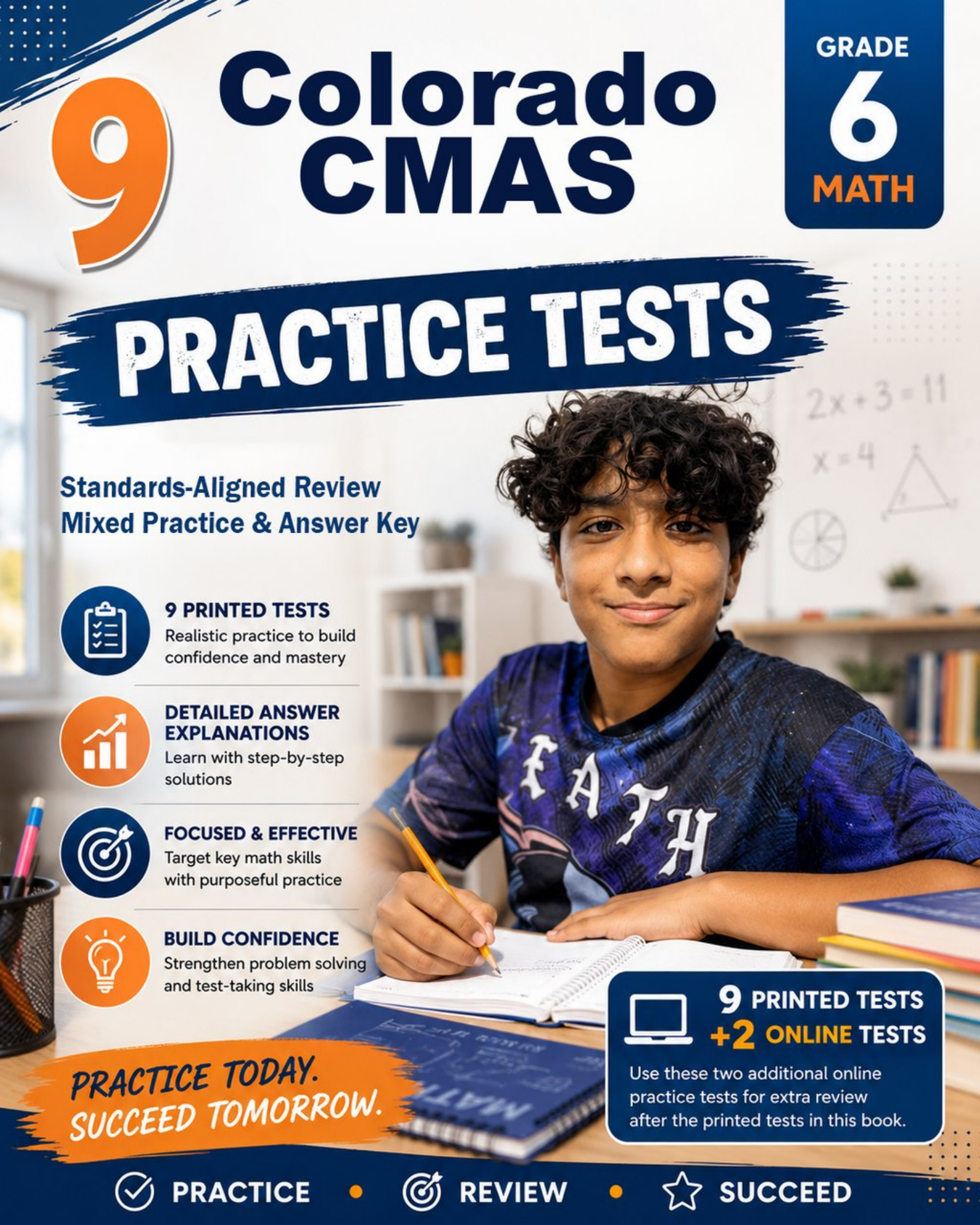
9 Colorado CMAS

GRADE 6 MATH

PRACTICE TESTS

Standards-Aligned Review
Mixed Practice & Answer Key



9 PRINTED TESTS
Realistic practice to build confidence and mastery

DETAILED ANSWER EXPLANATIONS
Learn with step-by-step solutions

FOCUSED & EFFECTIVE
Target key math skills with purposeful practice

BUILD CONFIDENCE
Strengthen problem solving and test-taking skills

9 PRINTED TESTS
+2 ONLINE TESTS
Use these two additional online practice tests for extra review after the printed tests in this book.

PRACTICE TODAY. SUCCEED TOMORROW.

PRACTICE • REVIEW • SUCCEED

9 Colorado CMAS Grade 6 Math Practice Tests

Standards-Aligned Mountain-Ready Math Thinking for Colorado Measures of Academic Success

Nine complete 40-question Grade 6 practice rounds for CMAS, built for mountain-ready math thinking with ratios, rational numbers, expressions, equations, geometry, statistics, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari

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Welcome, Colorado Math Explorer!

