4 New Mexico NM MSSA PRACTICE TESTS

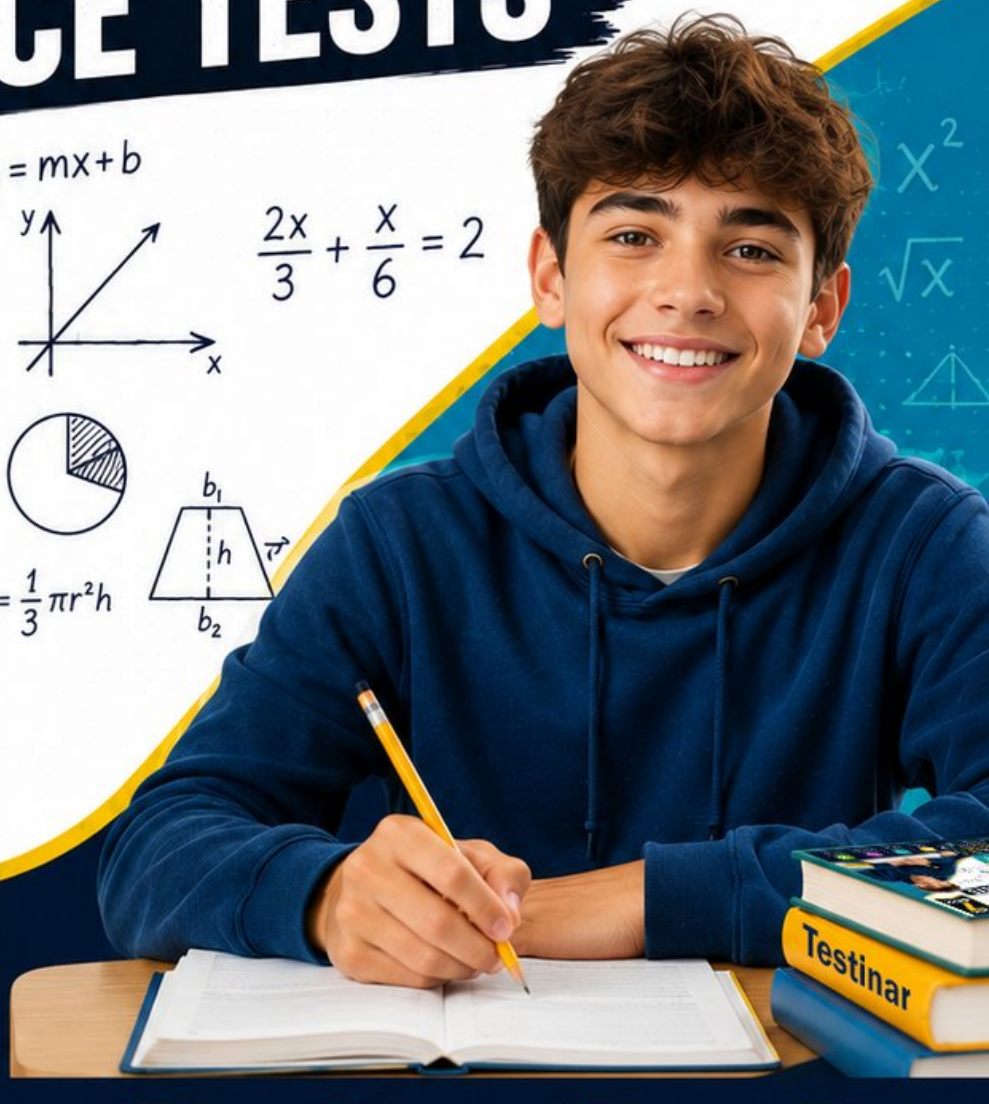
GRADE 7 MATH

Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs

$y = mx + b$

$\frac{2x}{3} + \frac{x}{6} = 2$

$V = \frac{1}{3}\pi r^2 h$



4 PRINTED TESTS

2 ONLINE TESTS

USE THESE TWO **ADDITIONAL ONLINE PRACTICE TESTS** FOR EXTRA REVIEW AFTER THE PRINTED TESTS IN THIS BOOK.

