

# 10

# North Dakota NDSA

GRADE  
**6**  
MATH

## PRACTICE TESTS

**Standards-Aligned Review**  
**Mixed Practice & Answer Key**



### 10 PRINTED TESTS

Realistic practice to build confidence and mastery



### 2 ONLINE TESTS

Extra practice for continued success



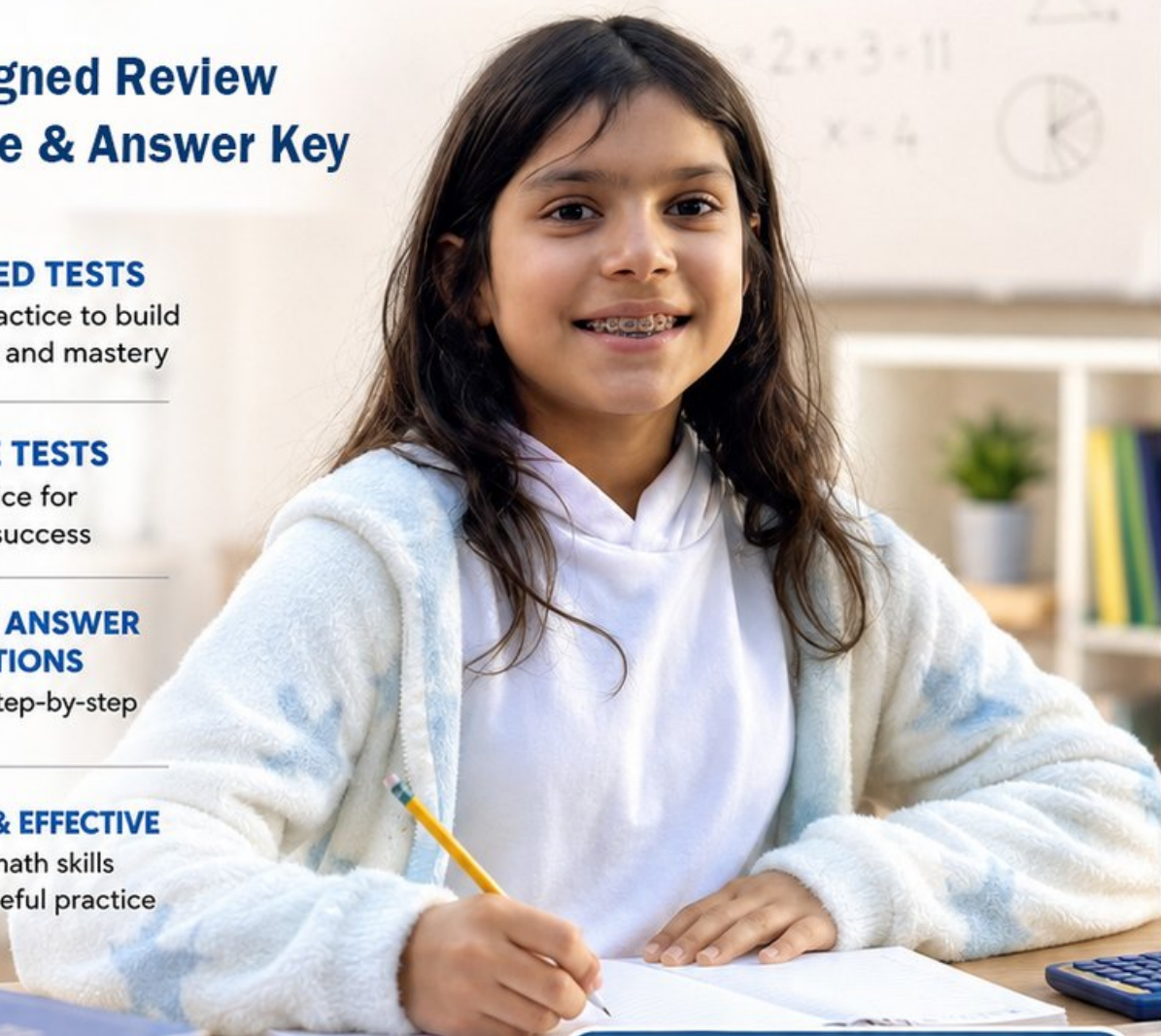
### DETAILED ANSWER EXPLANATIONS

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 North Dakota NDSA Grade 6 Math Practice Tests

*Standards-Aligned Steady Prairie Focus for North Dakota State Assessment*

$436 + 289$   $A = 24$

1 2 3 4 5 6 7 8 9 10

$7 \times 8$  **10**  $\frac{5}{6}$

complete North Dakota practice rounds

Ten complete 40-question Grade 6 practice rounds for NDSA, 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, North Dakota Math Explorer!

