lbs D. 5 lbs

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## 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 A is correct.** (5.NF.B.6) Think, “How many one-fifth-pound groups are in one pound?” Since  $1 \div \frac{1}{5} = 5$ , she can make 5 cookies.
- 2) **The correct answer is  $4\frac{1}{4}$ .** (5.MD.B.2) Count the X marks above each length. The length  $4\frac{1}{4}$  has 3 X marks, more than any other pencil length.
- 3) **Choice C is correct.** (5.NBT.A.2)  $35 \times 100$  ends with 2 zeros, while  $35 \times 1,000$  ends with 3 zeros. Multiplying by the larger power of 10 gives more zeros.
- 4) **Choice B is correct.** (5.MD.C.4) Original:  $V = 8 \times 5 \times 3 = 120 \text{ in}^3$ . New height = 6 in. New volume =  $8 \times 5 \times 6 = 240 \text{ in}^3$ .
- 5) **Choice B is correct.** (5.NF.A.2)  $\frac{9}{10} - \frac{3}{10} = \frac{6}{10}$ .
- 6) **Choice D is correct.** (5.NBT.A.2) Dividing by 100 moves the decimal 2 places left:  $0.3 \rightarrow 0.03 \rightarrow 0.003$ .
- 7) **Choice C is correct.** (5.NBT.B.5) Multiply:  $51 \times 8 = (50 \times 8) + (1 \times 8) = 400 + 8 = 408$ .
- 8) **Choice B is correct.** (5.OA.B.3) Each value in Pattern Y is double the matching value in Pattern X:  $3 \times 2 = 6$ ,  $6 \times 2 = 12$ , and  $9 \times 2 = 18$ .
- 9) **Choice C is correct.** (5.OA.A.1) Start with the part in parentheses:  $4 + 5 = 9$ . Now multiply the result by 2:  $9 \times 2 = 18$ . Nice careful grouping gives answer C.
- 10) **Choice A is correct.** (5.NBT.B.7) Line up decimal points and subtract place by place.  $100.00 - 56.25 = 43.75$  dollars. This confirms the answer.
- 11) **Choice A is correct.** (5.MD.C.5)  $\frac{2}{3} \times \frac{2}{5} = \frac{4}{15}$ . The overlap covers 4 squares out of 15 total.
- 12) **Choice C is correct.** (5.MD.C.3) The lower prism has volume 108 cubic centimeters, and the upper prism has volume 96 cubic centimeters. Add them to get 204 cubic centimeters.
- 13) **Choice C is correct.** (5.NF.B.6) Start with one unit fraction,  $\frac{1}{4}$ , and share it into 4 equal parts. Each part is  $\frac{1}{4} \div 4 = \frac{1}{16}$  of the whole.
- 14) **Choice D is correct.** (5.NBT.A.3) 0.309 has 3 in tenths and 9 in thousandths. Since there are 0 hundredths, the expanded form can omit the hundredths term:  $\frac{3}{10} + \frac{9}{1000} = 0.309$ .
- 15) **Choice A is correct.** (5.NF.A.2)  $\frac{1}{3} = \frac{4}{12}$ ,  $\frac{1}{4} = \frac{3}{12}$ , and  $\frac{1}{6} = \frac{2}{12}$ . These are the correct denominator-12 forms.
- 16) **Choice A is correct.** (5.NBT.A.4) The tenths digit is 6. The hundredths digit is 4. Since  $4 < 5$ , keep tenths as 6. So 8.642 rounds to 8.6 km.
- 17) **Choice D is correct.** (5.G.A.1) Points on the same horizontal grid line have the same second coordinate, but their first coordinates can be different. Points A, B, C are all 5 units above the x-axis and have first coordinates 2, 5, and 8.
- 18) **The correct answer is  $3\frac{1}{4}$ .** (5.NF.A.1) Rewrite  $4\frac{1}{2} = 4\frac{2}{4}$ . Subtract:  $(4 - 1) + (\frac{2}{4} - \frac{1}{4}) = 3\frac{1}{4}$ .
- 19) **Choice A is correct.** (5.MD.A.1) Add the weights first:  $125 + 87.5 = 212.5 \text{ kg}$ . Then convert kilograms to grams:  $212.5 \times 1,000 = 212,500$  grams.
- 20) **Choices A, C are correct.** (5.OA.A.2) Multiplying the whole sum by 3 makes the new expression three times as large. It has 3 copies of  $(12 + 5)$ , while the second expression has 1 copy, so the difference is 2 copies of  $(12 + 5)$ . B and D do not match that relationship.
- 21) **Choice C is correct.** (5.NF.A.2) The denominator increased from 4 to 12 (multiply by 3). Multiply the numerator by 3:  $3 \times 3 = 9$ .
- 22) **Choice C is correct.** (5.NF.B.6) The one-tenth bar is divided among 3 students. So the matching equation is  $\frac{1}{10} \div 3 = n$ .
- 23) **Choice A is correct.** (5.MD.A.1) First convert 7 feet to inches:  $7 \times 12 = 84$ . Then add the extra 6 inches:  $84 + 6 = 90$  inches.
- 24) **Choice C is correct.** (5.MD.C.4) Volume =  $16 \times 12 \times 8 = 192 \times 8 = 1536 \text{ in}^3$ .
- 25) **Choice B is correct.** (5.NBT.B.7) Add by place value: hundredths  $8 + 5 = 13$  (write 3, carry 1); tenths  $2 + 3 + 1 = 6$ ; ones  $4 + 2 = 6$ . The correct sum is 6.63, which matches Chen’s work.
- 26) **Choice B is correct.** (5.NBT.A.1) Adding the expanded parts:  $8 + 0.5 + 0.03 + 0.001 = 8.531$ .



