

# 5

# Massachusetts MCAS

Standards-Aligned Review with  
Mixed Practice and Answer Key

A gold circular badge with a scalloped edge, containing the text "A+" in red. The badge is surrounded by colorful confetti and stars.

# 5 Massachusetts MCAS Grade 4 Math Practice Tests

*Standards-Aligned Review with Mixed Practice and Answer Key*



Five complete 30-question Grade 4 practice rounds for MCAS, built around historic streets, harbor winds, and precise explanations, with answer keys and clear explanations for every item.

**Jay Daie and Reza Nazari**



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# Welcome, Massachusetts Math Explorer!

Five steady rounds on the Bay State math route

This book gives you five full Grade 4 practice tests for MCAS. Each round uses historic streets, harbor winds, and precise explanations to keep practice memorable while you read carefully, choose a strategy, show work, and check the answer.

## Massachusetts Practice Promise

I will slow down for the question, circle what matters, solve one step at a time, and use mistakes as clues for getting stronger.

Read

Plan

Check

## How to Use This Book

A ten-session routine for Massachusetts MCAS review

1. **Preview the skills.** Read the quick review pages before the first test.
2. **Take one test at a time.** Treat each round like a stop on the Bay State math route.
3. **Mark your confidence.** Put a small star beside problems you solved with a strong plan.
4. **Check, then retry.** For missed questions, try the problem again before reading the explanation.
5. **Track your next move.** Use the growth log to name one habit and one skill for the next test.

**Good rhythm:** Test one day, correct carefully the next day, then return for the next round when your corrections feel clear.



## What Is Inside?

Five tests, 150 questions, and a full MCAS review path

Part	What You Will Practice
Tests 1–3	Warm-up rounds for reading carefully, choosing operations, and using models.
Tests 3–5	Skill-building rounds with fractions, measurement, area, data, and two-step problems.
Tests 3–5	Stamina rounds for mixed review, neat work, and flexible strategies.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Real test readiness means recognizing the skill even when the next question changes topic.



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& answers

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1) Which inequality is correct?

A.  $\frac{6}{12} < \frac{9}{12}$

B.  $\frac{6}{12} > \frac{9}{12}$

C.  $\frac{6}{12} = \frac{9}{12}$

D.  $\frac{9}{12} < \frac{6}{12}$

2) Which of the following is a right angle?

A. An angle less than  $90^\circ$

B. An angle equal to  $90^\circ$

C. An angle greater than  $90^\circ$  but less than  $180^\circ$

D. An angle equal to  $180^\circ$

3) How many positive factors does 40 have?

4) Which tool is used to measure the size of an angle in degrees?

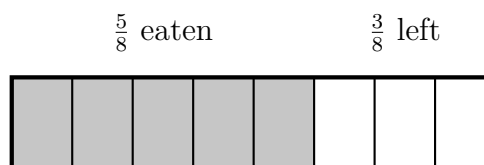
A. Protractor

B. Compass

C. Ruler

D. Calculator

5)



A candy bar is divided into 8 equal parts. The shaded part shows  $\frac{5}{8}$  of the bar that Maya ate. How much of the candy bar is left?

A.  $\frac{3}{8}$

B.  $\frac{5}{8}$

C.  $\frac{8}{8}$

D.  $\frac{13}{8}$



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6) What is the relationship between a  $90^\circ$  angle and a  $180^\circ$  angle?

- A.  $180^\circ$  is 2 times  $90^\circ$                        C.  $90^\circ$  is 2 times  $180^\circ$   
 B.  $180^\circ$  is 3 times  $90^\circ$                        D. They are equal

7) What is  $2,156 \div 2$ ?

- A. 1,078     C. 1,088  
 B. 1,068     D. 1,058

8) What is the missing numerator?  $\frac{3}{10} + \frac{?}{100} = \frac{50}{100}$

- A. 20     C. 30  
 B. 47     D. 50

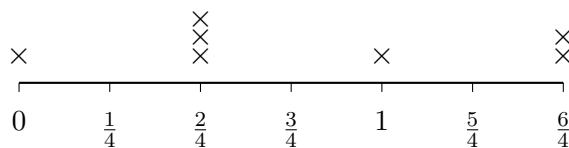
9) An angle measures 145 degrees. How many one-degree angles make up this angle?

- A. 72.5 one-degree angles                       C. 290 one-degree angles  
 B. 145 one-degree angles                       D. 14.5 one-degree angles

10) In the number 7,707, the digit 7 in the hundreds place has a value that is how many times the digit 7 in the ones place?

