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New Mexico NM MSSA

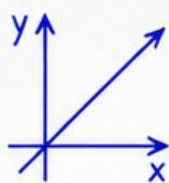
GRADE

7

MATH

PRACTICE TESTS

Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs



$$y = mx + b$$

$$\frac{2}{3} + \frac{1}{6} = \frac{5}{6}$$



$$V = \pi r^2 h$$



5 PRINTED TESTS



2 ONLINE TESTS

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



Build
Confidence



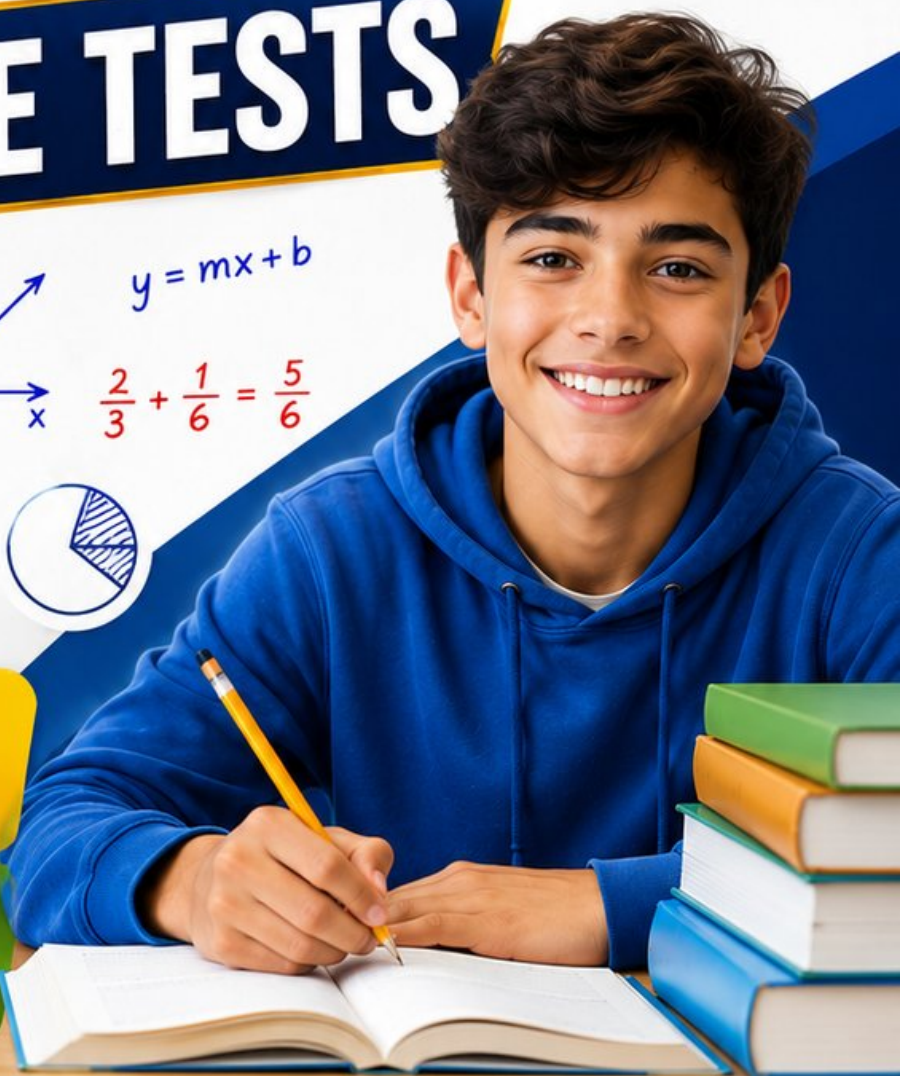
Strengthen
Math Skills



Detailed Answers
& Explanations



Improve Test
Performance



5 New Mexico NM MSSA Grade 7 Math Practice Tests

Focused Review for Grade 7 Math Skills and Test Readiness



Five 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!

Five focused rounds for sharper NM MSSA math thinking

This book gives you five 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.

