

4

COMPLETE

Massachusetts

MCAS

Grade

MATH

5

PRACTICE TESTS

Standards-Based Test Prep with
Mixed Review, Word Problems,
and **Full Answer Key**



- ✓ **4 COMPLETE PRACTICE TESTS**
Built to reflect the test format and rigor



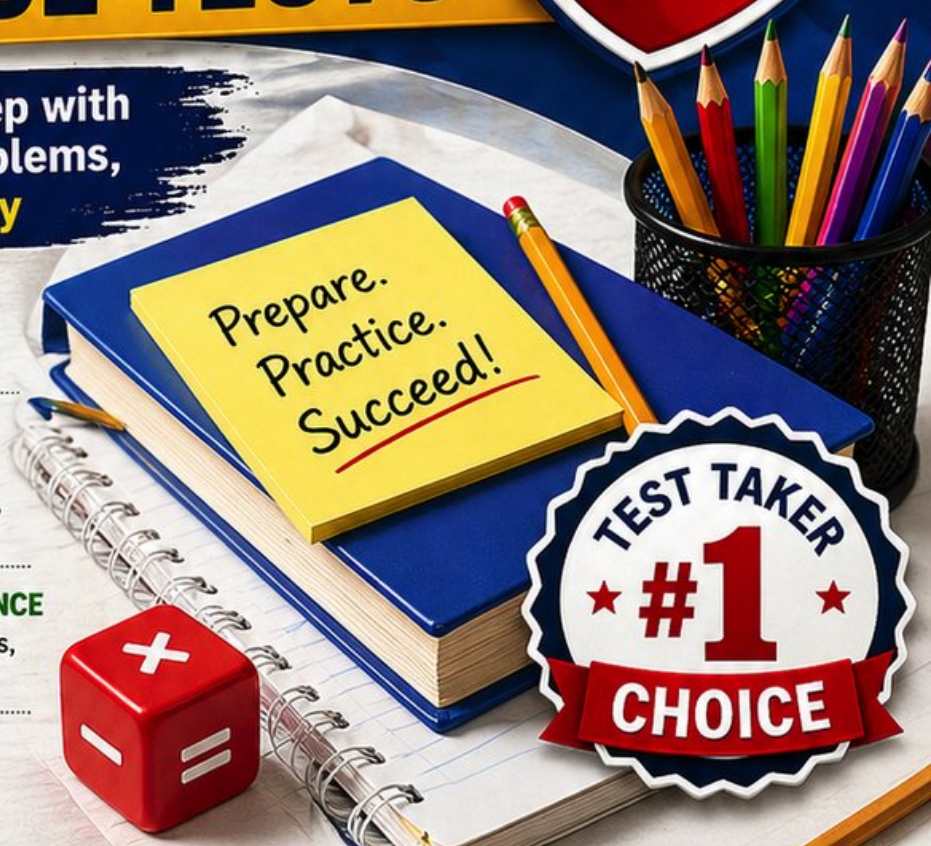
- ✓ **COVERS ALL ESSENTIAL TOPICS**
Numbers & Operations, Fractions, Decimals, Geometry, Measurement, Data & Probability, and more



- ✓ **STRENGTHEN SKILLS & CONFIDENCE**
Mixed review, challenging questions, and strategic practice



- ✓ **FULL ANSWER KEY INCLUDED**
Detailed explanations for every question



BUILD STRONG MATH SKILLS & TEST READINESS



IMPROVE ACCURACY, SPEED, AND PROBLEM SOLVING



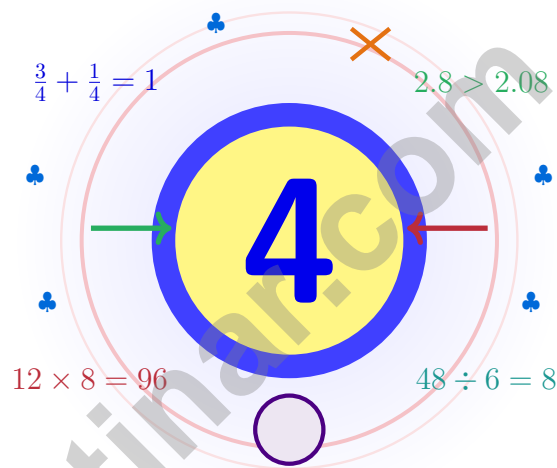
PERFECT FOR CLASSROOM, HOME, OR SELF-STUDY



ALIGNED TO MASSACHUSETTS STATE STANDARDS (MCAS)

4 Massachusetts MCAS Grade 5 Math Practice Tests

A four-test journey for Massachusetts Grade 5 thinkers



Four full tests, a smart quick review, mission-style strategy pages, and student-tested support that help Grade 5 mathematicians from The Bay State build calm, careful, confident habits.