Ten steady rounds on a prairie-strength review path

This book gives you ten full Grade 6 practice tests for NDSA. Each round uses open plains, river routes, and quiet determination as a fresh mental backdrop while you read closely, choose a smart strategy, show your work, and check whether your answer makes sense.

## Your North Dakota Practice Promise

Stay with the problem long enough for the pattern to appear. I will slow down for the question, circle what matters, solve one step at a time, and use mistakes as clues for getting stronger.

Read

Plan

Check

## How to Use This Book

A ten-session routine for steady prairie focus

1. **Preview the skills.** Read the quick review pages before the first test.
2. **Take one test at a time.** Work in a quiet place and answer all 40 questions.
3. **Mark your confidence.** Put a small star beside problems you solved with a strong plan.
4. **Check, then retry.** For missed questions, try the problem again before reading the explanation.
5. **Track your next move.** Use the growth log to name one habit and one skill for the next test.

**North Dakota review rhythm:** Test one day, correct carefully the next day, then return for the next round when your corrections feel clear.



## What Is Inside?

Ten NDSA tests, 400 questions, and a full review path

Part	What You Will Practice
Tests 1–3	Warm-up 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	Stamina rounds for mixed review, neat work, and flexible strategy choices.
Test 10	Final North Dakota 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. Steady prairie focus means recognizing the skill even when the next question changes topic.



Scan me!  
For more practice  
& answers

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- 4) A triangular garden plot has a height of 7 meters and an area of  $84 \text{ m}^2$ . What is the base of the triangle?

- 5) In a school cafeteria, chocolate milk is mixed in a 2 : 3 ratio of chocolate syrup to milk. If 45 fluid ounces of milk are used, how much chocolate syrup is needed?

- A. 30 fl oz                       C. 24 fl oz  
 B. 20 fl oz                       D. 60 fl oz

- 6) Estimate:  $19.8 \div 4.1$ . Which is closest?

- A. 5                                       C. 24  
 B. 10                                     D. 1

- 7) A student records the number of minutes spent on homework: 24, 31, 28, 35, 29, 32, 26. Arranging in a stem-and-leaf plot, the data spans:

- A. One stem (20s)                       C. Three stems  
 B. Two stems (20s and 30s)               D. Cannot determine

- 8) A standard six-sided die is rolled. What is the probability of rolling a number less than or equal to 4?

- A.  $\frac{1}{6}$      C.  $\frac{2}{3}$   
 B.  $\frac{1}{3}$      D.  $\frac{5}{6}$



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& answers

- 9) A rectangle has vertices at  $(1, 1)$ ,  $(10, 1)$ ,  $(10, 4)$ , and  $(1, 4)$ . What is the perimeter of this rectangle?



- 10) A factory makes 360 toys in 6 hours. What is the rate in toys per hour?
- A. 60 toys per hour                       C. 80 toys per hour  
 B. 54 toys per hour                       D. 360 toys per hour
- 11) A soccer team trains together. They cover 12 miles in  $\frac{5}{2}$  hours. What is their unit rate in miles per hour?
- A. 2.4 mph                                       C. 4.0 mph  
 B. 3.0 mph                                       D. 4.8 mph
- 12) A recipe calls for sugar and eggs in the ratio 2 : 3. A table shows quantities for different servings:

Sugar (cups)	Eggs
2	3
4	6
6	?

- A. 7     C. 9  
 B. 8     D. 10

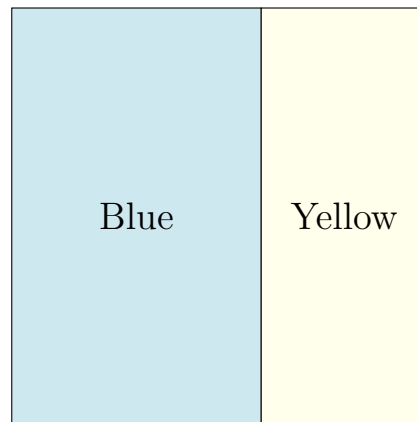


- 1) At a pet shelter, the ratio of dogs to cats is 3 : 2. If there are 18 dogs, how many cats are there?
- A. 6  C. 20  
 B. 27  D. 12
- 2) A gym membership requires members to be between a certain age range. The inequality  $x \geq 13$  represents the minimum age. On a number line, how should the circle at 13 appear?
- A. Open circle, because the symbol is  $\geq$   C. Open circle, because we want people older than 13  
 B. The symbol  $\geq$  does not use a circle on number lines  D. Closed circle, because the symbol is  $\geq$
- 3) A circular tabletop has a radius of 2 feet. What is its approximate area using  $\pi \approx 3.14$ ?
- A. 6.28 ft<sup>2</sup>  C. 25.12 ft<sup>2</sup>  
 B. 50.24 ft<sup>2</sup>  D. 12.56 ft<sup>2</sup>
- 4) Consider the question: "How much time do students in my class spend on video games each week?"  
What makes this a statistical question?
- A. It is asked every week.  D. It involves many people with different answers.  
 B. It requires a calculator to answer.  
 C. It mentions video games.



