Massachusetts MCAS GRADE 6 MATH PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

5 PRINTED TESTS

- Full-Length Practice Tests
- Realistic Questions
- Answer Key & Explanations

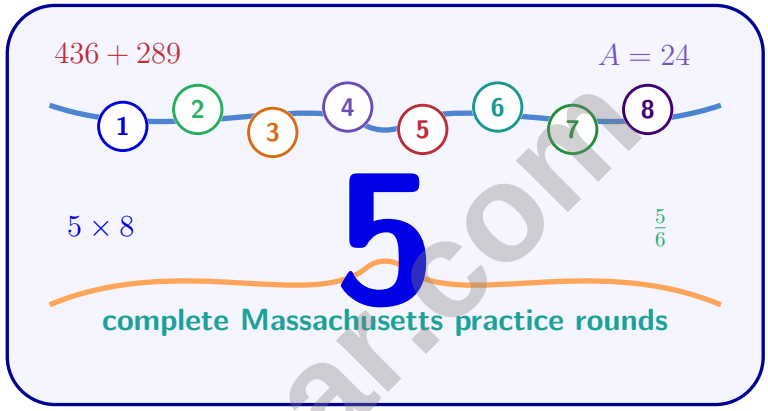
+ 2 ONLINE TESTS

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

PREPARE • PRACTICE • SUCCEED

5 Massachusetts MCAS Grade 6 Math Practice Tests

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



Five 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

Welcome, Massachusetts Math Explorer!

Eight focused rounds using Bay State math accuracy

This book gives you five 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.

How to Use This Book

A five-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 1–2	Foundation rounds for ratios, rational numbers, operations, and careful reading.
Tests 3–4	Skill-building rounds with expressions, equations, geometry, data, and problem models.
Test 5	Final stamina round for mixed review, neat work, and flexible strategy choices.
Answer Pages	Compact keys and explanations that show why each answer works.

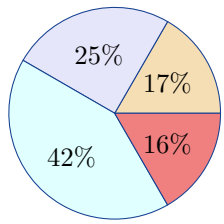
The tests are mixed on purpose. Bay state math accuracy means recognizing the skill even when the next question changes topic, changes format, or asks for an explanation.

Table of Contents

1) Four vertices are at $(3, 1)$, $(8, 1)$, $(8, 3)$, and $(3, 3)$. What type of quadrilateral is this?

☐ A. Rectangle
☐ B. Trapezoid
☐ C. Triangle
☐ D. Pentagon

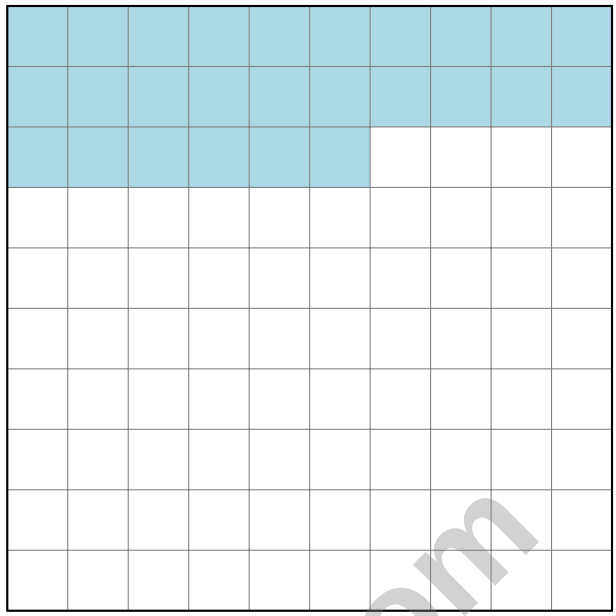
2)



A circle graph displays 500 survey responses. What is the central angle for the 42% section?

☐ A. 151.2°
☐ B. 144°
☐ C. 162°
☐ D. 168°

3)



What percent of the grid is shaded?

