

7 Massachusetts MCAS

Grade 6 MATH PRACTICE TESTS

7
PRINTED
TESTS
+
2
ONLINE
TESTS

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

Standards-Aligned *Steady Southern*
Problem Solving for Comprehensive
Assessment Program

-  7 Full-Length Printed Tests
-  Standards-Aligned Math Practice
-  Detailed Answer Keys and Explanations
-  Build Confidence. Achieve Success.



You've Got This!

 PREPARE PRACTICE SUCCEED

 PRACTICE WITH PURPOSE

 STRENGTHEN MATH SKILLS

 REVIEW, IMPROVE, AND SUCCEED

7 Massachusetts MCAS Grade 6 Math Practice Tests

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



Seven 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.

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Welcome, Massachusetts Math Explorer!

Eight focused rounds using Bay State math accuracy

This book gives you seven 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 seven-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?

Eight MCAS tests, 320 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.
Test 7	Final stamina round 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.

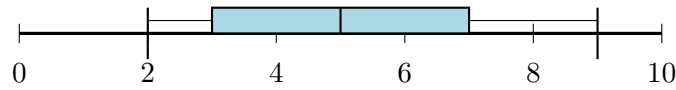


Scan me!
For more practice
& answers

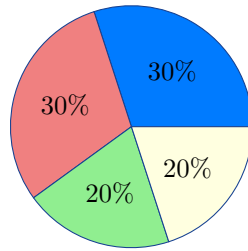
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9) Use the box plot below to find the median:



- A. 2 C. 5
 B. 3 D. 7



10)

The circle graph shows survey results for 500 people. What is the central angle for the 30% section?

- A. 90° C. 120°
 B. 135° D. 108°

11) Which expression matches “the product of a number f and the difference of 10 and 2”?

- A. $f \cdot 10 - 2$ C. $(f - 10) \cdot 2$
 B. $f - 10 + 2$ D. $f(10 - 2)$

12) Find the value of $3(a + b) - 2$ when $a = 2$ and $b = 3$.

- A. 10 C. 15
 B. 17 D. 13



1) What is $|-1| + |1|$?

A. -2

C. 1

B. 0

D. 2

2) The place-value chart shows a decimal. What is the digit in the hundredths place?

Ones	Tenths	Hundredths	Thousandths
3	2	7	5

A. 3

C. 7

B. 2

D. 5

3) Factor $27 + 18$ using the GCF.

A. $3(9 + 6)$

C. $6(4.5 + 3)$

B. $9(3 + 2)$

D. $18(2 + 1)$

4) Which ordered pair is in Quadrant I?

A. $(-5, 7)$

C. $(-2, -4)$

B. $(1, -8)$

D. $(8, 3)$

5) A recipe uses 0.4 cups of flour. What percent of 1 cup is this?

A. 4%

C. 40%

B. 14%

D. 400%



1) Evaluate $x^2 - 3x$ when $x = -2$.

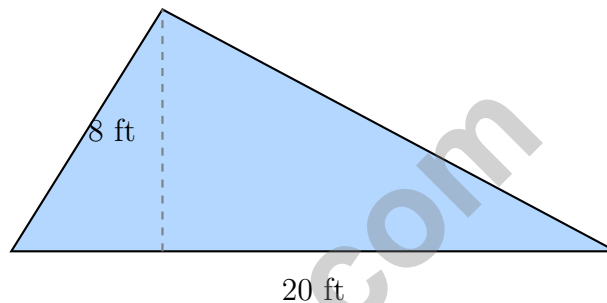
A. -10

C. 2

B. -2

D. 10

2) A garden plot is triangular with a base of 20 feet and height 8 feet. How much area is available for planting?



A. 28 ft^2

C. 80 ft^2

B. 40 ft^2

D. 160 ft^2

3) Marcus earns \$250 per week mowing lawns. He budgets 40% for expenses, 25% for savings, and the rest for spending. How much does he save each week?