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1)

Based on the grid above, what is the probability of selecting a blue square if one square is picked at random?

- A.  $\frac{3}{10}$   
 B.  $\frac{1}{2}$

- C.  $\frac{3}{5}$   
 D.  $\frac{2}{5}$

Total = 100% = ? pages



2)

If 80% of a book's pages equals 200 pages, how many total pages does the book have?

- A. 160  
 B. 240

- C. 250  
 D. 300



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& answers

3) A cookie recipe serves 8 people and uses  $\frac{3}{4}$  cup of butter. How much butter is needed to serve 4 people?

A.  $\frac{1}{4}$  cup

B.  $\frac{3}{8}$  cup

C.  $\frac{1}{2}$  cup

D.  $\frac{2}{3}$  cup

4)

Inches	12	24	36
Feet	1	2	3

Using the table, which is the correct conversion for 60 inches?

A. 4 feet

B. 5 feet

C. 6 feet

D. 7 feet

5) A video game costs \$60 this year. Next year, the price increases by 10%. What will the new price be?

A. \$64

B. \$66

C. \$70

D. \$72

6) Convert  $\frac{3}{8}$  to a percent.

7) What is  $6.3 \times 0.9$ ?

A. 5.67

B. 56.7

C. 0.567

D. 7.2



## North Dakota NDSA Practice Test Answer Keys

**How to use this section with a Grade 6 student:**

1. check the answer first
2. mark questions to try again
3. rework the problem before reading the full explanation

**A calm correction routine turns every missed item into useful practice.**

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## Practice Test Answers and Explanations

