

# 9

# North Dakota NDSA

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 North Dakota NDSA Grade 6 Math Practice Tests

*Standards-Aligned Northern Plains Test Focus for North Dakota State Assessment*

$436 + 289$   $A = 24$

1 2 3 4 5 6 7 8 9

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

complete North Dakota practice rounds

Nine complete 40-question Grade 6 practice rounds for NDSA, built for northern plains test focus 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!

Nine focused rounds using northern plains test focus

This book gives you nine full Grade 6 practice tests for NDSA. Each round uses prairie roads, river breaks, and patient calculation 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

Keep the work steady: read, set up, solve, and compare the answer to the question.

Read

Plan

Check

## How to Use This Book

A nine-session routine for northern plains test focus

1. **Preview the skills.** Scan the quick review pages before beginning the first round.
2. **Work in order.** Take one 40-question test at a time in a quiet place.
3. **Mark confidence.** Put a small star beside problems where your plan felt strong.
4. **Correct actively.** Retry missed items before reading the full explanation.
5. **Plan the next round.** Use the growth log to choose one habit and one skill to practice.

**North Dakota review rhythm:** Use each test as a field note, then practice the skills that need the most attention.



## What Is Inside?

Nine NDSA 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. Northern plains test focus means recognizing the skill even when the next question changes topic, changes format, or asks for an explanation.



Scan me!  
For more practice  
& answers

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1) Which statement about the height of a triangle is true?

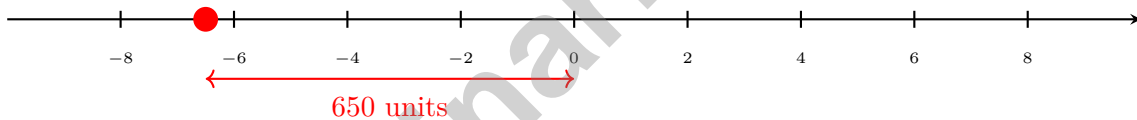
- A. It is always a side of the triangle.       D. It is always perpendicular to the base.
- B. It is the perimeter divided by 2.
- C. It is always the longest side.

2) What is the value of  $0.3 \times 0.3$ ?

- A. 0.09       C. 9
- B. 0.9       D. 0.6

3) Find the GCF of 38 and 57 using prime factorization.

- A. 1       C. 38
- B. 57       D. 19



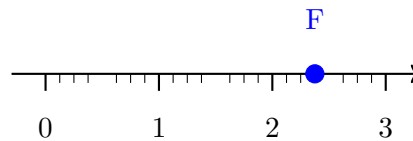
4)

A submarine is 650 feet below sea level. Which expression represents this depth using absolute value?

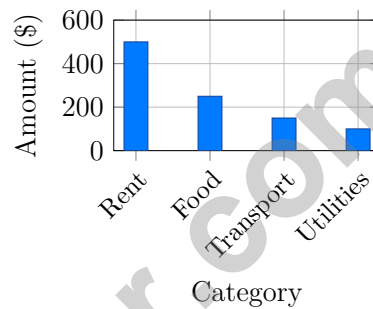
- A.  $|-650|$        C.  $-650$
- B.  $|650|$        D. 650



- 5) The number line below has tick marks at eighths from 0 to 1. Which mixed number is closest to point F?



- A.  $2\frac{1}{4}$ 
 C.  $2\frac{1}{2}$   
 B.  $2\frac{3}{8}$ 
 D.  $2\frac{5}{8}$



6)

The bar chart shows a household budget. What is the total budget?

- A. \$800
  C. \$1200  
 B. \$1000
  D. \$1400
- 7) A drawing shows an object as 6 cm long. The actual object is 3 meters long. What is the scale of the drawing?
- A. 1 cm = 0.5 m
  C. 6 cm = 3 m  
 B. 1 cm = 5 m
  D. 1 cm = 50 m



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8) Rewrite  $3(4 + 5) + 2(4 + 5)$  by **factoring out**  $(4 + 5)$  as one product (one pair of grouped factors multiplying).

A.  $(3 + 2)(4 + 5)$

C.  $5(14)$

B.  $3 \cdot 4 + 3 \cdot 5 + 2 \cdot 4 + 2 \cdot 5$

D.  $(3 \times 4) + (2 \times 5)$

9) A student measures the width of a table as 180 centimeters. How many meters wide is the table?

10) Marcus invests \$500 in a savings account with a simple interest rate of 3% per year. Using the formula  $I = P \times r \times t$ , how much interest will he earn in 4 years?

11) Which set of three integers is correctly ordered from least to greatest?

A.  $-2, -5, -1$

C.  $-8, -3, 0$

B.  $2, -2, 0$

D.  $-1, 0, -2$

12) What are the coordinates of the origin?

