

# 5

# FULL-LENGTH

# North Dakota

# NDSA

# GRADE 5 MATH

## ★ PRACTICE TESTS ★



**5 FULL-LENGTH  
PRACTICE TESTS**



**COMPLETE  
STANDARDS  
REVIEW**



**SKILL PRACTICE,  
WORD PROBLEMS,  
AND MORE!**

$$\frac{3}{4} + \frac{2}{4} = \frac{5}{4}$$



$$12 \times 3 = 36$$



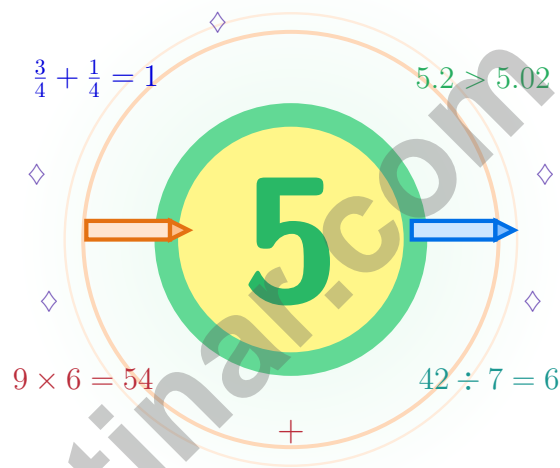
$$\frac{7}{10} = 0.7$$



**BUILT FOR SUCCESS. DESIGNED TO HELP EVERY STUDENT.**

# 5 North Dakota NDSA Grade 5 Math Practice Tests

*Five checkpoints, five growth checks, one calm routine*



Five full tests, a friendly quick review, smart strategy pages, and student-tested support that turn Grade 5 practice in The Peace Garden State into a steady quest of real growth.

**Jay Daie and Reza Nazari**



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# North Dakota Math Crew, Welcome to the Quest

Five checkpoints, five growth checks, one calm routine

## To the Grade 5 Problem Solver

This book is your practice zone, not a place to be perfect. Each of the five tests gives you a chance to notice clues, choose a strategy, check your thinking, and come back stronger for the next round. Math is a lot like a North Dakota prairie – wide, open, and patient with anyone willing to keep looking.

Some questions will feel easy right away. Some will make you slow down, draw, estimate, or retry. That is excellent news. It means your math brain is doing real work.

### Spot Clues

Notice the numbers, units, and tricky words.

### Make a Plan

Choose the strategy or model that fits.

### Bounce Back

Mistakes show you exactly where to grow next.

**A strong quest habit for North Dakota:** slow down, write neatly, estimate before you solve, and keep going even when a problem looks tricky at first. That is exactly how confident math students are built.

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# How to Get the Most Out

A simple routine that turns five tests into real growth

## Step 1: Warm Up

**Sharpen your math brain with the quick review.**

Wake up important ideas before you begin so your brain is ready to use them.

## Step 2: Quest Run

**Take a full practice test in a calm spot.**

Find a quiet space, work carefully, and let accuracy matter more than speed.

## Step 3: Debrief

**Score honestly and circle missed questions.**

Circle missed questions and look for patterns. Which skill or habit needs another try?

## Step 4: Repair Kit

**Fix the missed work and lock the lesson in.**

Read the explanation, repair the work, and carry that lesson into the next test.

## A Five-Week North Dakota Quest Map

Week	Mission Focus
Week 1	Take Test 1 with the wide, patient gaze of a prairie sunrise.
Week 2	Take Test 2 and notice one habit that grew steadier.
Week 3	Take Test 3 and lift fractions, decimals, and conversions.
Week 4	Take Test 4 and slow down on multi-step problems.
Week 5	Take Test 5 with calm, careful focus.