### Practice Test 1 Answers and Explanations

- Choice C is correct.** (6.NO.O.4) Blue is the 1-part amount, and it is 8 units. Yellow is 3 parts, so the yellow length is  $3 \times 8 = 24$  units.
- Choice A is correct.** (6.GM.GF.2) Total:  $\$30 + \$40 + \$50 = \$120$ . School supplies:  $\frac{\$30}{\$120} = \frac{1}{4} = 25\%$ .
- Choice C is correct.** (6.AR.RP.2) Actual dimensions:  $4 \times 10 = 40$  km and  $6 \times 10 = 60$  km. Area:  $40 \times 60 = 2400$  km<sup>2</sup>.
- The correct answer is 24.** (6.DPS.D.4) Solving:  $84 = \frac{1}{2} \times b \times 7 \Rightarrow b = 24$  m.
- Choice A is correct.** (6.DPS.D.2) Milk is the 3-part amount. Since  $45 \div 3 = 15$ , each part is 15 fl oz, and chocolate syrup is 2 parts:  $2 \times 15 = 30$  fl oz.
- Choice A is correct.** (6.DPS.D.4) Round:  $19.8 \approx 20$  and  $4.1 \approx 4$ . Then  $20 \div 4 = 5$ . The exact answer is  $\approx 4.83$ .
- Choice B is correct.** (6.NO.NS.1) Values range from 24 to 35, covering stem 2 (20s: 24, 26, 28, 29) and stem 3 (30s: 31, 32, 35).
- Choice C is correct.** (6.GM.GF.2) Favorable outcomes: 1, 2, 3, 4 (four outcomes). Total outcomes: 6. Probability  $= \frac{4}{6} = \frac{2}{3}$ .
- The correct answer is 26.** (6.AR.EE.3) Length =  $10 - 1 = 9$  units; width =  $4 - 1 = 3$  units. Perimeter =  $2(9 + 3) = 2(12) = 26$  units.
- Choice A is correct.** (6.GM.AV.1) Divide toys by hours:  $360 \div 6 = 60$  toys per hour.
- Choice D is correct.** (6.NO.O.3)  $12 \div \frac{5}{2} = 12 \times \frac{2}{5} = \frac{24}{5} = 4.8$  miles per hour.
- Choice C is correct.** (6.NO.O.3) The ratio is 2 : 3. When sugar is 6 (multiply by 3), eggs are  $3 \times 3 = 9$ .
- Choice D is correct.** (6.AR.EE.3) At the point where oranges = 2, cost = \$1, giving a ratio of  $\$1 \div 2 = \$0.50$  per orange. Or use any point: at (8, 4), the rate is  $\$4 \div 8 = \$0.50$  per orange.
- Choice A is correct.** (6.AR.EE.2)  $\frac{150}{250} = \frac{3}{5} = \frac{60}{100} = 60\%$ .
- Choice A is correct.** (6.AR.EE.3) 60% of \$35 =  $0.60 \times 35 = \$21$ . Clearance price is  $\$35 - \$21 = \$14$ .
- Choice D is correct.** (6.AR.EE.3) Option 1:  $8 \div 16 = 0.50$  per bagel. Option 2:  $9 \div 20 = 0.45$  per bagel. Option 2 is cheaper.
- Choice D is correct.** (6.AR.EE.4) Multiply:  $120 \times 1000 = 120,000$  meters.
- The correct answer is The equation is  $C = 25p + 100$  (the \$25 per person is multiplied by  $p$ , and the flat \$100 fee is added). For 10 people:  $C = 25(10) + 100 = 250 + 100 = 350$  dollars..** (6.AR.EE.6) Statement B is correct:  $C = 25p + 100$ . Statement D is correct:  $C = 25(10) + 100 = 350$ . Statement A reverses the coefficients (incorrect). Statement C is wrong because with 0 people,  $C = 25(0) + 100 = 100$ , not \$0 (the flat fee applies even with no attendees). Statement E is true (people is independent), but it is not part of the correct answer pair for this item.
- Choice A is correct.** (6.AR.RP.3) Remainder after rent and food:  $\$500 - \$200 - \$100 = \$200$ . Savings: 38% of  $\$200 = 0.38 \times 200 = \$76$ .
- Choice D is correct.** (6.GM.AV.1) For months 1, 2, 3: cost/months =  $40/1 = 80/2 = 120/3 = 40$ . The constant ratio (ignoring the 0,0 point) shows proportionality. The equation is  $c = 40m$ .
- Choice B is correct.** (6.NO.O.3)  $2\frac{1}{4} = \frac{9}{4}$  and  $1\frac{1}{2} = \frac{3}{2}$ , so  $\frac{9}{4} \div \frac{3}{2} = \frac{9}{4} \times \frac{2}{3} = \frac{18}{12} = \frac{3}{2} = 1\frac{1}{2}$ .
- Choice A is correct.** (6.GM.GF.2)  $3,920 \div 20 = 196$ . The orchard needs 196 crates.
- Choice B is correct.** (6.DPS.D.1)  $84 = 4 \times 21 = (2 \times 2) \times (3 \times 7) = 2^2 \times 3 \times 7$ . Options A, C, and D contain composite numbers.
- The correct answer is 8.** (6.DPS.D.1)  $Q_1 = 4$  and  $Q_3 = 12$ , so IQR =  $12 - 4 = 8$ .
- Choice A is correct.** (6.AR.RP.1)  $9(5 + 2) = 9 \cdot 5 + 9 \cdot 2 = 45 + 18 = 63$ . Choice A shows the correct expanded form.
- Choice D is correct.** (6.DPS.D.2) Absolute value represents distance from zero. Both 6 and  $-6$  are exactly 6 units away from zero, so  $|6| = |-6| = 6$ .



## Hi, Math Champion!

◇ You trained hard! 10 full practice tests is real practice. Your math game is way better now than when you started. ◇

★ **Coach's truth:** kids who practice get better. You practiced. You got better. That's how it works!  
★

### Your Game Stats

- **Energy:** HIGH! You can finish a long test.
- **Smart Plays:** You know lots of strategies.
- **Calm Head:** You stay cool with hard problems.
- **Game-Day Ready:** You feel strong and prepared.

**Coach's tip:** the night before the test, get good sleep. Eat a good breakfast. Bring a sharp pencil. Trust your training!

If you want to share something or ask a question, please email me at [jay@testinar.com](mailto:jay@testinar.com).

**Jay Daie**

Your Math Coach

# PRACTICE MORE. ACHIEVE MORE. SUCCEED!

This **Grade 6 Math Practice Tests** book is designed to help students build strong math skills, deepen their understanding of key concepts, and gain the confidence they need to succeed on any test.

With 10 full-length printed tests and 2 online tests, students get the review, practice, and realistic test experience they need to improve accuracy, strengthen 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



**CONFIDENCE TODAY.  
SUCCESS 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.



### Deepen 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.



10 PRINTED  
PRACTICE TESTS



2 ONLINE  
PRACTICE TESTS



DETAILED ANSWER  
EXPLANATIONS