Nine focused rounds using mountain-ready math thinking

This book gives you nine full Grade 6 practice tests for CMAS. Each round uses ridge lines, trail signs, and high-country persistence as a fresh mental backdrop while you read closely, choose a smart strategy, show your work, and check whether your answer makes sense.

Your Colorado Practice Promise

Climb one step at a time: identify the skill, write the setup, and check the final result.

How to Use This Book

A nine-session routine for mountain-ready math thinking

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.

Colorado review rhythm: Use each round like a trail segment: finish it, study the hard turns, then climb again.

What Is Inside?

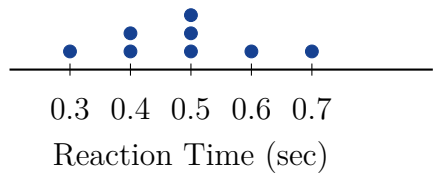
Nine CMAS tests, 360 questions, and a full review path

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.
Tests 7–9	Final stamina rounds 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. Mountain-ready math thinking means recognizing the skill even when the next question changes topic, changes format, or asks for an explanation.

Table of Contents

1) 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

2) A student incorrectly solved $\frac{2}{3} \div \frac{1}{4}$ by writing $\frac{2}{3} \times \frac{1}{4} = \frac{2}{12} = \frac{1}{6}$. What was the error?

☐ A. Forgot to invert the divisor $\frac{1}{4}$
☐ B. Inverted the dividend instead of the divisor
☐ C. Subtracted instead of dividing
☐ D. Forgot to simplify

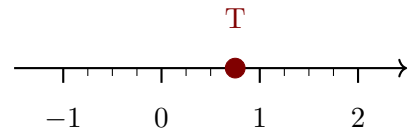
3) A factory produces 8,712 light bulbs in 12 days at a constant rate. How many light bulbs are made per day?

☐ A. 726
☐ B. 716
☐ C. 720
☐ D. 740

4) Factor $14 + 21$ using the GCF.

☐ A. $2(7 + 10.5)$
☐ B. $7(2 + 3)$
☐ C. $3(4.67 + 7)$
☐ D. $21(1 + 0.67)$

5) The number line below has tick marks at quarters. What is the coordinate of point T?



☐ A. $\frac{1}{4}$
☐ B. $\frac{1}{2}$
☐ C. $\frac{3}{4}$
☐ D. 1

6) A juice bottle contains 2.5 liters. How many milliliters of juice are in the bottle?

7) A student plotted a point and said it was at $(-4, -2)$ in Quadrant II. What mistake did the student make?

☐ A. The x-coordinate should be positive
☐ B. Both coordinates should be negative for Quadrant II
☐ C. The coordinates are swapped
☐ D. The point is actually in Quadrant III

8) A school's budget is \$100000. The principal allocates 25% of the budget to technology. How many dollars are allocated to technology?

9) Find the sum: $0.75 + 1.4 + 2.1$

☐ A. 3.15
☐ B. 4.25
☐ C. 4.35
☐ D. 4.15

10) What is the prime factorization of 100?

☐ A. 2×5^2
☐ B. $2^2 \times 5^2$
☐ C. 4×25
☐ D. 10×10

11) On a thermometer, zero degrees is the reference point. A temperature of $-15°$ is how many degrees different from a temperature of $5°$?

☐ A. 10 degrees
☐ B. 15 degrees
☐ C. 20 degrees
☐ D. 5 degrees

12) A temperature change of -25 degrees can be represented by its absolute value as:

☐ A. -25 degrees
☐ B. 25 degrees
☐ C. A 25-degree decrease
☐ D. A 25-degree increase only

13) Which expression requires evaluating the exponent before multiplying?

☐ A. $2 \times 3 + 5$
☐ B. 3×2^2
☐ C. $(2 \times 3)^2$
☐ D. 6×2

14) Which expression is equivalent to $4(2x + 3)$?

☐ A. $2x + 12$
☐ B. $8x + 3$
☐ C. $8x + 12$
☐ D. $4x + 7$

1) 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

2) A snack mix uses raisins and pretzels in the ratio $3 : 5$. If you use 15 cups of raisins, how many cups of pretzels should you use?

3) If $? \times (-8) = 56$, what is the missing number?

☐ A. -7
☐ B. 7
☐ C. 48
☐ D. 64

4) Write an expression for "a number w tripled and then increased by 10".

☐ A. $3(w + 10)$
☐ B. $3w + 10$
☐ C. $w + 3 + 10$
☐ D. $3 + w + 10$

5) Compute: $12.7 + 8.45$

☐ A. 20.112
☐ B. 4.25
☐ C. 21.52
☐ D. 21.15

6) A stock price changes each day. On Monday the change is +6 points. On Tuesday the change is −3 points. On Wednesday the change is −2 points. What is the total change for the three days?