Jay Daie and Reza Nazari



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Massachusetts, Your Four-Test Math Journey Begins

Four steady test-day rehearsals, woven into one strong routine

For Every Curious Mind in Massachusetts

This book gives you four chances to read closely, solve carefully, and level up your math thinking. Math is a lot like the Freedom Trail – one careful step leads to the next, and every stop adds something to the story.

You do not need to feel perfect before you begin. You just need to stay curious, use strategies, and learn from every correction. That is how confident mathematicians are built.

Watch

Watch what the question really wants from you.

Try

Try a strategy that fits the size of the numbers.

Polish

Polish your steps, units, and the final answer.

A strong mission habit for Massachusetts: keep your work neat, estimate when it helps, label units carefully, and never let one hard question decide your mood for the whole page.

Four Tests, Four Lessons

A four-step routine that turns practice into real improvement

Step 1: Open

Open the warm-up review and use it.

Wake up the big Grade 5 ideas before the test starts so your brain is already warmed up.

Step 2: Test

Take the test with steady focus.

Find a calm corner, settle in, and aim for careful, honest choices before quick ones.

Step 3: Reflect

Notice what was sharp and what was shaky.

Circle missed questions, sort out what went sideways, and notice which skills are calling for attention.

Step 4: Sharpen

Practice the shaky skills before the next round.

Read the explanation, fix the work, and carry that lesson into the very next test.

A Four-Week Massachusetts Mission Map

Week	Mission Focus
Week 1	Take Test 1 like a first stop on a long trail. Note what you see.
Week 2	Take Test 2 and tighten word problems and step-showing.
Week 3	Take Test 3 to polish fractions, decimals, and conversions.
Week 4	Take Test 4 with calm, careful, confident work.



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What These Four Tests Build

What these four practice tests help Grade 5 students build

These three practice tests prepare Grade 5 students in the Bay State for the Massachusetts MCAS with the steady curiosity of a young historian. The goal is bigger than collecting right answers. Students are practicing how to read carefully, choose a strategy, solve step by step, and explain their reasoning clearly – the same way mathematicians do every day.

Selected-Response Questions

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

Constructed-Response Questions

Students show steps, explain a method, or support an answer with clear math. Strong reasoning matters because it shows how the answer was found.

Grade 5 Ideas That Show Up Again and Again

- place value, comparing numbers, and rounding
- multi-digit addition, subtraction, multiplication, and division
- fractions, mixed numbers, and decimals
- perimeter, area, volume, and measurement conversions
- tables, line plots, patterns, and coordinate points
- geometry and multi-step real-world problem solving

What strong MCAS-style work looks like: accurate math, readable steps, the right labels or units, and a final answer that really matches the question being asked.



Table of Contents

★ Practice Test 1	_____	18
★ Practice Test 2	_____	33
★ Practice Test 3	_____	47
★ Practice Test 4	_____	62
Practice Test Answer Keys	_____	76
Practice Test Answers and Explanations	_____	79

Grade 5 Mathematics Reference Materials

PERIMETER AND AREA

Perimeter of Rectangle $P = 2l + 2w$ or $P = 2(l + w)$

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Volume of Rectangular Prism $V = l \times w \times h$

LENGTH

Customary

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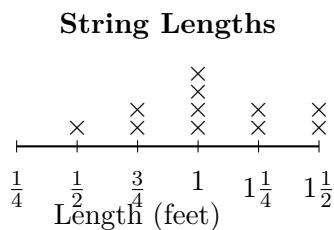
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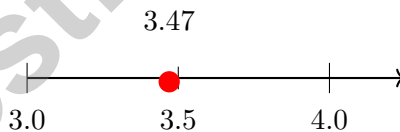


1) The line plot displays string lengths (in feet) from a craft project:



What is the total length of the strings that are 1 foot or $1\frac{1}{4}$ feet long?