- A. 10     C. 1,000  
 B. 1     D. 100

11) A line plot shows fourths:



How many measurements are greater than  $\frac{2}{4}$  inch?

- A. 2     C. 4  
 B. 3     D. 5



12) What is  $4\frac{1}{4} + 1\frac{2}{4}$ ?

A.  $5\frac{1}{4}$

B.  $5\frac{2}{4}$

C.  $5\frac{3}{4}$

D.  $6\frac{1}{4}$

13) Which decimal equals  $\frac{8}{10}$ ?

A. 0.8

B. 0.08

C. 0.88

D. 0.088

14) What is  $2 \times \frac{3}{4}$ ?

A.  $\frac{6}{4}$  or  $1\frac{1}{2}$

B.  $\frac{3}{8}$

C.  $\frac{3}{2}$

D.  $\frac{2}{4}$

15) Which description names a figure that would be symmetric about the described line?

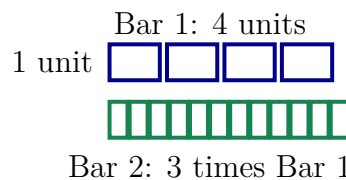
A. A right triangle with the line parallel to the hypotenuse

B. An isosceles triangle with the line through the vertex angle

C. A scalene triangle with the line through the center

D. A right triangle with legs of different lengths

16) Look at the bar model. Both bars show a total of how much?



A. 4 units

B. 8 units

C. 12 units

D. 16 units



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- 1) Multiply  $7 \times 314$  using the standard algorithm or partial products.

- 2) An equilateral triangle has how many lines of symmetry?

- A. 1                                       C. 3  
 B. 2                                       D. 4

- 3) Diego draws a rectangle with a length of 6 cm and a width of 4 cm. What is the area of his rectangle?

- A. 10 sq cm                               C. 24 sq cm  
 B. 20 sq cm                               D. 30 sq cm

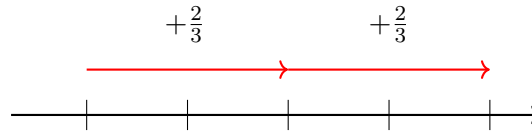
- 4) A string is cut into 2 equal pieces. Both pieces are used. Which sum of unit fractions shows this?

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

- 5) In the number 52,864, what is the value of the digit in the tens place?

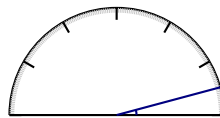


- 6) A number line shows hops from 0 to  $\frac{2}{3}$ , then another hop to  $\frac{4}{3}$ . What operation does this show?



- A.  $\frac{2}{3} + \frac{2}{3}$ 
 C.  $\frac{3}{3} - \frac{1}{3}$   
 B.  $\frac{1}{3} + \frac{1}{3}$ 
 D.  $\frac{4}{3} - \frac{1}{3}$
- 7) Which statement is true?
- A.  $0.7 > 0.70$ 
 C.  $0.7 = 0.70$   
 B.  $0.7 < 0.70$ 
 D.  $0.7 < 0.07$
- 8) A paper is folded. The fold creates an angle of  $70^\circ$ . Another fold creates an angle of  $20^\circ$ . If both folds meet at the same point, what is the combined angle measure?
- A.  $50^\circ$ 
 C.  $100^\circ$   
 B.  $90^\circ$ 
 D.  $140^\circ$

9)



What is the measure of this very small acute angle?

- A. 10 degrees
  C. 20 degrees  
 B. 15 degrees
  D. 25 degrees



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1) Is 56 a multiple of 8?

- A. Sometimes                       C. Cannot tell  
 B. No                                       D. Yes

2) Which decomposition of  $\frac{9}{12}$  has three equal parts?

- A.  $\frac{3}{12} + \frac{3}{12} + \frac{3}{12}$                        C.  $\frac{1}{12} + \frac{4}{12} + \frac{4}{12}$   
 B.  $\frac{2}{12} + \frac{3}{12} + \frac{4}{12}$                        D.  $\frac{5}{12} + \frac{2}{12} + \frac{2}{12}$

3) Noah's plant height measurements (in halves of an inch) are:  $\frac{1}{2}$ , 1,  $\frac{1}{2}$ ,  $\frac{3}{2}$ , 1, 1,  $\frac{3}{2}$ . On a line plot, how many X marks appear at 1 inch?

