

10 Maryland MCAP

GRADE
7
MATH

PRACTICE TESTS

Standards Aligned Problem
Solving For Comprehensive
Assessment Programs



10 PRINTED TESTS

Realistic practice to build
confidence and mastery



2 ONLINE TESTS

Extra practice for
continued success



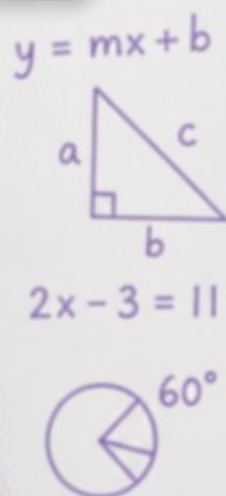
DETAILED ANSWER EXPLANATIONS

Learn with step-by-step
solutions



FOCUSED & EFFECTIVE

Target key math skills
with purposeful practice



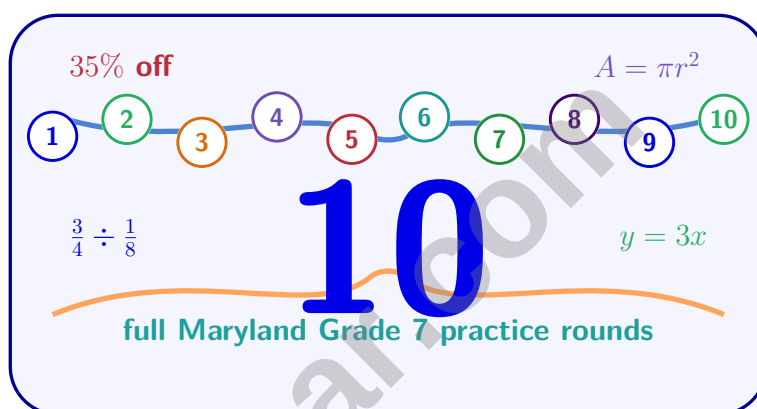
10 PRINTED TESTS
+2 ONLINE TESTS

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

PRACTICE ★ REVIEW ★ SUCCEED

10 Maryland MCAP Grade 7 Math Practice Tests

Maryland Grade 7 MCAP Practice for bay-smart readiness in rates, proportional models, algebra, measurement, statistics, and chance



Ten complete 40-question Grade 7 MCAP practice rounds with proportional relationships, percents, rational numbers, expressions, equations, geometry, statistics, probability, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari



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Welcome, Maryland Grade 7 Problem Solver!

Ten focused rounds for sharper Maryland MCAP math thinking

This book gives you ten full Grade 7 MCAP math practice tests. Each round is built to help you notice structure, compare quantities, use proportional reasoning, handle rational numbers, and explain your thinking with care.

Your Maryland Practice Promise

I will read every question carefully, choose a strategy that fits, write enough work to prove my answer, and use corrections as training for the next test.

Read

Model

Verify

How to Use This Book

A ten-session plan for confident Grade 7 review

1. **Warm up with the review pages.** Notice the big ideas before starting the tests.
2. **Complete one test at a time.** Treat each 40-question round like a real practice session.
3. **Show your reasoning.** Jot a proportion, equation, diagram, number line, or quick estimate when it helps.
4. **Correct actively.** Rework missed items before reading the explanation.
5. **Choose the next target.** After each test, name one skill and one habit to improve.

Maryland review rhythm: Work a test, score it, study your misses, then come back ready for the next round with one clear goal.



What Is Inside?

Ten Maryland MCAP tests, 400 questions, and a complete review path

Part	What You Will Practice
Tests 1–3	Proportional relationships, unit rates, percents, rational-number operations, and careful reading.
Tests 4–6	Expressions, equations, inequalities, scale drawings, geometry, and multi-step problem solving.
Tests 7–9	Statistics, probability, mixed review, stamina, and choosing efficient strategies.
Test 10	A final Maryland round to show growth across the whole book.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Grade 7 success means recognizing which idea is being tested even when the next question changes format.