Read

Model

Verify

How to Use This Book

A five-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?

Five NM MSSA tests, 200 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 3–5	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.



Scan me!
For more practice
& answers

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1) Expand and simplify: $3(2x + 4) + 2(x - 3)$

☐ A. $8x + 6$

☐ C. $8x + 18$

☐ B. $6x + 4$

☐ D. $5x + 1$

2) A pair of shoes costs \$60. If a store marks up the wholesale cost by 50%, what is the selling price?

☐ A. \$110

☐ C. \$30

☐ B. \$40

☐ D. \$90

3) Miguel owed his friend \$18 (debt = -18). His friend forgave \$10 of the debt. How much does Miguel still owe? (Model his remaining debt.)

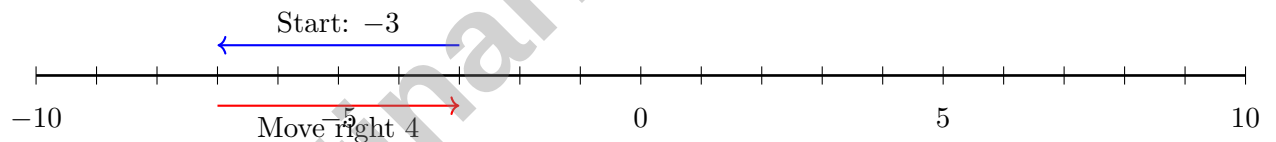
☐ A. $-\$28$

☐ C. \$8

☐ B. \$28

☐ D. $-\$8$

4)



Which subtraction problem is shown by the red arrow (moving right 4 units from -7)?

☐ A. $-7 - (-4)$

☐ C. $-7 + (-4)$

☐ B. $-7 - 4$

☐ D. $4 - (-7)$



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- 5) Maria scored 85% on a test with 40 questions. How many questions did she answer correctly?
- ☐ A. 24 ☐ C. 34
☐ B. 30 ☐ D. 36
- 6) If a sector measures 198° , what percent of the circle does it represent?
- ☐ A. 45% ☐ C. 55%
☐ B. 50% ☐ D. 60%
- 7) Runner A covers $\frac{1}{3}$ mile in $\frac{1}{20}$ hour. Runner B covers $\frac{2}{5}$ mile in $\frac{1}{12}$ hour. Which runner is faster?
- ☐ A. Runner A at $\frac{1}{60}$ mph ☐ C. They run at the same speed
☐ B. Runner B at $\frac{24}{5}$ mph ☐ D. Runner A at $\frac{20}{3}$ mph
- 8) A baker uses 3 eggs for every 2 cups of flour. If the baker uses 9 eggs, how much flour is needed?
- ☐ A. 3 cups ☐ C. 9 cups
☐ B. 4 cups ☐ D. 6 cups
- 9) Maya runs at a constant speed. The relationship between distance (miles) and time (hours) is proportional and passes through (3, 18). How far does she run per hour?
- ☐ A. 3 miles per hour ☐ C. 15 miles per hour
☐ B. 54 miles per hour ☐ D. 6 miles per hour



10) If 18% of a number is 36, what is the number?

☐ A. 150

☐ C. 200

☐ B. 180

☐ D. 250

11) A recipe calls for 2 cups of flour for every 5 cups of milk. What is the constant of proportionality from milk to flour?

12) Elena categorizes her expenses as **needs** (housing, food) versus **wants** (entertainment, dining out). She earns \$600 monthly. If needs total 50% and wants total 30%, how much is allocated to other categories like savings?

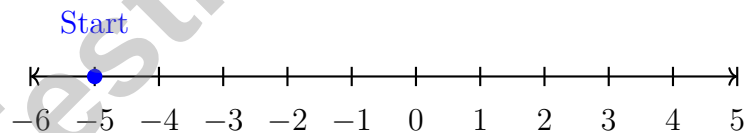
☐ A. \$60

☐ C. \$180

☐ B. \$300

☐ D. \$120

13) Use the number line. Start at -5 , add 8, then subtract 3. Where do you end?