- A. 1     C. 3  
 B. 2     D. 4

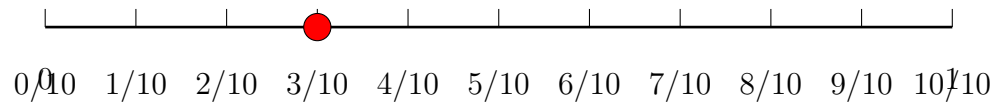
4) The long division diagram shows  $2,688 \div 3$ . What is the quotient?

$$\begin{array}{r}
 \text{quotient} \\
 896 \\
 3 \overline{) 2688} \\
 \underline{-24} \phantom{00} \\
 28 \phantom{00} \\
 \underline{-27} \phantom{00} \\
 18 \phantom{00} \\
 \underline{-18} \phantom{00} \\
 0
 \end{array}$$

- A. 876     C. 906  
 B. 886     D. 896



5) Look at the number line below.



What fraction is marked on the number line?

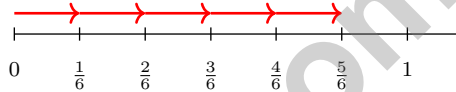
A.  $\frac{3}{100}$

C.  $\frac{3}{10}$

B.  $\frac{13}{100}$

D.  $\frac{10}{3}$

6) A number line shows unit-fraction jumps of  $\frac{1}{6}$  starting at 0. After 5 jumps, you are at position:



A.  $\frac{3}{6}$

C.  $\frac{5}{6}$

B.  $\frac{4}{6}$

D.  $\frac{6}{6}$

7) A rectangle is 11 meters long and 9 meters wide. What is its area?



8) What is  $\frac{1}{4} + \frac{3}{4}$ ?

A.  $\frac{4}{8}$

C.  $\frac{3}{4}$

B.  $\frac{4}{4}$  or 1

D.  $\frac{1}{8}$



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## Practice Test Answer Keys