- | | |
|---|---|
| <p><input type="checkbox"/> A. $5\frac{1}{2}$ feet</p> <p><input type="checkbox"/> B. $8\frac{1}{2}$ feet</p> | <p><input type="checkbox"/> C. 7 feet</p> <p><input type="checkbox"/> D. $6\frac{1}{2}$ feet</p> |
|---|---|
- 2) A shape is a closed polygon with 5 straight sides and 5 vertices. Which statement correctly describes the shape?
- | | |
|--|--|
| <p><input type="checkbox"/> A. It is a pentagon.</p> <p><input type="checkbox"/> B. It is a quadrilateral.</p> | <p><input type="checkbox"/> C. It must be a rectangle.</p> <p><input type="checkbox"/> D. It has curved sides.</p> |
|--|--|
- 3) A number line shows the position of 3.47 between 3 and 4. What is 3.47 rounded to the nearest whole number?



- | | |
|---|---|
| <p><input type="checkbox"/> A. 4.0</p> <p><input type="checkbox"/> B. 3.5</p> | <p><input type="checkbox"/> C. 3.7</p> <p><input type="checkbox"/> D. 3</p> |
|---|---|
- 4) Find: 3.6×10^4 .

Record your answer in the space provided.



5) Complete the long-division layout for $1,232 \div 16$:

Step	Work
1	$16 \times 7 = 112$; $123 - 112 = 11$
2	Bring down 2: 112
3	$16 \times 7 = 112$; $112 - 112 = 0$
Quotient	?

A. 77

C. 73

B. 75

D. 71

6) A solid figure has volume 30 cubic units. If it is 5 cubes long and 3 cubes wide, how tall is it?

Record your answer in the space provided.

7) Subtract: $\frac{8}{10} - \frac{1}{5}$

A. $\frac{7}{10}$

C. $\frac{6}{15}$

B. $\frac{6}{10} = \frac{3}{5}$

D. $\frac{1}{5}$

8) Carol saw an expression on a sign: $(250 + 75) \times 2$. She reasoned the result must be more than $250 + 75$ but less than what?

A. Less than $250 + 75$

C. Less than $\frac{1}{2} \times (250 + 75)$

B. Less than $3 \times (250 + 75)$

D. Less than $(250 + 75) \div 2$



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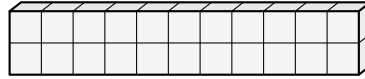
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- 1) A rectangular prism has dimensions 11 units by 1 unit by 2 units. How many unit cubes does it contain?



- A. 22 unit cubes C. 14 unit cubes
 B. 11 unit cubes D. 24 unit cubes

- 2) Evaluate the expression: $((20 - 5) \div 3) + 4$

Record your answer in the space provided.

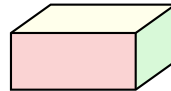
- 3) Which choice correctly distinguishes between area and volume?

Shape A



flat rectangle

Shape B



solid box

- A. Area is flat; volume fills space C. Volume is 2D; area is 3D
 B. Area is larger than volume D. Area and volume are the same

- 4) A metric conversion: 1.5 meters = ____ centimeters. (There are 100 cm in 1 m, so multiply by 100.) Which is correct?

- A. $1.5 \times 10 = 15$ cm C. $1.5 \times 1000 = 1500$ cm
 B. $1.5 \div 100 = 0.015$ cm D. $1.5 \times 100 = 150$ cm



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1) A charity event sells raffle tickets. There are 34 books of tickets with 25 tickets in each book. How many tickets are there in total?

A. 850

C. 870

B. 860

D. 880

2) Estimate: $6 - 3\frac{9}{10}$.

A. 1

C. 3

B. 2

D. 4

3) Cara saves \$4 a week for 6 weeks, then spends \$9. Which expression shows her savings now?

A. $4 + 6 - 9$

C. $4 \times (6 - 9)$

B. $(4 + 6) \times 9$

D. $4 \times 6 - 9$

4) In the number 346,782, what digit is in the ten thousands place?

Record your answer in the space provided.

5) A rectangular aquarium has dimensions 20 inches, 12 inches, and 15 inches. What is the volume?