☐ A. 26%
☐ B. 30%
☐ C. 74%
☐ D. 42%

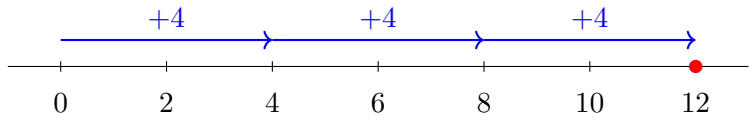
4) A bike's price decreases from $250 to $200. What is the percent decrease?

☐ A. 15%
☐ B. 50%
☐ C. 25%
☐ D. 20%

5) From the table above, what percent of the budget is food?

☐ A. 15%
☐ B. 20%
☐ C. 25%
☐ D. 30%

6)



The number line shows three equal jumps from 0 that land on 12. Which multiplication does this represent?

☐ A. 3×4
☐ B. 4×4
☐ C. 3×3
☐ D. $4 + 3$

7) A farmer has chickens and ducks in a part-to-part ratio of 6 : 4. If the farmer has 18 chickens, how many ducks does he have?

☐ A. 27 ducks
☐ B. 24 ducks
☐ C. 6 ducks
☐ D. 12 ducks

8)

Miles	50	100	150
Hours	1	2	3

Which rate does this table represent?

☐ A. 30 miles per hour
☐ B. 50 miles per hour
☐ C. 100 miles per hour
☐ D. 150 miles per hour

9) An appliance store has two refrigerators on sale. Model A costs $480 for a 20-cubic-foot unit. Model B costs $600 for a 30-cubic-foot unit. Which has the better price per cubic foot?

☐ A. Model A at $24/cu ft
☐ B. Model A at $32/cu ft
☐ C. Model B at $20/cu ft
☐ D. Model B at $21/cu ft

1) A gift box is 4 in long, $3\frac{1}{2}$ in wide, and 2 in tall. What is its volume?

☐ A. 9.5 in^3
☐ B. 14 in^3
☐ C. 24 in^3
☐ D. 28 in^3

2) Error Analysis: A student claims, "The question 'How old is my parent?' is statistical because I need to ask my parent to find the answer."
What is the error in this reasoning?

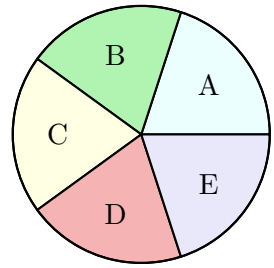
☐ A. Parents don't like to share their age.
☐ B. Statistical questions are always asked in school.
☐ C. Your parent will not give an accurate answer.
☐ D. Asking someone a question does not make it statistical.

3) A dataset's box plot is perfectly symmetric (whiskers are equal length, and the median is exactly between Q_1 and Q_3). Which statement must be true?

☐ A. The distribution is symmetric around the median.
☐ B. The data has no outliers.
☐ C. The mean equals the median.
☐ D. All data values are equally spaced.

4) A dot plot shows: $\{5, 8, 12, 15, 18, 22, 28\}$. Identify the shape.

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



5) A spinner has 5 equal sections labeled A, B, C, D, and E. What is the probability of spinning A?

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

6) A coach records sprint times (in seconds) for 10 runners, creating this stem-and-leaf plot:

Stem	Leaf
11	2, 4
12	1, 3, 5, 7, 9
13	0, 2, 8

How many runners had times between 12.1 and 12.9 seconds?

☐ A. 3
☐ B. 4
☐ C. 5
☐ D. 6

7) A hot dog costs \$5 each. If you buy x hot dogs, the cost is $5x$ dollars. What does the coefficient 5 represent?