- Build Confidence
- Strengthen Math Skills
- Detailed Answers & Explanations
- Improve Test Performance

4 New Mexico NM MSSA Grade 7 Math Practice Tests

Grade 7 Standards Practice with NM MSSA Keys and Explanations

Four complete 40-question Grade 7 NM MSSA 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, New Mexico Grade 7 Problem Solver!

Four focused rounds for sharper NM MSSA math thinking

This book gives you four full Grade 7 NM MSSA 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 New Mexico 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.

How to Use This Book

A four-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.

New Mexico 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?

Four NM MSSA tests, 160 questions, and a focused review path

Part	What You Will Practice
Tests 1–2	Proportional relationships, unit rates, percents, rational-number operations, and careful reading.
Tests 3–4	Expressions, equations, inequalities, scale drawings, geometry, data, probability, and multi-step problem solving.
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.

Table of Contents

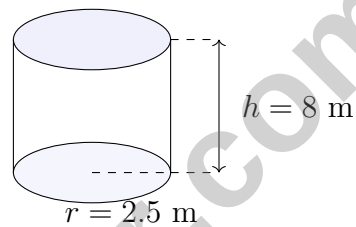
1) A savings account earns \$75 in interest from a principal of \$500 at an annual rate of 5%. How many years has the money been in the account?

☐ A. 1.5 years
☐ B. 2 years
☐ C. 2.5 years
☐ D. 3 years

2) Which circle below has a circumference of approximately 37.7 cm? Use $\pi \approx 3.14$.

☐ A. Radius 6 cm
☐ B. Diameter 6 cm
☐ C. Radius 6 cm, but using $C = \pi r$ (incorrect formula)
☐ D. Diameter 12 cm

3)



Find the lateral surface area (curved side only) of the cylinder shown. Use $\pi \approx 3.14$.

☐ A. 39.25 m^2
☐ B. 62.8 m^2
☐ C. 125.6 m^2
☐ D. 188.4 m^2

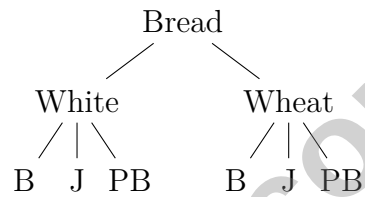
4) A stem-and-leaf plot shows test scores:
Stem 6: Leaves 5, 8
Stem 7: Leaves 2, 4, 7, 9
Stem 8: Leaves 1, 3, 5, 6
Stem 9: Leaves 0, 2
How many students scored in the 80s?

☐ A. 2 students
☐ B. 3 students
☐ C. 4 students
☐ D. 5 students

5) A bag contains 15 tokens: 9 green and 6 orange. Two students compute P(drawing green) differently: Student A: $\frac{9}{15} = \frac{3}{5}$. Student B: $\frac{9}{6} = \frac{3}{2}$. Who is correct?

☐ A. Both are correct.
☐ B. Only Student A is correct.
☐ C. Only Student B is correct.
☐ D. Neither is correct.

6) A student creates a tree diagram to show all outcomes for a bread choice (White or Wheat) and a spread choice (Butter, Jam, or Peanut Butter). At which level does the tree branch split into more paths?



☐ A. At the bread level (2 branches)
☐ B. At the spread level (3 branches per bread)
☐ C. The branches are equal at both levels
☐ D. The tree has only 1 level

7) A bag of 20 tokens contains 8 red, 7 blue, and 5 green. Two tokens are drawn WITH replacement. Which statement correctly describes this scenario?

☐ A. The events are dependent because we remove tokens
☐ B. The second draw has probabilities different from the first
☐ C. The probability of each draw remains the same because of replacement
☐ D. Red is impossible on the second draw if red appeared first

8) A box plot compares the test scores of two tutoring methods. Traditional Method: Median = 75, Range = 25. New Method: Median = 78, Range = 35. Which method is better?

☐ A. New Method (higher median, but less consistent)
☐ B. Traditional Method (consistent with reasonable performance)
☐ C. Both methods produce identical results
☐ D. New Method is clearly superior

9) A temperature changes from −8 degrees to 8 degrees. What is the total change in temperature?