A.  $(1, 1)$

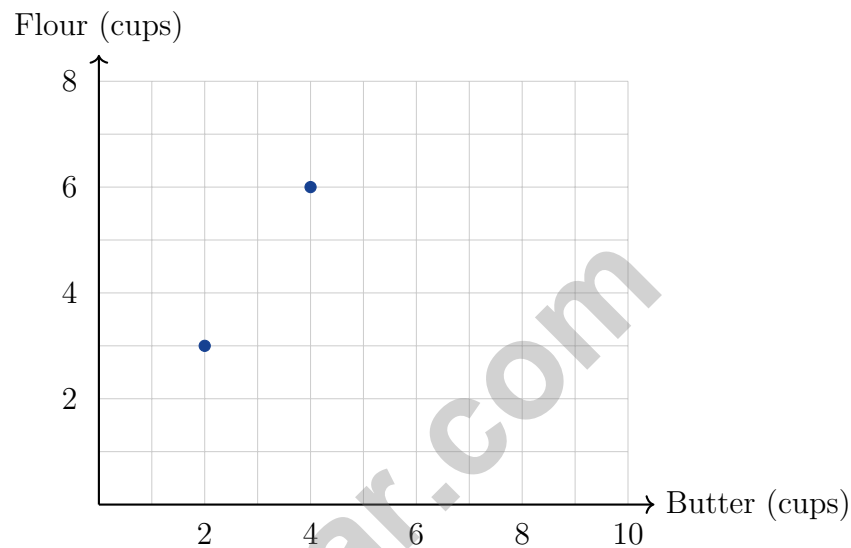
C.  $(-1, -1)$

B.  $(0, 0)$

D.  $(0, 1)$



- 1) A bakery makes cookies using a 2:3 ratio of butter to flour (in cups). The graph has butter on the x-axis and flour on the y-axis. If a recipe uses 8 cups of butter, what is the y-coordinate of this point?



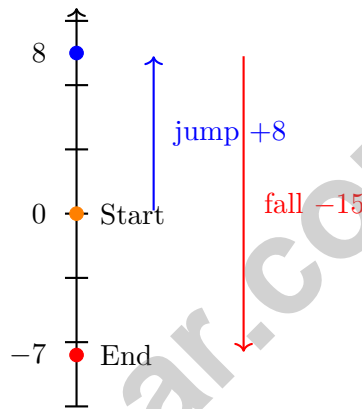
- A. 10
- B. 11
- C. 12
- D. 13
- 2) What is the value of  $10 - 2^2 \times 2 + 3$ ?
- A. 5
- B. 7
- C. 11
- D. 15
- 3) If the distance between points  $(0, a)$  and  $(0, -5)$  is 8 units, what is  $a$ ?
- A.  $a = 3$  or  $a = -13$
- B.  $a = -3$  or  $a = 13$
- C.  $a = 2$  or  $a = -12$
- D.  $a = 5$  or  $a = -8$



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- 4) A  $10 \times 10$  grid has 52 shaded squares. What percent of the grid is shaded?

- 5) A video game character starts at elevation 0. She jumps up 8 meters, then falls 15 meters. What is her final elevation?



- A. -23 meters
- B. 23 meters
- C. 7 meters
- D. -7 meters
- 6) A model airplane has a wingspan of 18 inches. The actual airplane has a wingspan of 54 feet. What is the scale of the model (in inches to feet)?
- A. 1 inch = 2 feet
- B. 1 inch = 9 feet
- C. 1 inch = 6 feet
- D. 1 inch = 3 feet





4) Class A scored a mean of 82 on a test; Class B scored a mean of 76 on the same test. Which statement is best supported by the data?

- A. Every student in Class A scored higher than every student in Class B.
- B. Class A's typical score was higher than Class B's.
- C. Class B had more students than Class A.
- D. The two classes had identical performance.

5) A circle graph (pie chart) shows the distribution of 360 students by lunch preference: pizza 120 students, tacos 90 students, salad 60 students, other 90 students.

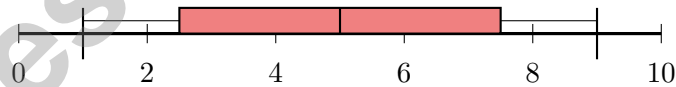
What angle in degrees should the pizza section span?

- A. 180 degrees
- B. 90 degrees
- C. 60 degrees
- D. 120 degrees

6) A data set has the values 10, 12, 14, 16, 18. The mean is 14. What is the mean absolute deviation?

- A. 1.5
- B. 2
- C. 2.4
- D. 4

7) Use the box plot below. What is the IQR?



- A. 1.5
- B. 3.5
- C. 5
- D. 8



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**North Dakota NDSA Practice Test Answer Keys**

**How to use this North Dakota NDSA 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 northern plains test focus
3. rework the problem before reading the full explanation, using this reminder:  
Keep the work steady: read, set up, solve, and compare the answer to the question.

**A calm North Dakota correction routine turns every missed item into useful practice. Use each test as a field note, then practice the skills that need the most attention.**



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## North Dakota Practice Test Answers and Explanations

Review the nine printed NDSA tests with patient, focused, and ready for the next checkpoint habits.