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## Grade 5 Mathematics Reference Materials

### PERIMETER AND AREA

Perimeter of Rectangle  $P = 2l + 2w$  or  $P = 2(l + w)$

Area of Rectangle  $A = l \times w$

Area of Triangle  $A = \frac{1}{2} \times b \times h$

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### TIME

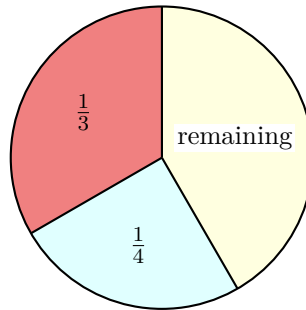
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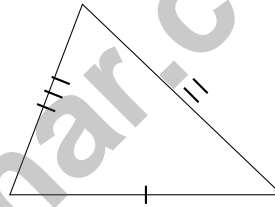


- 1) Two students share a pizza. One eats  $\frac{1}{3}$  and the other eats  $\frac{1}{4}$ . How much remains?



- A.  $\frac{5}{12}$                        C.  $\frac{1}{12}$   
 B.  $\frac{7}{12}$                        D.  $\frac{9}{12}$

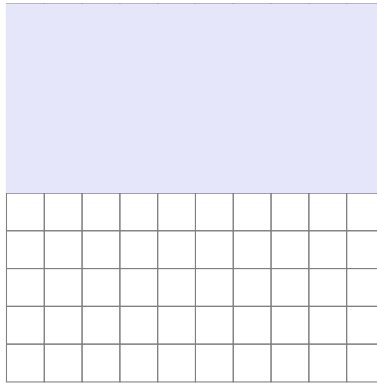
- 2) Look at the triangle. The sides have different tick marks. What type is it?



- A. Equilateral                       C. Scalene  
 B. Isosceles                       D. Right



- 3) Use the 10 by 10 grid. The shaded region shows  $\frac{50}{100}$ . What is this fraction in simplest form?



- A.  $\frac{1}{2}$                        C.  $\frac{2}{5}$   
 B.  $\frac{1}{5}$                        D.  $\frac{5}{100}$
- 4) Pattern X is 1, 2, 3, 4. Pattern Y is 4, 8, 12, 16. Each Y value is how many times X?

*Record your answer in the space provided.*

- 5) A swimming championship features three events. Times are: Event 1: 2 minutes 35 seconds  
Event 2: 3 minutes 12 seconds Event 3: 2 minutes 48 seconds  
What is the total time for all three events?
- A. 9 minutes 35 seconds                       C. 9 minutes 5 seconds  
 B. 8 minutes 55 seconds                       D. 8 minutes 35 seconds



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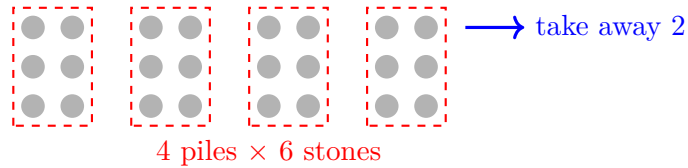
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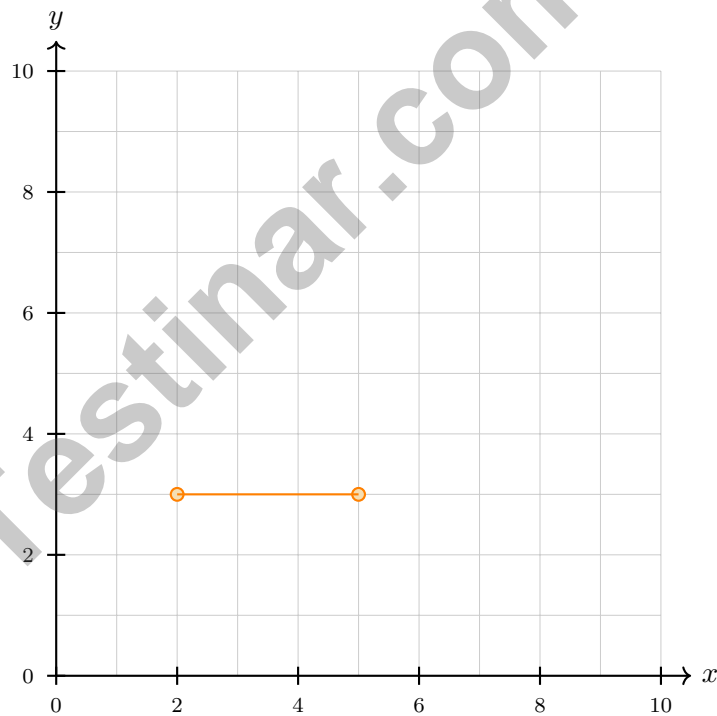
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- 1) A diagram shows 4 piles of 6 stones; 2 stones are taken away. Which expression describes the total stones remaining?