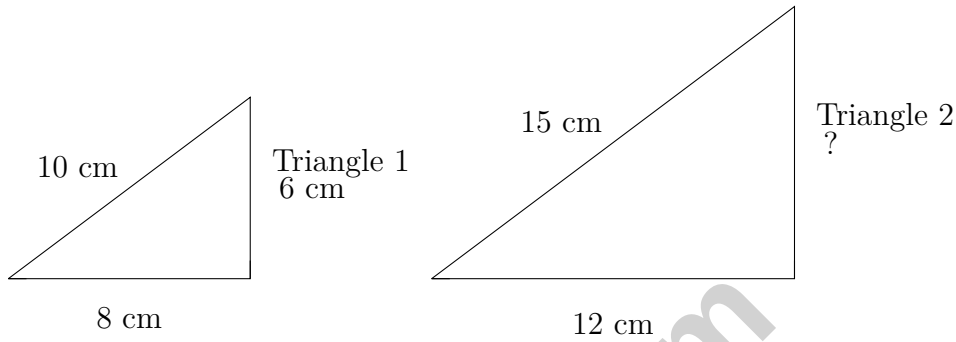
10) A spinner was spun 200 times with four equal sections labeled A, B, C, and D. Section A appeared 58 times. Which best describes the relationship between the experimental and theoretical probabilities for landing on A?

☐ A. Both are exactly 0.25.
☐ B. Experimental is 0.58; theoretical is 0.20.
☐ C. Experimental is 0.25; theoretical is 0.29.
☐ D. Experimental is 0.29; theoretical is 0.25.

1) Which value makes $2(x + 5) = 18$ true?

☐ A. $x = 2$
☐ B. $x = 4$
☐ C. $x = 5$
☐ D. $x = 9$

2)



Triangles 1 and 2 are similar right triangles. What is the length of the missing side in Triangle 2?

☐ A. 7 cm
☐ B. 8 cm
☐ C. 9 cm
☐ D. 9.5 cm

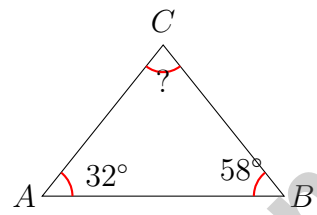
3) What is $0.7 \times (-10)$?

☐ A. -7
☐ B. -6
☐ C. 6
☐ D. 7

4) A scale drawing of a garden uses a scale of 1 cm to 2 meters. If the garden is 8 meters long, how long is it on the drawing?

☐ A. 2 cm
☐ B. 3 cm
☐ C. 4 cm
☐ D. 8 cm

5) Account balance was −\$45 (overdrawn). After a deposit of \$100, what is the new balance?

6) 

In triangle ABC, angle A is $32°$ and angle B is $58°$. How many distinct triangles with these angle measures can be drawn?

- ☐ A. 0
- ☐ B. 1
- ☐ C. Exactly 2
- ☐ D. Infinitely many

7) Marcus walks 12 meters east. To return to his starting point, he must walk 12 meters west. Which number represents his westward walk?

- ☐ A. −12 (opposite direction)
- ☐ B. 12 (same direction as eastward walk)
- ☐ C. 0 (no displacement)
- ☐ D. −24 (double the distance in opposite direction)

8) A farmer has a field with area $24ab+36b$ square meters. Which factorization represents the dimensions?

- ☐ A. $12b(2a + 3)$
- ☐ B. $6b(4a + 6)$
- ☐ C. $24(ab + 1.5b)$
- ☐ D. $4(6ab + 9b)$

1) Marcus invests \$500 at 5% annual compound interest. What is the balance after 3 years?

☐ A. \$575
☐ B. \$578.81
☐ C. \$579.13
☐ D. \$625

2) A histogram shows the ages of visitors at Museum A and Museum B. Museum A has visitors aged 20–30 dominating the histogram. Museum B has visitors more evenly distributed across ages 10–70. Which interpretation is valid?

☐ A. Museum A appeals mainly to younger adults; Museum B attracts a broader age range
☐ B. Museum B is more popular than Museum A
☐ C. Museum A has older visitors overall
☐ D. Both museums serve the same demographics

3) A rectangular piece of fabric (25 inches × 16 inches) has two identical right triangles (5 inches × 4 inches) removed from opposite corners. What is the remaining area?