Aquarium

20 in \times 12 in \times 15 in

A. 2400 in³

C. 3600 in³

B. 3000 in³

D. 4000 in³



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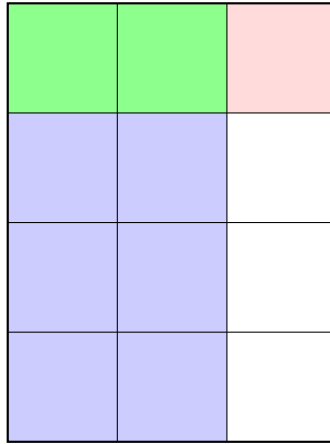
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- 1) A rectangle is split into 3 equal columns and 4 equal rows (12 cells total). $\frac{1}{4}$ of the rows and $\frac{2}{3}$ of the columns are shaded. How many cells are shaded?



blue: $\frac{2}{3}$ of columns
 red: $\frac{1}{4}$ of rows
 green: overlap

- A. 2 cells C. 4 cells
 B. 3 cells D. 6 cells
- 2) Find the LCD of $\frac{2}{9}$ and $\frac{5}{12}$. Which shows the correct pair?
- A. $\frac{8}{36}$ and $\frac{15}{36}$ C. $\frac{8}{36}$ and $\frac{12}{36}$
 B. $\frac{6}{36}$ and $\frac{15}{36}$ D. $\frac{4}{36}$ and $\frac{5}{36}$
- 3) Compare without calculating: 6×20 12×10
- A. > C. =
 B. < D. Cannot tell



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 D is correct.** **(5.MD.B.2)** There are 4 strings that are 1 foot long and 2 strings that are $1\frac{1}{4}$ feet long. The total is $4(1) + 2(1\frac{1}{4}) = 4 + 2\frac{1}{2} = 6\frac{1}{2}$ feet.
- 2) **Choice A is correct.** **(5.G.B.3)** A pentagon is a polygon with 5 straight sides and 5 vertices. A quadrilateral has 4 sides, and a rectangle is a type of quadrilateral.
- 3) **Choice D is correct.** **(5.NBT.A.4)** 3.47 is between 3 and 4, but closer to 3 because the tenths digit 4 is less than 5. It rounds down to 3.
- 4) **The correct answer is 36000.** **(5.NBT.A.2)** Move the decimal point four places right: $3.6 \rightarrow 36,000$.
- 5) **Choice A is correct.** **(5.NBT.B.6)** Quotient is 77 (first digit 7, second digit 7). Check: $16 \times 77 = 1,232$.
- 6) **The correct answer is 2.** **(5.MD.C.3)** $30 \div (5 \times 3) = 30 \div 15 = 2$.
- 7) **Choice B is correct.** **(5.NF.A.2)** $\frac{1}{5} = \frac{2}{10}$. $\frac{8}{10} - \frac{2}{10} = \frac{6}{10} = \frac{3}{5}$.
- 8) **Choice B is correct.** **(5.OA.A.2)** Carol is comparing copies of the same amount, $(250 + 75)$. Two copies are more than one copy, but less than three copies.
- 9) **Choice D is correct.** **(5.NF.A.2)** Common denominator is 12: $\frac{2}{3} = \frac{8}{12}$ and $\frac{1}{4} = \frac{3}{12}$. So $\frac{8}{12} + \frac{3}{12} = \frac{11}{12}$ cup.
- 10) **Choice C is correct.** **(5.NF.A.1)** Add: $2\frac{7}{10} + 3\frac{6}{10} = 5\frac{13}{10} = 6\frac{3}{10}$.
- 11) **Choice D is correct.** **(5.NF.B.5)** Since $\frac{9}{10} < 1$, any positive number multiplied by $\frac{9}{10}$ always becomes smaller.
- 12) **Choice C is correct.** **(5.MD.A.1)** 1 centimeter = 10 millimeters. Multiply: $25 \times 10 = 250$ mm.
- 13) **Choice C is correct.** **(5.MD.C.5)** Choose the operation from the story, then keep the unit with the answer. Multiply: $5 \times 3.25 = 16.25$ liters. This confirms the answer.
- 14) **Choice A is correct.** **(5.G.B.4)** Two equal sides make the triangle isosceles. One right angle makes it a right triangle, so the name is right isosceles triangle.
- 15) **Choice B is correct.** **(5.MD.C.4)** Base area = $21 \times 8 = 168$ in². Height = $504 \div 168 = 3$ inches.
- 16) **Choice A is correct.** **(5.G.A.1)** From (5, 5) to (5, 2), the y-coordinate changes from 5 to 2. The distance is $5 - 2 = 3$ units downward.
- 17) **The correct answer is 0.85.** **(5.NBT.A.2)** Move the decimal point three places left: $850 \rightarrow 0.85$.
- 18) **Choices A, B are correct.** **(5.NBT.A.2)** Multiplying by 10 moves 4.56 one place right to 45.6, and dividing by 10 moves it one place left to 0.456. C keeps the same value, and D moves too far left.
- 19) **Choice D is correct.** **(5.NF.B.5)** $12 \times \frac{1}{4} = 3$ feet. Multiplying by a fraction less than 1 shrinks the quantity.
- 20) **Choice B is correct.** **(5.NBT.B.5)** Round 511 to 500. Then $500 \times 9 = 4,500$.
- 21) **Choice D is correct.** **(5.MD.C.3)** Find each part first: Prism A is $8 \times 2 \times 6 = 96$ cubic centimeters, and Prism B is $3 \times 3 \times 2 = 18$ cubic centimeters. Because the parts do not overlap, add them: $96 + 18 = 114$ cubic centimeters.
- 22) **Choice D is correct.** **(5.NF.A.1)** LCM(5,2) = 10. $\frac{4}{5} = \frac{8}{10}$ and $\frac{1}{2} = \frac{5}{10}$. $\frac{8}{10} + \frac{5}{10} = \frac{13}{10} = 1\frac{3}{10}$.
- 23) **Choice D is correct.** **(5.MD.C.5)** The base layer has $6 \times 5 = 30$ square units. Divide the volume by the base area: $150 \div 30 = 5$, so the height is 5 meters.
- 24) **The correct answer is about 8.** **(5.NF.A.2)** $5\frac{1}{6} \approx 5$ and $2\frac{7}{8} \approx 3$, so the sum is about 8. Accept equivalent estimates that are clearly close to 8.
- 25) **Choice B is correct.** **(5.G.A.2)** We need a number that becomes 12 after adding 5. Since $7 + 5 = 12$, the missing x-value is 7.
- 26) **The correct answer is $3 \times (9 + 12)$.** **(5.OA.A.2)** The words "the sum of 9 and 12" mean $9 + 12$ should be grouped before multiplying by 3.
- 27) **Choice B is correct.** **(5.G.B.4)** Figure B is described as having exactly one pair of parallel sides, so it is not a parallelogram. Figures A and D are in the parallelogram family because they have two pairs of parallel sides.
- 28) **Choice C is correct.** **(5.NF.A.2)** The denominator 10 is multiplied by 3 to make 30. Multiply the numerator by 3: $\frac{9}{10} = \frac{27}{30}$.
- 29) **Choice D is correct.** **(5.NF.B.6)** Each liter fills 2 half-liter bottles. So $3 \div \frac{1}{2} = 3 \times 2 = 6$ bottles.