A. \$100 (40% spent)

C. \$62.50 (25% saved)

B. \$95 (35% remaining)

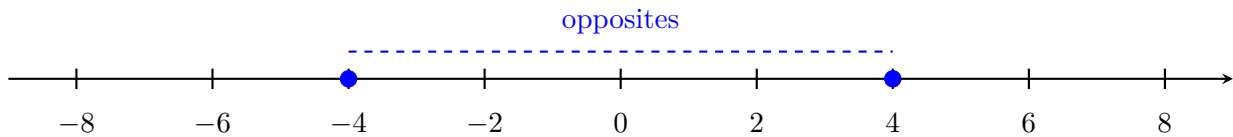
D. \$35 (14% miscalc.)

4) A student needs to save more than \$100. What is the least whole-dollar amount that works?



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5)



Which pair of numbers are opposites?

- A. 3 and $\frac{1}{3}$
 C. 6 and 12
 B. -4 and 4
 D. -2 and -2



Wheat Peach

6)

The bar model shows a ratio of wheat to peach of 3 : 1. If the total bar is 20 units, how many units is the wheat section?

- A. 5 units
 C. 10 units
 B. 3 units
 D. 15 units

7) A farmer harvests 288 pounds of wheat in 4 hours. What is the rate in pounds per hour?

- A. 72 pounds per hour
 C. 60 pounds per hour
 B. 70 pounds per hour
 D. 284 pounds per hour

8) A car uses 3 gallons of gas to travel 78 miles. What is the fuel efficiency in miles per gallon?

- A. 20 mpg
 C. 26 mpg
 B. 24 mpg
 D. 32 mpg



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.



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Massachusetts Practice Test Answers and Explanations