☐ A. 360 in^2
☐ B. 380 in^2
☐ C. 400 in^2
☐ D. 420 in^2

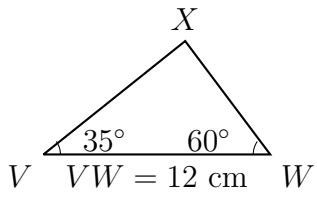
4) A rectangular prism has length $\frac{1}{2}$ m, width $\frac{1}{3}$ m, and height 2 m. What is the volume?

☐ A. 1 m^3
☐ B. $\frac{2}{3}$ m^3
☐ C. $\frac{1}{3}$ m^3
☐ D. $\frac{1}{6}$ m^3

5) Circle A has a radius of 3 cm. Circle B has a radius of 3 cm. If you double the radius of Circle A, how does its new diameter compare to Circle B's diameter?

☐ A. New diameter of A is half of B's diameter
☐ B. New diameter of A is equal to B's diameter
☐ C. New diameter of A is twice B's diameter
☐ D. Cannot be determined

6)



Triangle VWX has $\angle V = 35°$, $\angle W = 60°$, and side $VW = 12$ cm. The third angle at X is:

☐ A. 75°
☐ B. 85°
☐ C. 95°
☐ D. 105°

7) A scale drawing uses a scale of 1 inch = 50 feet. If a building is represented by 2.75 inches on the drawing, what is the actual height of the building?

8) A rope of length $8x + 12$ feet is cut into two pieces. If one piece has length $4x + 6$ feet, what is the length of the other piece?

☐ A. $4x + 6$
☐ B. $4x - 6$
☐ C. $12x + 18$
☐ D. $4x$

9) What is the side length of a square with area 169 square units?

New Mexico NM MSSA 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 New Mexico NM MSSA practice test.

Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

1) **Choice D is correct.** 7.RP.3 Using $I = Prt$: $75 = 500 \times 0.05 \times t \Rightarrow 75 = 25t \Rightarrow t = 3$.
2) **Choice A is correct.** 7.G.4-7.G.6 $C = 2\pi r = 2 \times 3.14 \times 6 = 37.68 \approx 37.7$ cm (A); B: $C = \pi d = 3.14 \times 6 = 18.84$ cm (wrong); C: confuses formula; D: $C = \pi d = 3.14 \times 12 = 37.68$ cm (close, but uses diameter not radius).
3) **Choice C is correct.** 7.G.4-7.G.6 Lateral area $= 2\pi rh \approx 2 \times 3.14 \times 2.5 \times 8 = 125.6$ m^2.
4) **Choice C is correct.** 7.SP.1-7.SP.4 Stem 8 has leaves 1, 3, 5, 6, representing scores 81, 83, 85, 86. That is 4 students in the 80s.
5) **Choice B is correct.** 7.SP.5-7.SP.8 Probability uses total outcomes in denominator: $\frac{9}{15} = \frac{3}{5}$. Student B used only orange tokens.
6) **Choice B is correct.** 7.SP.5-7.SP.8 The bread level splits into 2 branches. Each bread branches into 3 spreads, making the second level have more paths.
7) **Choice C is correct.** 7.SP.5-7.SP.8 With replacement, the bag is restored to its original state. Each draw has identical probabilities: $P(\text{red}) = \frac{8}{20}$, $P(\text{blue}) = \frac{7}{20}$, $P(\text{green}) = \frac{5}{20}$.
8) **Choice A is correct.** 7.SP.3 The New Method has a higher median (78 vs. 75), suggesting better average performance. However, its larger range (35 vs. 25) indicates less consistency. Trade-off: higher average but more variability.
9) **The correct answer is 16 .** 7.NS.1-7.NS.3 The change is final minus initial: $8 - (-8) = 8 + 8 = 16$ degrees.
10) **Choice D is correct.** 7.SP.6 Experimental probability (0.29) is based on observed data and differs from theoretical probability (0.25) because of random variation. Both values are relative frequencies—ratios of favorable outcomes to total trials.
11) **Choice B is correct.** 7.SP.1-7.SP.4 Values ≥ 30: $30, 32, 33, 35, 37, 41, 48$ from stems 3 and 4. Total: 7 values.
12) **Choice C is correct.** 7.G.4-7.G.6 Decompose into a central rectangle and two triangles on opposite sides. Rectangle: $14 \times 10 = 140$ ft^2. Two triangles: $2 \times \left(\frac{1}{2} \times 10 \times 4\right) = 40$ ft^2. Total: $140 + 40 = 180$ ft^2.
13) **The correct answer is −12 .** 7.NS.2 $-9 \times \frac{4}{3} = \frac{-36}{3} = -12$.
14) **Choice C is correct.** 7.G.4-7.G.6 $V = 6 \times 4 \times 5 = 120$ cubic units.
15) **Choice B is correct.** 7.G.4-7.G.6 A radius has one endpoint at the center and one on the circle, not both on the circle, so it is not a chord.
16) **Choice B is correct.** 7.G.1-7.G.5 Two triangles with the same three side lengths are congruent by SSS, regardless of the order in which the sides are listed. Congruence depends only on matching side lengths.
17) **Choice B is correct.** 7.SP.5-7.SP.8 The marked position is at 0.2. Rolling a 6 on a standard die has probability $\frac{1}{6} \approx 0.167 \approx 0.2$.
18) **The correct answer is A,D.** 7.RP.1-7.RP.3 A and D are unit rates because each gives a price per single unit of weight. Option B is a distance, and option C is a total count.
19) **Choice C is correct.** 7.SP.1-7.SP.4 $\frac{16}{100} = \frac{x}{8000}$. So $x = 0.16 \times 8000 = 1280$.
20) **Choice D is correct.** 7.RP.3 Discount amount $= 16 - 12 = \$4$. Percent $= \frac{4}{16} \times 100 = 25\%$.
21) **Choice D is correct.** 7.NS.1-7.NS.3 Moving right from -3 by 8 units represents the opposite operation. This is $-3 - (-8) = -3 + 8 = 5$, which is equivalent to moving right.
22) **Choice C is correct.** 7.RP.3 35% of 400 is $0.35 \times 400 = 140$.
23) **Choice B is correct.** 7.SP.1-7.SP.4 $54° \div 360° \times 100 = 15\%$.
24) **Choice D is correct.** 7.RP.1-7.RP.3 Unit rate: $\frac{3/4}{5/8} = \frac{3}{4} \times \frac{8}{5} = \frac{24}{20} = \frac{6}{5} = 1\frac{1}{5}$ cups per full batch.
25) **Choice D is correct.** 7.RP.1-7.RP.3 Expected ratio: $3/1 = 3$. For sugar 4: flour should be $3 \times 4 = 12$, not 13.
26) **Choice D is correct.** 7.RP.1-7.RP.3 The constant is $k = \frac{6}{3} = 2$. The equation is $y = 2x$.
27) **Choice D is correct.** 7.RP.1-7.RP.3 Unit rate $= \$36 \div 3 = \$12$ per month.
28) **Choice C is correct.** 7.RP.3 Using the proportion $\frac{28}{100} = \frac{x}{400}$, cross-multiply: $x = 112$ people prefer pizza.

Author's Note

A Math Hero Moment

Hi, Math Hero!

◇ This carefully paced book gave you four steady 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 4 full-length Math practice tests and 2 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:

- 4 Full-Length Printed Tests
- 2 Online Practice Tests
- Detailed Answers & 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

Build Confidence
Practice regularly to feel prepared and test-ready.

Strengthen Math Skills
Develop key math concepts and problem solving abilities.

Improve Understanding
Learn with clear explanations and step-by-step solutions.

Test Confidence
Familiarize with test formats and improve accuracy and speed.

Boost Performance
Apply your knowledge and achieve your best score!

TOPICS COVERED

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

2 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!

VISIT TESTINAR.COM/MATH7

FOR MORE PRACTICE TESTS AND LEARNING RESOURCES.

PRACTICE REGULARLY | STAY FOCUSED | SOLVE CONFIDENTLY | SUCCEED BRIGHTLY