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1) A person buys an item for \$45 and sells it for 20% more. What is the selling price?

☐ A. \$36

☐ C. \$65

☐ B. \$54

☐ D. \$90

2) A store has 800 items in inventory. During a sale, 35% of the items are sold. How many items remain in inventory?

☐ A. 280 items

☐ C. 520 items

☐ B. 480 items

☐ D. 700 items

3) A circular clock face has circumference 88 cm. Using $\pi \approx \frac{22}{7}$, what is the radius of the clock?



4) A student was asked to rewrite $0.3p + 0.3q$ in factored form. They wrote $0.3(p + q)$. Is their answer correct, and why?

☐ A. Yes; 0.3 is a common factor of both terms

☐ C. No; you cannot factor out decimals

☐ B. Yes; adding decimals always works this way

☐ D. No; 0.3 is not the GCF

5) A histogram shows the ages of people visiting a museum. The x-axis shows age intervals (10–20, 20–30, 30–40, etc.), and the heights of the bars show the number of people. What does the height of each bar represent?

☐ A. The width of each age interval

☐ C. The average age in each interval

☐ B. The frequency (count) in each age interval

☐ D. The age of the oldest person



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- 6) A bag contains marbles of different colors. If there are 28 marbles and $P(\text{white}) = \frac{1}{4}$, which of these correctly describes the setup?
- ☐ A. 4 white marbles and 24 others. ☐ C. 1 white marble and 27 others.
☐ B. 7 white marbles and 21 others. ☐ D. 14 white marbles and 14 others.
- 7) Two spinners are spun. The first spinner has sections labeled 1, 2, and 3. The second spinner has sections labeled A and B. How many outcomes are in the sample space?
- ☐ A. 5 ☐ C. 8
☐ B. 6 ☐ D. 9
- 8) A fair die is rolled and a fair coin is flipped. What is the probability of rolling a 5 AND flipping heads?
- ☐ A. $\frac{1}{12}$ ☐ C. $\frac{1}{8}$
☐ B. $\frac{1}{6}$ ☐ D. $\frac{5}{12}$
- 9) A bag contains only red and blue marbles. A marble is drawn 150 times with replacement. Red appears 84 times. Based on this experiment, which is the best estimate of the probability of drawing a red marble on the next draw?
- ☐ A. 0.44 ☐ C. 0.56
☐ B. 0.50 ☐ D. 0.84



10) The stem-and-leaf plot below shows test scores.

Stem	Leaves
4	2, 6, 8
5	1, 3, 7, 9
6	0, 5, 5, 8
7	2, 4, 6

What is the minimum score?

☐ A. 42

☐ C. 40

☐ B. 41

☐ D. 48

11) An athlete's predicted marathon time was 3.5 hours, but the actual time was 3.2 hours. What is the percent error?

☐ A. 9.4%

☐ C. 8.6%

☐ B. 10.9%

☐ D. 91.4%

12) Expand and simplify: $5(2n - 3) - 4$

☐ A. $10n - 19$

☐ C. $10n - 7$

☐ B. $10n - 11$

☐ D. $7n - 3$

13) A young entrepreneur receives a business loan of \$8500 at 8.5% simple interest. If the loan is for 18 months, what is the total amount that must be repaid?