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

Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** **(6.NS.B.3)** Unlikely events have probability between 0 and 0.5. Choice B (0.15) is in this range; the others are not.
- 2) **Choice B is correct.** **(6.SP.A.2)** Original sum: $3 \times 12 = 36$. Adding 12 gives: $36 + 12 = 48$. New mean: $\frac{48}{4} = 12$.
- 3) **Choice B is correct.** **(6.SP.B.5)** Mean = $(150 + 175 + 200 + 225 + 500)/5 = 250$, pulled high by the outlier. Median = 200, closer to typical orders. Median is more appropriate here.
- 4) **Choice A is correct.** **(6.SP.B.4)** Class A values are 65, 67, 69, 72, 76, 78. The range is $78 - 65 = 13$.
- 5) **Choice D is correct.** **(6.RP.A.3)** First find the total fruit: $15 + 25 = 40$. Bananas to total is $25 : 40$, and dividing both parts by 5 gives $5 : 8$.
- 6) **Choice C is correct.** **(6.G.A.3)** Area of trapezoid = $\frac{1}{2}(b_1 + b_2) \times h = \frac{1}{2}(5 + 7) \times 4 = \frac{1}{2}(12) \times 4 = 24$ square units.
- 7) **Choice B is correct.** **(6.SP.A.2)** IQR = $Q3 - Q1 = 78 - 68 = 10$ degrees. The box in a box plot represents the IQR.
- 8) **Choice D is correct.** **(6.SP.B.4)** For large data sets, histograms group data into bins, making patterns easier to see. Dot plots would be crowded with many individual dots, making visualization difficult.
- 9) **Choice C is correct.** **(6.SP.B.4)** The median is shown by the line inside the box of the box plot.
- 10) **Choice D is correct.** **(6.NS.A.1)** 30% of the circle: $0.30 \times 360^\circ = 108^\circ$.
- 11) **Choice D is correct.** **(6.EE.A.3)** “The difference of 10 and 2” is $(10 - 2)$. “The product of f and” that difference is $f(10 - 2)$.
- 12) **Choice D is correct.** **(6.EE.A.3)** Substitute: $3(2 + 3) - 2 = 3(5) - 2 = 15 - 2 = 13$.
- 13) **Choice D is correct.** **(6.EE.B.6)** “Twice as much” means multiply by 2.
- 14) **Choice B is correct.** **(6.EE.B.8)** $x < 7$ excludes 7 (open circle) and includes all numbers less than 7 (arrow points left).
- 15) **Choice C is correct.** **(6.EE.C.9)** If 8 gallons cover 160 miles, then 320 miles (twice as far) requires $2 \times 8 = 16$ gallons.
- 16) **Choice D is correct.** **(6.G.A.1)** $A = \frac{1}{2} \times 30 \times 4 = 60 \text{ m}^2$.
- 17) **Choice B is correct.** **(6.SP.A.2)** Bimodal means the distribution has two distinct modes (peaks). A single peak is unimodal; symmetric peaks form a bimodal distribution.
- 18) **Choice A is correct.** **(6.RP.A.3)** Simplify each ratio: Student A has $4 : 6 = 2 : 3$, Student B has $10 : 15 = 2 : 3$, and Student C has $8 : 10 = 4 : 5$. Only A and B match.
- 19) **Choice D is correct.** **(6.RP.A.3)** The ratio is apples to oranges at 2:5. For every 2 apples, there are 5 oranges. When apples = 8, the multiplier is $8 \div 2 = 4$. So oranges = $5 \times 4 = 20$.
- 20) **The correct answer is Both** $|-13| = 13$ and $|13| = 13$ equal 13.. **(6.SP.B.4)** A: $|-13| = 13 \checkmark$. C: $|13| = 13 \checkmark$. B: opposite of 13 is -13 . D: $-|13| = -(13) = -13$. E: $|-13| + |13| = 13 + 13 = 26$. So only A and C equal 13.
- 21) **Choice A is correct.** **(6.RP.A.3)** $\frac{1}{5} = 0.2 = 20\%$. All three representations equal the same value.
- 22) **Choice A is correct.** **(6.RP.A.3)** 60% of $\$35 = 0.60 \times 35 = \21 . Clearance price is $\$35 - \$21 = \$14$.
- 23) **Choice D is correct.** **(6.NS.B.4)** This is an LCM problem. Multiples of 8: 8, 16, 24, ... Multiples of 12: 12, 24, ... Both buses are at the station together at 24 minutes.
- 24) **Choice C is correct.** **(6.G.A.1)** Decompose the shape. Rectangle: width $9 - 1 = 8$ and height $4 - 1 = 3$, area = $8 \times 3 = 24$. Triangle: base $9 - 1 = 8$ and height $8 - 4 = 4$, area = $\frac{1}{2} \times 8 \times 4 = 16$. Total area = $24 + 16 = 40$ square units.
- 25) **Choice A is correct.** **(6.NS.C.8)** Reflection over the x -axis negates the y -coordinate: $R(2, 3) \rightarrow R'(2, -3)$.
- 26) **Choice D is correct.** **(6.RP.A.3)** The bar centered at 2 pencils has a height of 4, meaning 4 students carry 2 pencils.



Hi, Hero!

◇ Once there was a Grade 6 student who took 7 practice tests. At first, the math was tricky. But this student kept showing up, kept trying, and kept learning. By the end, the student became a math hero. That hero is you! ◇

★ **Storytellers know:** every story has a hard middle. The hard middle is where heroes grow. You lived your hard middle. Your story ends with confidence! ★

Your Hero Toolkit

- **Brave Heart:** You try hard problems.
- **Sharp Mind:** You think carefully before you act.
- **Steady Hand:** You write neatly and check.
- **Kind Spirit:** You are patient with yourself.

Storyteller tip: on test day, remember the hero you became. The chapters before today made you stronger. Now write your best chapter!

If you want to share something or ask a question, please email me at jay@testinar.com.

Jay Daie

Your Math Storyteller

MASTER TODAY. SUCCEED TOMORROW.

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 comprehensive assessments.

With 7 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 concepts aligned with standards through meaningful practice.



Test Confidence

Become familiar 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

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.



7 FULL-LENGTH
PRINTED TESTS



STANDARDS-
ALIGNED PRACTICE



DETAILED ANSWER
KEYS & EXPLANATIONS