6 NEW MEXICO NM MSSA

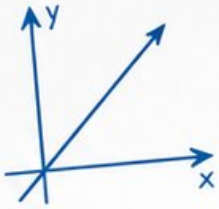
GRADE 7 MATH

PRACTICE TESTS

Standards Aligned **Problem Solving** For Comprehensive Assessment Programs

$y = mx + b$

$2(x - 3) = 4x + 6$



6 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

6 New Mexico NM MSSA Grade 7 Math Practice Tests

Standards-Aligned Practice with Review, Answer Keys, and Explanations

Six 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.

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Jay Daie and Reza Nazari

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Welcome, New Mexico Grade 7 Problem Solver!

Six focused rounds for sharper NM MSSA math thinking

This book gives you six 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.

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How to Use This Book

A six-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.

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For more practice
& answers

What Is Inside?

Six NM MSSA tests, 240 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.
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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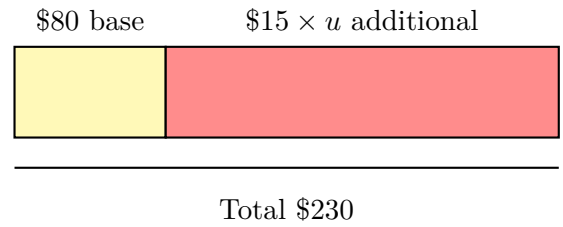
1) Evaluate $\frac{2}{9} \div \frac{4}{3}$.

☐ A. $\frac{8}{27}$
☐ B. $\frac{1}{6}$
☐ C. $\frac{6}{1}$
☐ D. $\frac{27}{8}$

2)



A coach needs to order uniforms. A base package costs \$80 and each additional uniform is \$15. Which equation finds u?

☐ A. $15u + 80 = 230$
☐ B. $80u + 15 = 230$
☐ C. $15 + 80u = 230$
☐ D. $80(u + 15) = 230$

3) A basketball player's scoring average was 18 points per game. After training, it increased to 27 points per game. What is the percent increase?

☐ A. 33.3%
☐ B. 9%
☐ C. 66.7%
☐ D. 50%

4) A spinner with 4 equal sections (Red, Blue, Green, Yellow) is spun twice to simulate a compound event. If "success" is defined as "the first spin is Red and the second spin is Blue," how many outcomes in the sample space represent a success?

☐ A. 1
☐ B. 2
☐ C. 4
☐ D. 8

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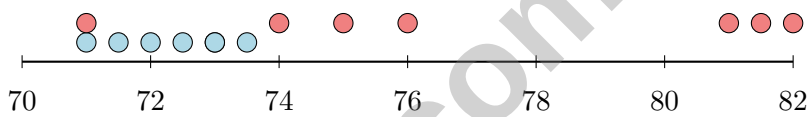
5) A healthcare study wants to compare health outcomes between two hospitals. If the study only surveys patients at Hospital A who are willing to complete the survey, what sampling error occurs?

☐ A. Measurement error only
☐ B. Voluntary response bias and selection bias
☐ C. Standard deviation increase
☐ D. Random sampling error

6) The dot plots below show the daily temperatures (in °F) for two months:

Month 2:

Month 1:



Which month is more consistent in temperature?

☐ A. Month 1 (tighter cluster)
☐ B. Month 2 (wider spread)
☐ C. Both have equal consistency
☐ D. Cannot tell from dot plots

7) A dot plot shows quiz scores: 70 (one student), 75 (two students), 80 (four students), 85 (two students), 90 (one student). Which statement is correct?

☐ A. The median is 70
☐ B. The median is 80
☐ C. The median is 85
☐ D. The median is 90

8) A bag contains 4 red, 5 blue, and 6 green marbles. What is the theoretical probability of drawing a blue marble at random?

☐ A. $\frac{1}{5}$
☐ B. $\frac{1}{3}$
☐ C. $\frac{4}{15}$
☐ D. $\frac{2}{5}$

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9) Two coins are flipped. What is the probability that both coins show the same result (either both Heads or both Tails)?

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

10) Three coins are flipped. What is the probability of getting at least one head?