☐ A. \$10725

☐ C. \$10187.50

☐ B. \$9722.50

☐ D. \$9587.50



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- 1) Two dot plots show the number of text messages sent during a study session by two groups. Group P: 5, 6, 6, 7, 7, 7, 8, 8, 9 (messages); Group Q: 1, 2, 9, 10, 11, 12 (messages). Which group was more focused (less distracted)?
- ☐ A. Group P (consistent messaging around 7) ☐ C. Both groups sent identical messages
- ☐ B. Group Q (sent very few messages) ☐ D. Group Q was more focused
- 2) When constructing a stem-and-leaf plot, why are the leaves typically arranged in order?
- ☐ A. To make the plot visually appealing ☐ C. Because it is required by mathematical law
- ☐ B. To make it easier to identify median, quartiles, and other statistics ☐ D. To save space in the plot
- 3) A platform is designed as two congruent trapezoids joined at their parallel sides. Each trapezoid has parallel sides of 6 m and 4 m with height 3 m. What is the total platform area?
- ☐ A. 15 m² ☐ C. 45 m²
- ☐ B. 30 m² ☐ D. 60 m²
- 4) Expand: $\frac{1}{5}(10r + 5)$
- ☐ A. $2r + 1$ ☐ C. $2r + 5$
- ☐ B. $10r + 1$ ☐ D. $r + 1$
- 5) Simplify: $4m^2 + 7m + 2m^2 - 3m$
- ☐ A. $6m^2 + 4m$ ☐ C. $11m^2 + 4m$
- ☐ B. $6m^3 + 4m$ ☐ D. $6m^2 - m$

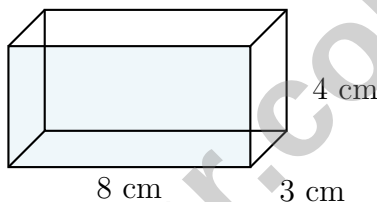


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h_1	$8x$	12
h_2	16	24
	w_1	w_2

6)

An area model has four rectangular sections with areas $8x$, 12 , 16 , and 24 . What is the GCF of all four terms?

☐ A. 2☐ C. 8☐ B. 4☐ D. 12

7)

A rectangular prism has dimensions $8\text{ cm} \times 4\text{ cm} \times 3\text{ cm}$. One student mistakenly calculates the surface area as $8 + 4 + 3 = 15$, then multiplies by 2 to get 30 cm^2 . What is the correct surface area?

☐ A. 30 cm^2 ☐ C. 136 cm^2 ☐ B. 96 cm^2 ☐ D. 192 cm^2

8) A retailer buys items for \$80 and marks them up by 55%. What is the selling price?



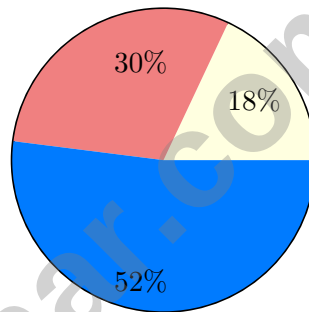
1)

Original price: c After 10% markup: $1.1c$

After 10% discount: ?

The diagram shows sequential changes. What is the final price?

- ☐ A. c (back to original) ☐ C. $1.1c$
☐ B. $0.99c$ ☐ D. $0.9c$



2)

The circle graph shows a fitness center's member activity levels. Yellow is inactive (18%), red is casual (30%), and blue is active (52%). If the fitness center has 1100 members, how many are inactive?

- ☐ A. 99 ☐ C. 330
☐ B. 198 ☐ D. 572

3) Which sampling method is most likely to produce a representative sample for estimating the average test score across all seventh-grade classes in a school?

- ☐ A. Test only the honor students ☐ C. Test the first 30 students who turn in their tests
☐ B. Randomly select 5 students from each seventh-grade class ☐ D. Ask for volunteers to take an extra test



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4)

Outcome	Red	Blue	Green
Probability	0.35	0.25	?

A probability model is shown. Find the probability of Green.

5) Simplify: $\frac{s^{14} \cdot s^3}{s^8}$

☐ A. s^{17}

☐ C. s^9

☐ B. s^{25}

☐ D. s^5

6) A delivery service charges an initial fee of \$8 plus \$3 per package. If the total charge is \$26, which equation represents this, where p is the number of packages?

☐ A. $8p + 3 = 26$

☐ C. $3(p + 8) = 26$

☐ B. $3p + 8 = 26$

☐ D. $8 + 26 = 3p$

7) Which solution strategy is correct for $4x + 6 = 30$?