**How to use this section with a Grade 4 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

- Choice A is correct.** **(4.NF.A.1)** Same denominator, so compare numerators. Since  $6 < 9$ , we have  $\frac{6}{12} < \frac{9}{12}$ .
- Choice B is correct.** **(4.G.A.1)** A right angle is a special angle that measures exactly  $90^\circ$ . Think of the corner of your notebook — that's a right angle! Acute angles are smaller, obtuse angles are bigger, and straight angles are perfectly flat at  $180^\circ$ .
- The correct answer is 8.** **(4.OA.B.4)** Find all the factor pairs:  $1 \times 40$ ,  $2 \times 20$ ,  $4 \times 10$ ,  $5 \times 8$ . Combine both sides: 1, 2, 4, 5, 8, 10, 20, 40—that's **8** factors total.
- Choice A is correct.** **(4.MD.C.6)** A protractor is the special tool we use to measure angles in whole-number degrees. The ruler measures length and the compass draws circles, but only the protractor shows us how many degrees are in an angle.
- Choice A is correct.** **(4.NF.B.3)** The picture shows the candy bar is divided into 8 equal parts with 5 shaded (what Maya ate). Subtract the shaded part from the whole bar:  $\frac{8}{8} - \frac{5}{8} = \frac{3}{8}$  of the candy bar is left.
- Choice A is correct.** **(4.MD.C.5)**  $180^\circ$  is exactly twice as large as  $90^\circ$ :  $180^\circ = 2 \times 90^\circ$ . So  **$180^\circ$**  is 2 times  **$90^\circ$** .
- Choice A is correct.** **(4.NBT.B.6)** Long division:  $2 \div 2 = 1$ , bring down the 1 to get  $1 \div 2 = 0$  r1, bring down the 5 to get  $15 \div 2 = 7$  r1, bring down the 6 to get  $16 \div 2 = 8$ . The quotient is **1,078**.
- Choice A is correct.** **(4.NF.C.5)** First, convert  $\frac{3}{10} = \frac{30}{100}$ . Then:  $\frac{30}{100} + \frac{?}{100} = \frac{50}{100}$  tells us the missing number is 20.
- Choice B is correct.** **(4.MD.C.5)** An angle that measures  $145^\circ$  is made of **145** one-degree angles.
- Choice D is correct.** **(4.NBT.A.1)** In 7,707: the 7 in the hundreds place is worth 700, and the 7 in the ones place is worth 7. The ratio is  $700 \div 7 = 100$  times. ✓
- Choice B is correct.** **(4.MD.B.4)** Count X marks for measurements greater than  $\frac{2}{4}$  inch. At  $\frac{4}{4}$  inch: 1 mark. At  $\frac{6}{4}$  inch: 2 marks. Total:  $1 + 2 = 3$  marks.
- Choice C is correct.** **(4.NF.B.3)** Add the wholes:  $4 + 1 = 5$ . Add the fractions:  $\frac{1}{4} + \frac{2}{4} = \frac{3}{4}$ . The sum is  **$5\frac{3}{4}$** .
- Choice A is correct.** **(4.NF.C.5)** The fraction  $\frac{8}{10}$  means 8 tenths, which is 0.8.
- Choice A is correct.** **(4.NF.B.4)** We take 2 copies of  $\frac{3}{4}$ . Multiply:  $2 \times \frac{3}{4} = \frac{2 \times 3}{4} = \frac{6}{4} = 1\frac{2}{4} = 1\frac{1}{2}$ . The answer is  **$1\frac{1}{2}$** .
- Choice B is correct.** **(4.G.A.3)** An isosceles triangle has two equal sides meeting at the top (vertex angle). A fold line from that top point straight down to the middle of the base creates matching left and right halves. The answer is An isosceles triangle with the line through the vertex angle.
- Choice D is correct.** **(4.OA.A.1)** Step 1: Bar 2 is 3 times Bar 1, so  $\text{Bar } 2 = 4 \times 3 = 12$  units. Step 2: add both bars for the total:  $4 + 12 = 16$  units.
- Choice A is correct.** **(4.NF.B.3)** A:  $5 + 4 = 9$ , so  $\frac{9}{8} = 1\frac{1}{8}$  ✓ greater than 1. B:  $\frac{5}{6}$  (less). C:  $\frac{6}{8}$  (less). D:  $\frac{8}{10}$  (less).
- The correct answer is A, B.** **(4.MD.C.5)** An angle is made of a vertex (the meeting point) and two rays (the sides). A circle, arc, and line are not essential parts of an angle.
- Choice A is correct.** **(4.MD.C.7)** Three rays meet at a point. The first two rays form an angle by adding:  $27^\circ + 43^\circ = 70^\circ$ .
- The correct answer is  $\frac{3}{4}$ .** **(4.NF.B.4)** Three fourths:  $3 \times \frac{1}{4} = \frac{3}{4}$ .
- Choice C is correct.** **(4.NF.A.1)** The denominator changes from 3 to 12. What times 3 makes 12?  $3 \times 4 = 12$ . So multiply the numerator by 4:  $\frac{2}{3} = \frac{2 \times 4}{3 \times 4} = \frac{8}{12}$ .
- Choice C is correct.** **(4.NF.B.4)** We multiply the whole number by the fraction. Ava has 5 necklaces, each with  $\frac{2}{3}$  meter of beads:  $5 \times \frac{2}{3} = \frac{10}{3}$  meters, which is  $3\frac{1}{3}$  meters.
- Choice B is correct.** **(4.MD.A.1)** Since 1 liter = 1,000 milliliters, multiply:  $3 \times 1,000 = 3,000$  mL. The answer is **3,000** mL.
- Choice B is correct.** **(4.NF.C.5)** Multiply both the numerator and denominator by 10:  $\frac{5}{10} \times \frac{10}{10} = \frac{50}{100}$ .
- Choice D is correct.** **(4.NBT.A.2)** Step 1:  $300,000 + 20,000 + 5,000 = 325,000$ . Step 2:  $325,000 + 600 + 30 + 2 = 325,632$  ✓
- Choice D is correct.** **(4.OA.A.2)** The bar model shows the grandmother's bar is 2 equal pieces, each the size of Naomi's 9 ribbons. Multiply:  $2 \times 9 = 18$  ribbons.



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Notes From the Math Gardener

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## Hi, Math Gardener!

◇ Look at how much you grew! 5 tests is like 5 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

# 5 PRACTICE TESTS. BUILD SKILLS. BOOST CONFIDENCE!

This **Grade 4 Math Practice Tests** book is designed to help students master essential math concepts, improve problem-solving skills, and build the confidence they need to excel.

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SUCCESS TOMORROW!

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### Track Progress

Measure growth across multiple practice tests.



### Master Key Concepts

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### Prepare for Success

Build the confidence needed to do your best on test day.

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- ✓ Place Value & Number Sense
- ✓ Addition & Subtraction
- ✓ Multiplication & Division
- ✓ Fractions & Equivalent Fractions
- ✓ Decimals
- ✓ Geometry & Measurement
- ✓ Perimeter & Area
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- ✓ Word Problems
- ✓ And More!



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A+