☐ A. $\frac{1}{8}$
☐ B. $\frac{3}{8}$
☐ C. $\frac{6}{8}$
☐ D. $\frac{7}{8}$

11) Two students tossed a coin. Student A tossed it 50 times and got heads 24 times. Student B tossed it 500 times and got heads 256 times. Which experimental probability is closer to the theoretical probability of 0.5?

☐ A. Student B (0.512)
☐ B. Cannot determine
☐ C. Both are equally close
☐ D. Student A (0.48)

12) The stem-and-leaf plot shows heights (in cm) of students:

Stem	Leaves
15	2, 5, 8
16	1, 3, 6, 9
17	0, 4, 7
18	2, 5

How many students are represented?

☐ A. 8
☐ B. 11
☐ C. 12
☐ D. 14

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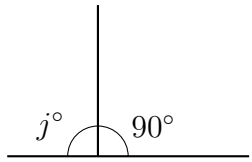
1) A bicycle costs \$80. The price is marked up by 25%. What is the new price?

☐ A. \$55
☐ B. \$20
☐ C. \$105
☐ D. \$100

2) 

A perpendicular line meets a horizontal line at a point. One angle is 90°. On the opposite side, angle j is formed. What is the measure of angle j?

☐ A. 45°
☐ B. 90°
☐ C. 135°
☐ D. 180°

3)

Category	Budget Amount
Rent	\$1 500
Utilities	\$250
Groceries	\$400
Transportation	\$300
Savings	\$550
Total	**\$3 000**

What percent of the budget goes to savings?

☐ A. 15%
☐ B. 25%
☐ C. 20%
☐ D. 18%

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4) A person selects a main color (Red, Blue) and a secondary color (Yellow, Green, Purple). How many color combinations are possible?

☐ A. 5
☐ B. 6
☐ C. 7
☐ D. 8

5) If the probability of rain on Monday is $\frac{1}{4}$ and the probability of rain on Tuesday is $\frac{1}{3}$, and these events are independent, what is the probability of NO rain on both days?

☐ A. $\frac{1}{6}$
☐ B. $\frac{1}{12}$
☐ C. $\frac{1}{7}$
☐ D. $\frac{1}{2}$

6) **Error Analysis: Using Wrong Denominator**

A student calculated percent error as $\frac{|28-35|}{28} \times 100\%$ instead of the correct formula. What error did the student make?

☐ A. Used estimate in denominator instead of actual
☐ B. Forgot to multiply by 100%
☐ C. Subtracted wrong order
☐ D. Divided by 28 instead of 100

7) A scatter plot shows the relationship between study hours (x-axis) and test score (y-axis) for 10 students. The plot shows a general upward trend, but Student Z studied 4 hours and scored 95, while Student Y studied 4.5 hours and scored 88. Based on this scatter plot, can you conclude that studying exactly 4 hours guarantees a score of 95?

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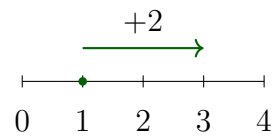
1) Which is the simplest form of $5 - 9$?

☐ A. -4
☐ B. 4
☐ C. 14
☐ D. -14

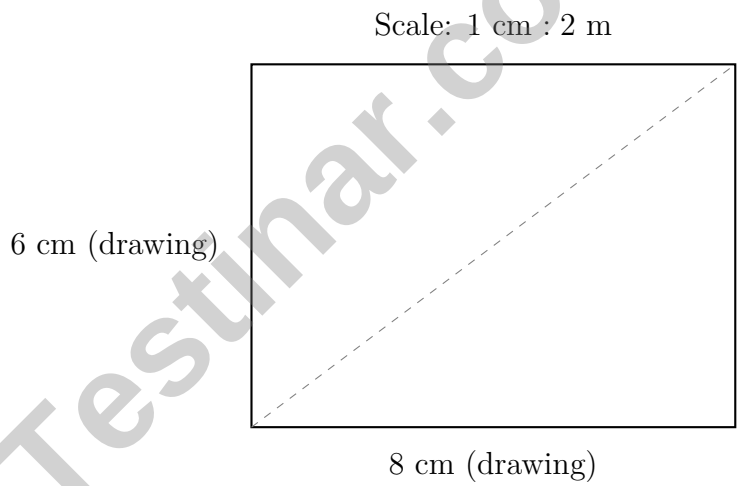
2)



The number line shows adding 2 to get the result. What was the original number?