☐ A. Subtract 6, then divide by 4

☐ C. Multiply by 4, then add 6

☐ B. Divide by 4, then subtract 6

☐ D. Add 6, then divide by 4


Maryland MCAP Grade 7 Practice Test Answer Keys**How to use this section with a Grade 7 student:**

1. check the answer first and circle any item that needs another look
2. retry the problem with fresh work before reading the explanation
3. write one short lesson learned from each missed or guessed item

A strong review routine turns every correction into a sharper plan for the next Maryland MCAP practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** (7.EE.3-7.EE.4) Selling price = $45 \times 1.20 = 54$.
- 2) **Choice C is correct.** (7.NS.1-7.NS.3) Items sold = $0.35 \times 800 = 280$ items. Remaining: $800 - 280 = 520$ items.
- 3) **The correct answer is 14.** (7.G.4-7.G.6) $C = 2\pi r \Rightarrow 88 = 2 \times \frac{22}{7} \times r \Rightarrow 88 = \frac{44}{7}r \Rightarrow r = 88 \times \frac{7}{44} = 14$ cm.
- 4) **Choice A is correct.** (7.EE.1-7.EE.2) $0.3p + 0.3q = 0.3(p + q)$ is correct. The GCF is 0.3; you can factor out decimals just as you factor out whole numbers.
- 5) **Choice B is correct.** (7.SP.1-7.SP.4) In a histogram, the height of each bar represents the frequency (count or number of data points) in that interval.
- 6) **Choice B is correct.** (7.SP.5-7.SP.8) $\frac{1}{4} \times 28 = 7$ white marbles.
- 7) **Choice B is correct.** (7.SP.5-7.SP.8) First spinner: 3 outcomes; second spinner: 2 outcomes. Total: $3 \times 2 = 6$ outcomes.
- 8) **Choice A is correct.** (7.SP.5-7.SP.8) $P(5) \cdot P(\text{heads}) = \frac{1}{6} \cdot \frac{1}{2} = \frac{1}{12}$.
- 9) **Choice C is correct.** (7.SP.6) Experimental probability = $\frac{84}{150} = 0.56$. The relative frequency of drawing red guides our prediction for future draws.
- 10) **Choice A is correct.** (7.SP.1-7.SP.4) The smallest stem is 4 with the smallest leaf 2, giving 42.
- 11) **Choice A is correct.** (7.RP.3) Percent error = $\frac{|3.5 - 3.2|}{3.2} \times 100\% = \frac{0.3}{3.2} \times 100\% \approx 9.4\%$.
- 12) **Choice A is correct.** (7.EE.1-7.EE.2) Expand: $5(2n) - 5(3) - 4 = 10n - 15 - 4 = 10n - 19$.
- 13) **Choice D is correct.** (7.RP.3) STEP 1: Convert months to years: $t = 18 \div 12 = 1.5$ years. STEP 2: $I = 8500 \times 0.085 \times 1.5 = \1087.50 . STEP 3: $A = 8500 + 1087.50 = \$9587.50$.
- 14) **The correct answer is 216.** (7.G.4-7.G.6) $V = l \times w \times h = 9 \times 4 \times 6 = 216 \text{ in}^3$.
- 15) **Choice A is correct.** (7.NS.1-7.NS.3) Moving right 4 units from -7 means adding 4, which is the same as subtracting -4 : $-7 - (-4) = -7 + 4 = -3$.
- 16) **Choice C is correct.** (7.RP.1-7.RP.3) Correct answer: $2 \times 5 = 10$ miles. Student divided ($2 \div 5 = 0.4$) instead of multiplied.
- 17) **Choice D is correct.** (7.RP.3) 70% of 80 is $0.70 \times 80 = 56$ students.
- 18) **The correct answer is A,D.** (7.G.4-7.G.6) Choice A gives the correct formula. Choice D is verified: $3.14 \times 5^2 = 78.5 \text{ cm}^2$. B confuses formula with circumference. C forgets that area scales with the square of the radius. E mistakes semicircle (half) for one-third.
- 19) **Choice D is correct.** (7.RP.3) Markup = $0.80 \times 45 = \$36$. Retail price = $45 + 36 = \$81$.
- 20) **Choice A is correct.** (7.EE.1) Option A has like terms $2a$ and $6a$ that have not been combined. All others are fully simplified with no like terms remaining.
- 21) **Choice A is correct.** (7.EE.1-7.EE.2) The GCF of 4 and 12 is 4. Factor out: $4c - 12d = 4(c - 3d)$.
- 22) **Choice B is correct.** (7.SP.1-7.SP.4) 36% of \$50,000 = $0.36 \times 50,000 = \$18,000$.
- 23) **Choice D is correct.** (7.NS.1b) Both numbers are positive, so add them directly: $7 + 9 = 16$.
- 24) **Choice C is correct.** (7.EE.1-7.EE.2) Difference of 10 and w means 10 minus w : $10 - w$.
- 25) **Choice A is correct.** (7.EE.4b) Subtract 7: $2x \geq -8$. Divide by 2: $x \geq -4$.
- 26) **Choice D is correct.** (7.RP.1-7.RP.3) From unit rate (1, 0.65), at $x = 4$, $y = 4 \times 0.65 = \$2.60$.
- 27) **Choice C is correct.** (7.NS.1-7.NS.3) $-75 + 120 = 45$ dollars.
- 28) **Choice B is correct.** (7.NS.2d) Divide $2 \div 7 = 0.285714285714 \dots$. The full repeating block is 285714, same as $\frac{1}{7}$ but shifted.
- 29) **The correct answer is 20.** (7.G.4-7.G.6) $V = \pi r^2 h \Rightarrow 565.2 = 3.14 \times 9 \times h \Rightarrow 565.2 = 28.26h \Rightarrow h = 20$ feet.
- 30) **Choice C is correct.** (7.NS.1-7.NS.3) $145.50 - 28.75 + 52.25 = 116.75 + 52.25 = 169.00$ dollars.
- 31) **Choice B is correct.** (7.NS.1-7.NS.3) Place the decimal after the first digit: 2.4. Count places moved: 7 places left, so exponent is 7. Proper scientific notation requires $1 \leq a < 10$.