☐ A. -16

☐ C. 6

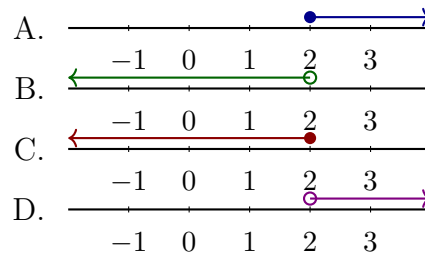
☐ B. 0

☐ D. 10



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1) Which number line represents $x \leq 2$?



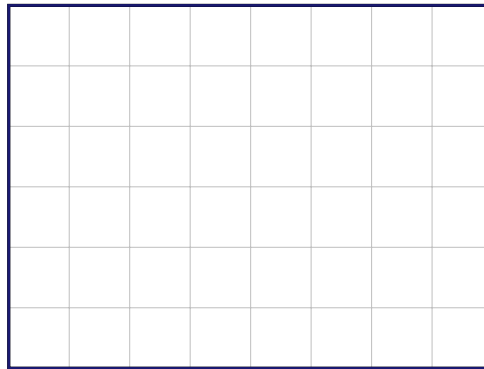
2) Two researchers took samples to estimate tree health in a forest. Which statement about their proportions is CORRECT?

- Researcher 1: 8 healthy trees out of 32 sampled
- Researcher 2: 12 healthy trees out of 48 sampled

- ☐ A. Researcher 1 found more healthy trees
- ☐ B. Researcher 2 found a higher proportion of healthy trees
- ☐ C. Both found the same proportion of healthy trees
- ☐ D. Researcher 1's sample is more reliable



Each square = 2.5 meters



3)

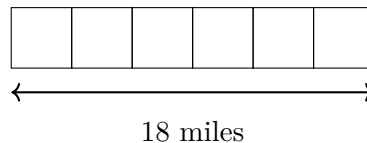
Parking Lot Layout

If the lot is 8 squares by 6 squares and each square is 2.5 meters per side, what is the actual area?

- ☐ A. 48 square meters ☐ C. 1800 square meters
☐ B. 3600 square meters ☐ D. 300 square meters

- 4) A tape diagram shows 6 equal boxes representing a total of 18 miles. If the variable m represents one box, which equation finds m ?

6 equal parts



- ☐ A. $m = 6 \times 18$, so $m = 108$ ☐ C. $6 + m = 18$, so $m = 12$
☐ B. $m + 6 = 18$, so $m = 12$ ☐ D. $6m = 18$, so $m = 3$



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- 1) A vending machine dispenses 200 ounces of soda in 4 seconds. What is the rate (constant of proportionality) in ounces per second?
- ☐ A. $k = 0.02$ ☐ C. $k = 4$
☐ B. $k = 200$ ☐ D. $k = 50$
- 2) A taxi charges \$2.50 per mile plus a \$3 base fee. If a ride costs \$13, how many miles was the ride?
- ☐ A. 2 miles ☐ C. 6 miles
☐ B. 4 miles ☐ D. 8 miles
- 3) Add: $\frac{1}{2} + \frac{1}{3}$
- ☐ A. $\frac{2}{5}$ ☐ C. $\frac{1}{6}$
☐ B. $\frac{5}{6}$ ☐ D. $\frac{2}{6}$
- 4) An elevator descends 336 meters in 12 seconds. What is its descent rate?
- ☐ A. 28 m/s ☐ C. 348 m/s
☐ B. -28 m/s (descent) ☐ D. 336 m/s
- 5) A recipe calls for $\frac{3}{4}$ cup of sugar. If you are making $\frac{1}{2}$ of the recipe, how much sugar do you need?
- ☐ A. $\frac{3}{8}$ cup ☐ C. $\frac{5}{4}$ cups
☐ B. $\frac{1}{2}$ cup ☐ D. $1\frac{1}{2}$ cups
- 6) What is $\sqrt{225}$?
- ☐ A. 13 ☐ C. 15
☐ B. 14 ☐ D. 16



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& answers

7) A water tank contains 240 gallons. It loses $\frac{1}{6}$ of its contents, then gains 30 gallons. How much water is in the tank now?