☐ A. +1 point
☐ B. +11 points
☐ C. −5 points
☐ D. 11 points

7) A golfer is 12 strokes under par. Which representation shows the integer score?

☐ A. $|-12|$ representing the magnitude of the score
☐ B. −12 representing 12 strokes under
☐ C. 12 representing 12 strokes under
☐ D. $|12|$ representing 12 strokes over

8) A temperature of $-8°F$ is compared to $-3°F$. Which statement is correct?

☐ A. $-8°F$ is warmer
☐ B. $-3°F$ is colder
☐ C. $-8°F$ is colder
☐ D. They are the same temperature

9) A student plotted two points on a number line. The distance between them is 13 units. One point is at −4. Which could be the other point to the left of −4?

☐ A. −17
☐ B. −9
☐ C. 9
☐ D. 17

10) A golf tournament score is calculated as: Par is 72. A player scores −3 (3 under par). What is the player's actual score?

☐ A. 69
☐ B. 75
☐ C. −3
☐ D. 72

1) On a number line, which comparison is true?

☐ A. $-0.9 > -0.1$
☐ B. $-0.1 > -0.9$
☐ C. $-0.5 > 0.5$
☐ D. $0.1 < -0.1$

2) A weather station records daily humidity (as a percent):

Stem	Leaf
5	8, 9
6	1, 2, 5, 7
7	0, 3, 8
8	2, 5, 9

Approximately what percent of readings were between 60% and 79%?

☐ A. 40%
☐ B. 50%
☐ C. 60%
☐ D. 70%

3) A coach asks: "What is the typical running speed of students on the track team?" Why is this a statistical question?

☐ A. Because running is an athletic activity.
☐ B. Because the coach is a teacher.
☐ C. Because the word "typical" is used.
☐ D. Because different team members run at different speeds, and data must be collected.

4) A student made an error when calculating the IQR. The data set is: $4, 6, 8, 10, 12, 14, 16$. The student said the IQR is $16 - 4 = 12$. What is the student's mistake?

☐ A. The student calculated the range instead of the IQR.
☐ B. The data set was not ordered correctly.
☐ C. The student forgot to find the median first.
☐ D. The student used the wrong quartile values.

5) A dot plot shows rainfall (in inches) recorded over several days. Based on the frequency table, what is the most common rainfall amount?

Rainfall (in)	Frequency
0.5	2
1.0	4
1.5	7
2.0	5
2.5	2

☐ A. 1.0 inch
☐ C. 2.0 inches
☐ B. 2.5 inches
☐ D. 1.5 inches

6) A survey shows that the probability a person likes ice cream is 90%. What is the probability that a person does **not** like ice cream?

☐ A. 0.1
☐ C. 0.5
☐ B. 0.2
☐ D. 0.9

7) Five friends have the following number of books: $12, 15, 18, 10, 20$. What is the mean number of books per friend?

8) A rectangle has a length of 8 units and width of 4 units. What is its perimeter?

☐ A. 12 units
☐ C. 32 units
☐ B. 24 units
☐ D. 16 units

Colorado CMAS Practice Test Answer Keys

How to use this Colorado CMAS 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 mountain-ready math thinking
3. rework the problem before reading the full explanation, using this reminder: Climb one step at a time: identify the skill, write the setup, and check the final result.

A calm Colorado correction routine turns every missed item into useful practice. Use each round like a trail segment: finish it, study the hard turns, then climb again.

Colorado Practice Test Answers and Explanations

Review the nine printed CMAS tests with organized, persistent, and ready for higher ground habits.