☐ A. 0
☐ B. 1
☐ C. 2
☐ D. 3

3)



Using the scale shown, what is the actual length of the diagonal side of this rectangle (approximately)?

☐ A. 10 m
☐ B. 14 m
☐ C. 20 m
☐ D. 28 m

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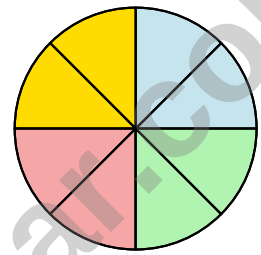
4) A student incorrectly calculates the circumference of a circle with radius 4 m by using the formula $C = \pi r^2$. Using $\pi \approx 3.14$, what incorrect answer did the student get?

☐ A. 12.56 m
☐ B. 25.12 m
☐ C. 50.24 m
☐ D. 100.48 m

5) A scatter plot shows the relationship between the price of a bicycle (x-axis, in dollars) and the number sold per month (y-axis). The points show a downward trend. What does this suggest?

☐ A. Expensive bikes never sell
☐ B. Lower-priced bikes tend to sell more
☐ C. Price and sales are unrelated
☐ D. The store should lower all prices

6)



A spinner has 8 equal sections: 2 blue, 2 yellow, 2 red, 2 green. If the spinner is spun, which outcome has probability $\frac{1}{4}$?

☐ A. Landing on blue
☐ B. Landing on red or green
☐ C. Landing on all colors
☐ D. Landing on blue or yellow

7) A classroom door lock requires entering a code with one digit (0–9) followed by one letter (A–Z). How many possible codes exist?