- ☐ A. 200 gallons ☐ C. 190 gallons
☐ B. 230 gallons ☐ D. 220 gallons

8) Express 24,000,000 in scientific notation.

- ☐ A. 2.4×10^6 ☐ C. 24×10^7
☐ B. 2.4×10^7 ☐ D. 2.4×10^8

9) Simplify: $(-2i + 10) + (6i - 8) - (i + 1)$

- ☐ A. $3i + 1$ ☐ C. $5i - 1$
☐ B. $4i + 2$ ☐ D. $3i - 1$

Equivalence Table

Form 1	Form 2	Value
$x - 0.25x$	$0.75x$	\$60

10)

Using the equivalence table, if both forms equal \$60, what is x ?

- ☐ A. $x = 45$ ☐ C. $x = 80$
☐ B. $x = 75$ ☐ D. $x = 100$

11) Simplify: $\frac{n^9}{n^4}$

- ☐ A. n^5 ☐ C. n^{36}
☐ B. n^{13} ☐ D. $\frac{n^4}{n^9}$



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.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** (7.EE.1-7.EE.2) Expand: $6x + 12 + 2x - 6 = 8x + 6$. Combine like terms.
- 2) **Choice D is correct.** (7.RP.3) Markup amount = $0.50 \times 60 = \$30$. Selling price = $60 + 30 = \$90$.
- 3) **Choice D is correct.** (7.NS.1b) Miguel's debt decreases by \$10, so: $-18 + 10 = -8$. He still owes \$8 (represented as -8 in debt model).
- 4) **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 : $-7 - (-4) = -7 + 4 = -3$.
- 5) **Choice C is correct.** (7.RP.3) 85% of 40 is $0.85 \times 40 = 34$ questions.
- 6) **Choice C is correct.** (7.SP.1-7.SP.4) $198^\circ \div 360^\circ \times 100 = 55\%$.
- 7) **Choice D is correct.** (7.RP.1-7.RP.3) Runner A: $\frac{1/3}{1/20} = \frac{1}{3} \times 20 = \frac{20}{3}$ mph. Runner B: $\frac{2/5}{1/12} = \frac{2}{5} \times 12 = \frac{24}{5} = 4.8$ mph. Runner A is faster.
- 8) **Choice D is correct.** (7.RP.1-7.RP.3) Proportion: $\frac{3}{2} = \frac{9}{f}$. Cross multiply: $3f = 18$, so $f = 6$ cups.
- 9) **Choice D is correct.** (7.RP.1-7.RP.3) From the point (3, 18), the unit rate is $18 \div 3 = 6$ miles per hour.
- 10) **Choice C is correct.** (7.RP.3) Set up $\frac{18}{100} = \frac{36}{x}$. Cross-multiply: $18x = 3600$, so $x = 200$.
- 11) **The correct answer is $\frac{2}{5}$.** (7.RP.1-7.RP.3) The ratio flour to milk is $2 : 5$, so the constant is $\frac{2}{5}$.
- 12) **Choice D is correct.** (7.RP.3) Needs + Wants = $50\% + 30\% = 80\%$ of \$600 = \$480. Remaining for savings and other = $100\% - 80\% = 20\%$ of \$600 = \$120.
- 13) **Choice B is correct.** (7.NS.1-7.NS.3) $-5 + 8 = 3$; then $3 - 3 = 0$.
- 14) **Choice B is correct.** (7.NS.1-7.NS.3) Using multiplication as the inverse: $a = 4 \times (-3) = -12$.
- 15) **Choice A is correct.** (7.NS.2d) Divide $5 \div 18 = 0.2777\ldots = 0.2\overline{7}$. Since $18 = 2 \times 3^2$, the factor 3 causes repetition after the first digit.
- 16) **Choice A is correct.** (7.NS.1-7.NS.3) Elevation gain: $250 - 100 = 150$ meters.
- 17) **Choice B is correct.** (7.NS.1-7.NS.3) $\sqrt{16} = 4$ cm since $4 \times 4 = 16$.
- 18) **Choice B is correct.** (7.NS.1-7.NS.3) Total distance = $\frac{2}{5} + \frac{3}{5} = \frac{5}{5} = 1$ mile.
- 19) **The correct answer is A, C.** (7.SP.1-7.SP.4) Sample 1: $\frac{48}{200} = 0.24$; Sample 2: $\frac{36}{150} = 0.24$; Sample 3: $\frac{60}{250} = 0.24$. All are equal, so A is correct. These proportions can be used to estimate the full population (C). B is false (all equal), D is misleading, and E contradicts the actual data.