☐ A. The number of hot dogs
☐ B. The change amount
☐ C. The total cost
☐ D. The cost per hot dog

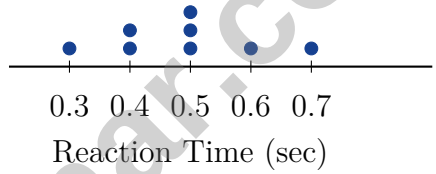
1) A chemistry lab recorded 520 observations. The circle graph shows $\frac{5}{26}$ were anomalies. How many observations were anomalies?

☐ A. 80
☐ B. 90
☐ C. 100
☐ D. 110

2) Find the median of $2, 5, 8, 11, 14, 17$.

☐ A. 9.5
☐ B. 8
☐ C. 11
☐ D. 10

3) A dot plot shows reaction times (in seconds) for a reaction test: $0.3, 0.4, 0.4, 0.5, 0.5, 0.5, 0.6, 0.7$. What is the mode of this data?



☐ A. 0.4 seconds
☐ B. 0.7 seconds
☐ C. 0.6 seconds
☐ D. 0.5 seconds

4) If IQR $= 24$ and $Q_3 = 56$, what is Q_1?

☐ A. 20
☐ B. 80
☐ C. 56
☐ D. 32

5) A histogram of test scores is skewed right. Which is most likely true?

☐ A. The mean is much less than the median.
☐ B. The mean equals the median.
☐ C. The mean is much greater than the median.
☐ D. The mode equals the mean.

6) A school has s students. It also has $s + 25$ staff members. If the school has 600 students, how many staff members does it have?

7) A spinner is divided into 4 equal sections colored red, blue, green, and yellow. What is the probability of spinning red or blue?

☐ A. 0.25
☐ B. 0.33
☐ C. 0.5
☐ D. 0.75

8) A store records daily sales (in hundreds of dollars):

Stem	Leaf
8	2, 5, 7
9	1, 3, 4, 6, 8
10	2, 5, 7

How many days had sales of at least \$900 (stem ≥ 9)?

☐ A. 3
☐ B. 5
☐ C. 11
☐ D. 8

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.