Practice Test 1 Answers and Explanations

1) **Choice D is correct.** 6.SP.B.4 The value 0.5 appears 3 times, which is more frequently than any other value, making it the mode.
2) **Choice A is correct.** 6.NS.A.1 The correct approach: flip $\frac{1}{4}$ to get $\frac{4}{1}$, then multiply $\frac{2}{3} \times \frac{4}{1} = \frac{8}{3} = 2\frac{2}{3}$. The student multiplied by $\frac{1}{4}$ without inverting it.
3) **Choice A is correct.** 6.NS.B.2 $8{,}712 \div 12 = 726$. The factory makes 726 light bulbs each day.
4) **Choice B is correct.** 6.NS.B.4 GCF of 14 and 21 is 7. So $14 + 21 = 7(2 + 3)$. Only Choice B uses the GCF with whole numbers.
5) **Choice C is correct.** 6.SP.B.4 Point T is three tick marks to the right of 0. With quarter-mark spacing, this is $\frac{3}{4}$.
6) **The correct answer is** $2,500$. 6.RP.A.3 Multiply by the conversion factor: 2.5 liters $\times$ 1000 mL/liter = 2500 mL.
7) **Choice D is correct.** 6.NS.C.8 The point $(-4, -2)$ has both negative coordinates, placing it in Quadrant III (lower left), not Quadrant II. Quadrant II requires a negative x and positive y.
8) **The correct answer is** 25000. 6.SP.B.4 25% of \$100000 $= 0.25 \times 100000 =$ \$25000.
9) **Choice B is correct.** 6.NS.B.3 Add: $0.75 + 1.40 + 2.10 = 4.25$. Align all decimal points first.
10) **Choice B is correct.** 6.NS.B.4 $100 = 4 \times 25 = (2 \times 2) \times (5 \times 5) = 2^2 \times 5^2$. Options A, C, and D use composite numbers.
11) **Choice C is correct.** 6.NS.C.5 The difference is $5 - (-15) = 5 + 15 = 20$ degrees.
12) **Choice B is correct.** 6.SP.B.4 Absolute value $|-25| = 25$ represents the magnitude of the temperature change, not its direction.
13) **Choice B is correct.** 6.EE.A.1 In option B, the exponent 2^2 must be evaluated first to get 4, then multiply by 3 to get 12. Option C also has an exponent but requires parentheses first. Options A and D have no exponents.
14) **Choice C is correct.** 6.EE.A.3 Apply the distributive property: $4(2x + 3) = 4 \cdot 2x + 4 \cdot 3 = 8x + 12$.
15) **Choice A is correct.** 6.EE.B.5 The number x is split into two equal parts of 9 each, so $\frac{x}{2} = 9$. Multiplying by 2 gives $x = 18$.
16) **Choice A is correct.** 6.EE.C.9 The cost is \$2 per notebook. Check: 1 notebook costs \$2; 3 notebooks cost \$6. The equation is Cost $= 2n$.
17) **Choice B is correct.** 6.G.A.1 $104 = \frac{1}{2} \times 13 \times h \Rightarrow h = 16$ in.
18) **Choice B is correct.** 6.G.A.1 Area $= \frac{1}{2}(16 + 12) \times 9 = \frac{1}{2}(28)(9) = 126$ in^2.
19) **Choice B is correct.** 6.G.A.4 $SA = 2(8)(4) + 2(8)(3) + 2(4)(3) = 64 + 48 + 24 = 152$ m^2.
20) **Choice B is correct.** 6.SP.A.2 Since different students like different genres, answering a statistical question requires collecting data from multiple people. The librarian's preference or book count does not answer the question about student preferences.
21) **Choice D is correct.** 6.SP.A.3 The value 50 is much larger than the others $(8, 9, 10, 11)$ and is an outlier.
22) **The correct answer is The graph is a straight line through the origin, and the ratio of y to x is always constant.** 6.EE.C.9 Statements A and B correctly describe proportional relationships. C is wrong because b must equal 0 for proportionality. D is wrong because proportional equations have the form $y = kx$, not $y = k/x$. E is wrong because a proportional relationship must start at the origin.
23) **Choice B is correct.** 6.RP.A.1 IQR $= Q_3 - Q_1 = 32 - 20 = 12$.
24) **The correct answer is** 50. 6.EE.C.9 Entertainment percentage: $100\% - 40\% - 35\% = 25\%$ of \$200 $= 0.25 \times 200 =$ \$50.
25) **Choice A is correct.** 6.NS.A.1 17.5% of 520 is $0.175 \times 520 = 91$ customers.
26) **Choice C is correct.** 6.NS.C.8 Distance on map: $|12 - 4| = 8$ units. Actual distance: $8 \times 250 = 2000$ meters.

Author's Note

Cheer Squad Final Pep Talk

Hi, Math Star!

◇ 9 practice tests! That's a LOT of work, and you did it ALL. I am cheering so loud right now. You earned every clap and every cheer! ◇

⋆ **Cheerleader truth:** confidence is built by showing up. You showed up 9 times. That's real confidence. It is not pretend! ⋆

Cheer Roll Call

- **Effort:** 100% YOU SHOWED UP!
- **Heart:** BIG!
- **Skills:** STRONG and growing!
- **Spirit:** BRIGHT!

Cheer tip: on test day, be your own cheerleader. Whisper to yourself: "I can do this. I practiced." Tiny cheers make a big difference!

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

Jay Daie
Your Math Cheerleader

PRACTICE MORE.
ACHIEVE MORE.

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 any test.

With 9 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 math concepts aligned with standards.

Test Confidence
Get familiar with test formats and improve accuracy.

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.

9 PRINTED PRACTICE TESTS

2 ONLINE PRACTICE TESTS

DETAILED ANSWER EXPLANATIONS