- 20) **Choice A is correct.** (7.NS.1-7.NS.3) Option A differs by only $0.1 \times 10^{-2} = 0.001$. Other pairs differ by much larger amounts.
- 21) **The correct answer is 31.25.** (7.RP.1-7.RP.3) $50 \text{ m} = 5000 \text{ cm}$. Divide by scale: $5000 \div 160 = 31.25 \text{ cm}$.
- 22) **The correct answer is \$2500.** (7.RP.3) $500 = P \times 0.05 \times 4 \Rightarrow 500 = 0.2P \Rightarrow P = \2500 .
- 23) **Choice C is correct.** (7.G.1-7.G.5) Actual diameter = $2.5 \text{ inches} \times 4 \text{ feet/inch} = 10 \text{ feet}$.
- 24) **Choice C is correct.** (7.SP.5-7.SP.8) The 180° sector represents $\frac{180}{360} = \frac{1}{2}$ of the spinner, the largest fraction. This is a non-uniform model.
- 25) **Choice C is correct.** (7.NS.2) Row C correctly demonstrates $(+) \times (-) = -12$: $6 \times (-2) = -12$ ✓. Row A error: $5 \times 3 = 15$ (not 8). Row B error: $(-4) \times (-2) = 8$ (positive, not -8). Row D error: $(-7) \times 3 = -21$ (negative, not 21).
- 26) **Choice C is correct.** (7.RP.3) Usage fee = $0.05 \times 10000 = \$500$. Total = $300 + 500 = \$1,300$.
- 27) **Choice C is correct.** (7.SP.3) City A clusters at 70–75 (range 5), indicating consistency. City B spans 50–90 (range 40), showing high variability. Both distributions include temperatures 70–75 degrees, so they overlap there.
- 28) **Choice A is correct.** (7.G.4-7.G.6) Rectangle: $30 \times 20 = 600 \text{ m}^2$. Triangle: $\frac{1}{2} \times 20 \times 5 = 50 \text{ m}^2$. Pond: $3.14 \times 9 = 28.26 \text{ m}^2$. Grass: $600 - 50 - 28.26 = 521.74 \text{ m}^2$.
- 29) **Choice C is correct.** (7.RP.1-7.RP.3) Gallons needed: $350 \div 28 = 12.5$ gallons. Total cost: $12.5 \times 3.20 = 40$ dollars.
- 30) **Choice C is correct.** (7.RP.3) Savings percent: $\frac{400}{2000} = 0.20 = 20\%$.



Hi, Persistent Problem Solver!

◇ Some Grade 7 questions ask you to hold several ideas in your mind at once. That can feel hard, and that is exactly why practice matters. ◇

★ **Remember this:** You showed persistence by continuing through the set. That habit is powerful because difficult problems often open after one more good attempt. You practiced across 5 full Grade 7 practice tests, and that repeated effort matters. ★

Persistence Tools

- **Try a Smaller Case:** Use an easier number to see the pattern.
- **Draw It:** Make the situation visible.
- **Restate It:** Say the question in your own words.
- **Check One Step:** Fix the first unclear place.

Grade 7 test-day tip: When stuck, do not restart everything. Find the first step you trust, then rebuild from there.

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

Jay Daie

Your Persistence Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **5** 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:

5 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!



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BRIGHTLY