☐ A. 36
☐ B. 260
☐ C. 1000
☐ D. 2600

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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 B is correct.** 7.NS.1-7.NS.3 $\frac{2}{9} \div \frac{4}{3} = \frac{2}{9} \times \frac{3}{4} = \frac{6}{36} = \frac{1}{6}$.
2) **Choice A is correct.** 7.EE.4a Bar model shows base \$80 plus additional uniforms at \$15 each. Equation: $15u + 80 = 230$.
3) **Choice D is correct.** 7.RP.3 Percent increase $= \frac{27-18}{18} \times 100\% = \frac{9}{18} \times 100\% = 50\%$.
4) **Choice A is correct.** 7.SP.5-7.SP.8 The sample space has $4 \times 4 = 16$ equally likely outcomes. Only one outcome satisfies the condition: "first spin Red, second spin Blue."
5) **Choice B is correct.** 7.SP.1-7.SP.4 Only surveying willing patients from one hospital creates two forms of bias that prevent accurate comparison.
6) **Choice A is correct.** 7.SP.1-7.SP.4 Month 1's dots cluster around 71–73°F (x-coordinates 1–3.5 map to 70–75°F), a narrow range of 2°F. Month 2's dots span from 71 to 82°F (x-coordinates 1–12, range ≈ 11°F). Month 1 is more consistent.
7) **Choice B is correct.** 7.SP.1-7.SP.4 With 10 students total, the median is between the 5th and 6th values: positions 1 (70), 2–3 (75), 4–7 (80). The 5th and 6th values are both 80, so median = 80.
8) **Choice B is correct.** 7.SP.5-7.SP.8 Total $= 4 + 5 + 6 = 15$. $P(\text{blue}) = \frac{5}{15} = \frac{1}{3}$.
9) **Choice C is correct.** 7.SP.5-7.SP.8 Sample space: HH, HT, TH, TT. Favorable outcomes (same result): HH, TT. Probability: $\frac{2}{4} = \frac{1}{2}$.
10) **Choice D is correct.** 7.SP.5-7.SP.8 Easier using complement: $P(\text{at least one head}) = 1 - P(\text{all tails}) = 1 - \frac{1}{8} = \frac{7}{8}$.
11) **Choice A is correct.** 7.SP.6 Student A: $\frac{24}{50} = 0.48$, difference 0.02 from 0.5. Student B: $\frac{256}{500} = 0.512$, difference 0.012 from 0.5. This illustrates the law of large numbers—larger sample sizes yield results closer to theoretical probability.
12) **Choice C is correct.** 7.SP.1-7.SP.4 Count all leaves: $3 + 4 + 3 + 2 = 12$ data points.
13) **Choice B is correct.** 7.SP.5-7.SP.8 Experimental probability $= \frac{\text{times event occurred}}{\text{total trials}} = \frac{10}{60}$.
14) **Choice A is correct.** 7.RP.3 Percent error $= \frac{|18-24|}{24} \times 100\% = \frac{6}{24} \times 100\% = 25\%$.
15) **Choice B is correct.** 7.EE.1-7.EE.2 Distribute $\frac{1}{2}$: $(4a) \cdot \frac{1}{2} + (6) \cdot \frac{1}{2} = 2a + 3$.
16) **Choice D is correct.** 7.RP.3 $I = 2000 \times 0.055 \times 3 = \$330$. $A = 2000 + 330 = \$2330$.
17) **Choice D is correct.** 7.RP.3 Selling price = cost ×1.30. So $84 = \text{cost} \times 1.30$, giving cost $= 84 \div 1.30 \approx \$64.62$.
18) **Choice C is correct.** 7.NS.1b Both numbers are positive. Add them directly: $14 + 11 = 25$.
19) **Choice A is correct.** 7.NS.1-7.NS.3 Subtracting a negative becomes addition: $-2 - (-6) = -2 + 6 = 4$.
20) **Choice A is correct.** 7.EE.1-7.EE.2 GCF of 6 and 9 is 3. Both terms contain y. GCF is $3y$.
21) **Choice C is correct.** 7.RP.3 $\frac{84}{300} = \frac{7}{25} = 0.28 = 28\%$.
22) **The correct answer is B,C.** 7.G.1-7.G.5 B and C are both correct. When two lines intersect, they form two pairs of vertical angles (congruent pairs) and four pairs of supplementary adjacent angles. One angle is 73°; its vertical angle is also 73° (C). The adjacent angles are each $180 - 73 = 107°$. So the four angles are: 73°, 107°, 73°, 107° (B). A is false (not all 73°). D is technically true but already covered in B.
23) **The correct answer is** $(-6, 3)$ **.** 7.G.1-7.G.5 A 180° rotation about the origin uses the rule $(a, b) \to (-a, -b)$. If the image is $(6, -3)$, then $(-a, -b) = (6, -3)$, so $a = -6$ and $b = 3$. Thus the original point is $(a, b) = (-6, 3)$.
24) **Choice A is correct.** 7.EE.1 Combine like terms: $(8a - 3a) + (5b - 2b) = 5a + 3b$.
25) **Choice A is correct.** 7.EE.4b Set up: $-2 - d \leq -5$. Add 5: $3 - d \leq 0$, so $d \geq 3$.
26) **Choice C is correct.** 7.SP.1-7.SP.4 50% of $5000 = 0.50 \times 5000 = 2500$ MW.
27) **Choice D is correct.** 7.NS.2d Divide $23 \div 40 = 0.575$. Since $40 = 2^3 \times 5$, it terminates in three decimal places.
28) **Choice C is correct.** 7.EE.3-7.EE.4 From $5x + 3 = 28$, subtract 3 to get $5x = 25$. Both have solution $x = 5$. Check others: A: $2x + 6 = 16 \Rightarrow x = 5$ but $2x = 8 \Rightarrow x = 4$ ✗. B: $3x - 4 = 8 \Rightarrow x = 4$ but $3x = 4 \Rightarrow x = 4/3$ ✗. D: $4x - 2 = 10 \Rightarrow x = 3$ but $4x = 14 \Rightarrow x = 3.5$ ✗. Only C has both equations with the same solution.
29) **Choice C is correct.** 7.G.1-7.G.5 Width on drawing is 18 in, scale factor 8 yd per in: $18 \times 8 = 144$ yd.

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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 6 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

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PRACTICE TODAY. SUCCEED TOMORROW!

This book includes 6 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:

- 6 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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PRACTICE REGULARLY | STAY FOCUSED | SOLVE CONFIDENTLY | SUCCEED BRIGHTLY