Champion in Training!

◇ What a season! You've completed 4 full practice tests, and that's the kind of training that builds real champions. Every test was a workout, and your math muscles are stronger today than they were before. Your stamina, focus, and accuracy have all leveled up. ◇

★ **Here's what every great coach knows:** the team that practices the most plays the best. You've put in the practice. You know the plays. You've handled the drills. Now it's almost game day, and you are ready. ★

Your Training Camp Stats

- **Math Stamina:** HIGH! You can stay focused for a full test.
- **Strategy Playbook:** LOADED! You have multiple ways to attack a problem.
- **Mistake Recovery:** STRONG! You can pick yourself up and keep going.
- **Game Day Mindset:** READY! You know how to stay calm under pressure.

Pre-game tip: the night before test day, get a great sleep. Eat a good breakfast. Bring a sharp pencil and a positive attitude. And remember—you have already trained for this. Trust your training.

If you want to share a proud moment or ask a question, please email me at jay@testinar.com. I'd love to hear from you!

Jay Daie

Your Math Coaches (Game On!)

4 COMPLETE TESTS. CONFIDENCE. SUCCESS.



Give your child the practice and confidence they need to excel in **Grade 5 Math**. This book includes **4 full-length** practice tests designed to build skills, improve test readiness, and help students reach their full potential.

WHAT'S INSIDE:



4 COMPLETE PRACTICE TESTS

Full-length tests that reflect real test format and rigor.



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MIXED REVIEW & WORD PROBLEMS

Build problem-solving skills with mixed review questions and real-world word problems.



DETAILED ANSWER KEY

Step-by-step explanations for every question to help students learn and improve.



BUILD CONFIDENCE & IMPROVE SCORES

Practice consistently, reduce test anxiety, and achieve your best score!



PRACTICE SMART. LEARN MORE. ACHIEVE YOUR BEST.



Strengthen
Math Skills



Improve
Accuracy
& Speed



Master
Essential
Concepts



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