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Hi, Math Hero!

◇ This full-length book gave you ten complete Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. You showed up for Grade 7 practice again and again. That is what real growth looks like: steady effort, honest review, and a willingness to try. ◇

★ **Remember this:** A math hero is not someone who never misses a question. A math hero learns from the miss and comes back stronger. ★

Hero Habits

- **Courage:** You try problems that are not automatic.
- **Honesty:** You review what needs work.
- **Patience:** You let skills grow over time.
- **Pride:** You recognize the effort you gave.

Grade 7 test-day tip: Save one solved problem you are proud of. Looking back at progress helps motivation stay strong.

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

Jay Daie

Your Math Hero Guide

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes 10 full-length Math practice tests and 2 extra online tests to help Grade 7 students build confidence, strengthen skills, and excel on standardized assessments.

Each practice test is carefully crafted to reflect the latest standards and includes a variety of question types, realistic test conditions, and detailed answer explanations.

Perfect for classroom use, homework, test preparation, and extra practice at home.

THIS BOOK INCLUDES:

10 Full-Length Printed Tests

2 Online Practice Tests

 Detailed Answer Explanations



MORE PRACTICE. GREATER RESULTS.

Give your child the tools to build strong math skills, confidence, and a positive attitude toward learning.

WHAT YOU'LL 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 with clear explanations and meaningful practice.



Test Confidence

Familiarize with test formats and improve accuracy and speed.



Achieve Success

Build confidence and perform your best on test day.

TOPICS COVERED

- ✓ Ratios & Proportions
- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Geometry
- ✓ Fractions & Decimals
- ✓ Percents
- ✓ Statistics & Probability
- ✓ Data Analysis
- ✓ Measurement & Conversions
- ✓ And More!



2 EXTRA ONLINE TESTS

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



2 EXTRA ONLINE TEST ACCESS CODE IS INSIDE THE BOOK!

Don't lose it—your extra practice and success start here!



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SOLVE
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SUCCEED
BRIGHTLY

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