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**Gallery Exhibition Preview**

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## Hello, Mathematical Artist!

★ Magnificent gallery! You've created six complete collections of mathematical artwork, carefully crafting solutions with precision and creativity like a master artist! Each problem was a blank canvas waiting for your artistic mathematical expression. You've filled your gallery with beautiful work that demonstrates both technical skill and creative insight! ★

◇ **Here's what accomplished artists know:** creating masterpieces requires vision, technique, and practice. Artists sketch ideas, experiment with methods, and refine their work through multiple iterations. You've practiced that artistic process through these six tests! Your mathematical artistry has matured, and your techniques have become refined and confident! ◇

### Artist's Portfolio Review

1. **Creative Vision:** You see multiple approaches to mathematical challenges!
2. **Technical Skill:** Your execution of procedures is precise and clean!
3. **Artistic Expression:** Your solutions show both logic and elegance!
4. **Exhibition Ready:** Your portfolio is complete and impressive!

**Remember this artistic wisdom:** great artists develop their unique style through practice. Your mathematical style; your way of approaching problems, organizing work, and verifying answers has become distinctly yours. On test day, express your mathematical artistry confidently. The world is ready to admire your work!

Want to display a particularly beautiful solution or discuss mathematical aesthetics? Send your artwork to [reza@testinar.com](mailto:reza@testinar.com). I celebrate mathematical creativity!

**Reza Nazari & Jay Daie**

Your Math Coaches for Steady Progress

# 6 FULL-LENGTH TESTS. ENDLESS POTENTIAL.

PRACTICE TODAY. SUCCEED TOMORROW.

Give your child the tools they need to build strong math skills and test-taking confidence! This book includes **6 full-length practice tests** along with standards-based practice, mixed review, word problems, and a complete answer key.

★★★  
PRACTICE  
WITH PURPOSE.  
ACHIEVE WITH  
CONFIDENCE.

## WHAT'S INSIDE:



### 6 FULL-LENGTH PRACTICE TESTS

Realistic tests designed to reflect the actual test format and help build confidence.



### STANDARDS-BASED PRACTICE

Covers all essential Grade 5 math standards with clear explanations and examples.



### MIXED REVIEW

Reinforces key concepts with a variety of question types and review exercises.



### WORD PROBLEMS

Build critical thinking and problem-solving skills with real-world scenarios.



### COMPLETE ANSWER KEY

Step-by-step explanations for every question to support learning and growth.



### IMPROVE. PRACTICE. ACHIEVE.

Consistent practice leads to stronger skills, higher scores, and greater success.



## WHY PRACTICE MAKES A DIFFERENCE



### BUILD CONFIDENCE

Feel prepared and ready for any challenge.



### IMPROVE ACCURACY

Strengthen skills and reduce careless mistakes.



### THINK STRATEGICALLY

Develop problem-solving skills and deepen understanding.



### MANAGE TIME

Practice under timed conditions to build stamina.



### STAY MOTIVATED

Track progress and celebrate every win.



### ACHIEVE SUCCESS

Reach goals and unlock your full potential!



Visit [testinar.com/math5](https://testinar.com/math5)

for more Grade 5 math resources and practice materials!



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Smart Practice. Stronger Results.