Massachusetts Practice Test Answers and Explanations

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

Practice Test 1 Answers and Explanations

1) **Choice A is correct.** 6.G.A.3 All angles are right angles and opposite sides are equal. This is a rectangle.
2) **Choice A is correct.** 6.NS.A.1 42% of 360° is $0.42 \times 360° = 151.2°$.
3) **Choice A is correct.** 6.RP.A.3 Counting the shaded squares: 18 in the upper region + 8 in the right region = 26 squares out of 100. So 26%.
4) **Choice D is correct.** 6.RP.A.3 Decrease is \$250 − \$200 = \$50. Percent decrease is $\frac{50}{250} = 0.20 = 20\%$.
5) **Choice B is correct.** 6.EE.C.9 Food: $\frac{\$400}{\$2000} = 0.20 = 20\%$.
6) **Choice A is correct.** 6.NS.B.3 The diagram shows 3 groups (jumps) of size 4 added together: $4 + 4 + 4 = 12$, which is the same as $3 \times 4 = 12$.
7) **Choice D is correct.** 6.RP.A.3 The 6 chicken parts represent 18 chickens, so one part is $18 \div 6 = 3$. Ducks are 4 parts, and $4 \times 3 = 12$ ducks.
8) **Choice B is correct.** 6.RP.A.2 Divide miles by hours: $50 \div 1 = 50$ miles per hour.
9) **Choice C is correct.** 6.NS.A.1 Model A costs $480 \div 20 = \$24$ per cubic foot. Model B costs $600 \div 30 = \$20$ per cubic foot, so Model B has the better price per cubic foot.
10) **Choice D is correct.** 6.RP.A.3 The unit rate is 15 photos per day. For 5 days: $15 \times 5 = 75$ photos. Verify: $45 \div 3 = 15$ photos/day confirms the constant rate.
11) **Choice A is correct.** 6.RP.A.3 On a graph with gigabytes on the x-axis and cost on the y-axis, the point $(1, 3)$ means 1 gigabyte (x-value) costs \$3 dollars (y-value).
12) **Choice A is correct.** 6.RP.A.3 6 : 9 simplifies by dividing both by 3: $6 \div 3 = 2$ and $9 \div 3 = 3$, giving 2 : 3.
13) **Choice A is correct.** 6.RP.A.2 Divide: $2500 \div 1000 = 2.5$ kg. The student's error of multiplying would give an absurdly large number.
14) **Choice B is correct.** 6.SP.B.4 Tax: 8% of \$64 = $0.08 \times 64 = \$5.12$. Total: \$64 + \$5.12 = \$69.12.
15) **Choice D is correct.** 6.EE.C.9 For months 1, 2, 3: cost/months $= 40/1 = 80/2 = 120/3 = 40$. The constant ratio (ignoring the 0,0 point) shows proportionality. The equation is $c = 40m$.
16) **Choice A is correct.** 6.RP.A.3 Use the scale: 2 cm × 5 km/cm = 10 km.
17) **The correct answer is** 65. 6.SP.B.4 $Q_3 = Q_1 + \text{IQR} = 40 + 25 = 65$.
18) **Choice C is correct.** 6.NS.A.1 $\frac{11}{12} \times 3 = \frac{33}{12} = \frac{11}{4} = 2\frac{3}{4}$.
19) **The correct answer is A statistical question anticipates variability and is answered by collecting data..** 6.SP.A.3 Options B and C are correct: statistical questions expect varied answers and require data collection. Option A is wrong (statistical questions do NOT have single answers). Option D is irrelevant (statistical questions can be about unfamiliar topics). Option E partially overlaps with B and C but is less precise.
20) **Choice A is correct.** 6.NS.B.2 3,675 ÷ 25 = 147. Each project receives 147 nails.
21) **Choice A is correct.** 6.NS.B.3 Divide: $2.4 \div 4 = 0.6$ meters. Each piece is 0.6 meters long.
22) **Choice D is correct.** 6.NS.B.4 A, B, and C all peel out different-but-valid common factors (8, 4, 2) yet land on $40 + 24$ every time—that is flexibility the distributive property gives you.
23) **The correct answer is** 5. 6.SP.B.5 Subtract the ranges: $15 - 10 = 5$.
24) **Choice B is correct.** 6.NS.C.5 Starting at floor 0: up 6 brings us to floor 6. Down 10 from floor 6 brings us to floor $6 - 10 = -4$ (four floors below ground level).
25) **Choice C is correct.** 6.SP.B.4 Compare absolute values: $|-5| = 5$ and $|3| = 3$. Since $5 > 3$, the number -5 has the greater absolute value.

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.

Jay Daie

Your Math Gardener

PRACTICE MORE.
ACHIEVE MORE.

This book provides **5 full-length Math practice tests** designed to help Grade 6 students strengthen their skills, build confidence, and excel on standardized assessments.

Each test is carefully crafted to reflect the latest standards and covers a wide range of math topics with realistic questions and detailed answer explanations.

BUILD CONFIDENCE
Practice builds familiarity and reduces test anxiety.

IMPROVE ACCURACY
Sharpen skills and avoid common mistakes.

ACHIEVE SUCCESS
Consistent practice leads to greater results.

WHAT'S INSIDE?

5 Full-Length Practice Tests
Realistic tests designed to mirror actual exam conditions.

Realistic Questions
A variety of question types to strengthen problem-solving skills.

Answer Keys & Explanations
Detailed solutions to help students learn and improve.

Performance Tracking
Track progress and identify areas that need improvement.

Comprehensive Coverage
All essential topics aligned with Grade 6 math standards.

VISIT TESTINAR.COM/MATH6
FOR MORE PRACTICE TESTS AND LEARNING RESOURCES

PRACTICE REGULARLY | STAY FOCUSED | SOLVE CONFIDENTLY | SUCCEED BRIGHTLY

PREPARE TODAY. SUCCEED TOMORROW!