### Practice Test 1 Answers and Explanations

- 1) **Choice D is correct.** **(6.GM.AV.1)** The height is defined as the perpendicular distance from the base to the opposite vertex, regardless of the triangle type.
- 2) **Choice A is correct.** **(6.NO.O.2)**  $3 \times 3 = 9$ . We have  $1 + 1 = 2$  decimal places total, so 0.09 is correct.
- 3) **Choice D is correct.** **(6.NO.O.4)** Prime factorization:  $38 = 2 \times 19$  and  $57 = 3 \times 19$ . The only common prime factor is 19, so GCF is 19.
- 4) **Choice A is correct.** **(6.NO.NS.2)** Below sea level is represented by a negative number:  $-650$ . The absolute value  $|-650| = 650$  represents the magnitude of the depth.
- 5) **Choice B is correct.** **(6.NO.NS.1)** Point F is at  $2 + \frac{3}{8} = 2\frac{3}{8}$ , which equals 2.375.
- 6) **Choice B is correct.** **(6.DPS.D.2)** Total:  $\$500 + \$250 + \$150 + \$100 = \$1000$ .
- 7) **Choice A is correct.** **(6.NO.O.3)** Divide:  $3 \text{ m} \div 6 \text{ cm} = 0.5 \text{ m per cm}$ . Scale is  $1 \text{ cm} = 0.5 \text{ m}$ .
- 8) **Choice A is correct.** **(6.NO.O.4)** Treat  $(4+5)$  like a chunky variable and slide it outside:  $3(4+5) + 2(4+5) = (3+2)(4+5)$ . Choice B totals 45, but shows every miniature product—not one clean factored form. Choice C mistakenly multiplies by 14, and Choice D chops the parentheses.
- 9) **The correct answer is 1.8.** **(6.AR.RP.5)** Divide:  $180 \text{ cm} \div 100 \text{ cm/meter} = 1.8 \text{ meters}$ .
- 10) **The correct answer is 60.** **(6.DPS.D.4)**  $I = \$500 \times 0.03 \times 4 = \$60$ . To earn interest, we apply the principal, rate, and time to the formula.
- 11) **Choice C is correct.** **(6.NO.NS.2)** Ordering from least to greatest:  $-8 < -3 < 0$ . Choice C is the only set in correct order.
- 12) **Choice B is correct.** **(6.GM.GF.1)** The origin is the intersection of the  $x$ -axis and  $y$ -axis, located at the coordinates  $(0, 0)$ .
- 13) **Choice A is correct.** **(6.NO.NS.2)** Negatives come before positives.  $-\frac{1}{3} < -\frac{1}{6}$  and  $\frac{1}{6} < \frac{1}{3}$ .
- 14) **The correct answer is 2 (quotient).** **(6.NO.O.3)** Flip  $\frac{5}{12}$  to  $\frac{12}{5}$ , then multiply:  $\frac{5}{6} \times \frac{12}{5}$ , which simplifies to  $\frac{60}{30} = 2$  (pure number quotient in this computation).
- 15) **Choice B is correct.** **(6.AR.EE.3)** Substitute:  $5(2) + 2(3) - 3(1) = 10 + 6 - 3 = 13$ .
- 16) **Choice C is correct.** **(6.DPS.D.4)** Banana costs  $o + 5 = 30 + 5 = 35$  cents.
- 17) **Choice D is correct.** **(6.AR.EE.6)** “At most 3 weeks” means “less than or equal to 3 weeks,” so  $w \leq 3$  (includes 3 weeks).
- 18) **Choice B is correct.** **(6.AR.RP.3)** In the equation  $T = 8m$ , the number 8 (multiplied by  $m$ ) represents \$8 per month, the monthly charge.
- 19) **The correct answer is The graph is a straight line through the origin, and the ratio of  $y$  to  $x$  is always constant.** **(6.AR.RP.3)** 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.
- 20) **Choice C is correct.** **(6.GM.AV.2)**  $V = B \times h = 20 \times 3 = 60 \text{ cm}^3$ .
- 21) **Choice C is correct.** **(6.GM.GF.3)** Lateral surface area = sum of three rectangles =  $3 \times (8 \times 4) = 3 \times 32 = 96 \text{ cm}^2$ . (Perimeter  $\times$  height =  $12 \times 8 = 96 \text{ cm}^2$ .)
- 22) **The correct answer is 137.** **(6.NO.O.1)**  $7,398 \div 54 = 137$  with no remainder. Students should show long division steps and verify:  $54 \times 137 = 7,398$ .
- 23) **Choice D is correct.** **(6.GM.GF.2)** The  $x$ -coordinate stays the same; only the  $y$ -coordinate changes sign. This is reflection over the  $x$ -axis.



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Captain's Log

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## Ahoy, Math Sailor!

◇ You sailed through 9 full tests. Some waters were calm. Some waters were rough. You kept your boat steady the whole way. ◇

★ **Captain's truth:** good sailors stay calm. They use the wind. They check the map. You did all those things on every test. ★

### Sailor's Skills

- **Steady Hand:** You stay calm even when problems are tricky.
- **Map Skills:** You read each problem carefully.
- **Brave Spirit:** You believe in yourself.
- **Safe Harbor:** You finish what you start.

**Captain's tip:** on test day, sail steady. Trust the map you built through 9 practice tests. You will reach safe harbor!

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 Captain

# 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