- A.  $4 + 6 - 2$
- B.  $4 \times (6 - 2)$
- C.  $4 \times 6 - 2$
- D.  $(4 + 6) \times 2$
- 2) Which set of points would form a horizontal line segment on the coordinate plane?



- A. (2, 3) and (5, 3)
- B. (2, 3) and (2, 7)
- C. (4, 1) and (6, 4)
- D. (1, 5) and (7, 2)



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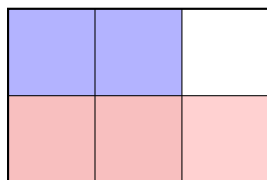


1) A swimmer has 5 miles of practice lanes to divide into  $\frac{1}{4}$ -mile repeats. How many repeats can she plan?

- A.  $\frac{1}{4}$  repeat  
 B.  $\frac{3}{4}$  repeat

- C.  $1\frac{3}{4}$  repeats  
 D. 20 repeats

2) A recipe calls for  $\frac{2}{3}$  cup of flour and  $\frac{1}{2}$  the amount of sugar. How much sugar is needed?



- A.  $\frac{1}{3}$  cup or  $\frac{2}{6}$  cup  
 B.  $\frac{1}{6}$  cup

- C.  $\frac{1}{2}$  cup  
 D.  $\frac{3}{4}$  cup

3) What is  $9,200 \div 1,000$ ?

- A. 92,000  
 B. 92

- C. 920  
 D. 9.2

4) Two rectangular prisms have the same volume of 100 cubic inches. Prism X has dimensions  $5 \times 4 \times 5$ . Which dimensions could be Prism Y?

- A.  $10 \times 5 \times 2$   
 B.  $10 \times 2 \times 4$

- C.  $5 \times 5 \times 3$   
 D.  $2 \times 2 \times 20$

5) What is  $9 \div \frac{1}{3}$ ?

- A. 27  
 B. 9

- C. 18  
 D. 36



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1) A science measurement is 19.455 cm. Which shows correct rounding to nearest tenth?

A.  $19.455 \rightarrow 19.4$

B.  $19.455 \rightarrow 19.5$

C.  $19.455 \rightarrow 19.45$

D.  $19.455 \rightarrow 20$

2) Solve:  $\underline{\hspace{1cm}} \times 10^2 = 4500$

A. 45000

B. 450

C. 4500

D. 45

3) Find the difference:  $4\frac{1}{2} - 1\frac{1}{4}$ .

*Record your answer in the space provided.*

4) A box of crayons has 36 crayons. If you use  $\frac{2}{9}$  of them for a project, how many do you use?

A. 4 crayons

B. 8 crayons

C. 18 crayons

D. 28 crayons

5) Evaluate:  $15 + 3 \times (7 - 2)$

A. 12

B. 20

C. 30

D. 90



## Practice Test Answer Keys

### How to use this section:

1. check your answer
2. circle missed questions
3. rework them before reading the explanation

**Good correction habits build strong scores.**

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## Practice Test Answers and Explanations

### Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** (5.NO.NF.4) Eaten:  $\frac{1}{3} + \frac{1}{4} = \frac{4}{12} + \frac{3}{12} = \frac{7}{12}$ . Remaining:  $1 - \frac{7}{12} = \frac{5}{12}$  of pizza.
- 2) **Choice C is correct.** (5.GM.G.1) No sides have matching tick marks, so all sides are different lengths, making this a scalene triangle.
- 3) **Choice A is correct.** (5.NO.NF.3) Divide both numerator and denominator by 50:  $\frac{50}{100} = \frac{1}{2}$ .
- 4) **The correct answer is 4.** (5.GM.G.3) Each Y value is 4 times the matching X value:  $4 \div 1 = 4$ ,  $8 \div 2 = 4$ , and so on.
- 5) **Choice D is correct.** (5.DPS.D.1) Add the seconds:  $35 + 12 + 48 = 95$  seconds, which is 1 minute 35 seconds. Add the minutes:  $2 + 3 + 2 = 7$  minutes. The total is 8 minutes 35 seconds.
- 6) **Choice A is correct.** (5.AR.OA.3) The gift and card together cost  $42 + 3$  dollars. Since 6 friends share that total, divide the whole sum by 6.
- 7) **Choice B is correct.** (5.NO.NF.3)  $\text{LCM}(10,3) = 30$ .  $\frac{4}{10} = \frac{12}{30}$  and  $\frac{1}{3} = \frac{10}{30}$ .  $\frac{12}{30} + \frac{10}{30} = \frac{22}{30} = \frac{11}{15}$ .
- 8) **Choice D is correct.** (5.NO.NBT.5) Add:  $1.23 + 2.45 = 3.68$ ; then  $3.68 + 0.89 = 4.57$ .
- 9) **Choice A is correct.** (5.GM.M.2) Butter needed =  $\frac{1}{3} \times \frac{3}{4} = \frac{3}{12} = \frac{1}{4}$  cup.
- 10) **Choice B is correct.** (5.AR.OA.5) The x-coordinate (30) is time in minutes, and the y-coordinate (250) is calories burned. So 30 minutes of exercise burned 250 calories.
- 11) **The correct answer is 9 ft<sup>2</sup>.** (5.NO.NF.3)  $4\frac{1}{2} \times 2 = \frac{9}{2} \times 2 = 9$ , so the area is 9 square feet.
- 12) **Choice C is correct.** (5.AR.OA.3) Three copies of 20 are greater than two copies, one copy, or half of one copy.
- 13) **Choice C is correct.** (5.NO.CC.1) The digit 2 is in the hundredths place (the second position to the right of the decimal point).
- 14) **Choice B is correct.** (5.NO.NF.4)  $\frac{1}{8} \div 5 = \frac{1}{8} \times \frac{1}{5} = \frac{1}{40}$ .
- 15) **The correct answer is 23.** (5.AR.OA.5) The terms are 7, 11, 15, 19, 23, so the 5th term is 23. A complete response explains that the pattern adds 4 each step.
- 16) **Choice C is correct.** (5.AR.OA.2) Evaluate inside the parentheses first:  $15 - 7 = 8$ . Then  $8 \times 3 = 24$ , so choice C has a value of 24.
- 17) **Choice C is correct.** (5.DPS.D.1) Total is 5 miles. Sum of known segments:  $1.2 + 1.3 + 1.1 = 3.6$  miles. Final segment:  $5 - 3.6 = 1.4$  miles.
- 18) **Choice B is correct.** (5.NO.NBT.4) Round 74 to 70 and 49 to 50. Then  $70 \times 50 = 3,500$ .
- 19) **Choices A, B are correct.** (5.NO.NBT.7)  $10^3 = 1,000 = 10 \cdot 10 \cdot 10$ . C uses addition, and D equals 10,000.
- 20) **Choice A is correct.** (5.GM.M.3) Total volume:  $4 \times 3 \times 2 = 24$  cubes. Already placed: 15. Needed:  $24 - 15 = 9$  unit cubes.
- 21) **The correct answer is >.** (5.NO.NF.2) A complete response should explain that  $\frac{9}{8} > 1$ , so the product is greater than  $\frac{3}{5}$ . Then compute  $\frac{9}{8} \times \frac{3}{5} = \frac{27}{40}$ .
- 22) **Choice C is correct.** (5.NO.NBT.7) Each factor has four zeros. Multiplying powers of 10 combines those zeros, giving a product with 8 zeros.
- 23) **Choice C is correct.** (5.GM.M.3) Small:  $3 \times 2 \times 8 = 48$  cubic feet. Large:  $4 \times 3 \times 8 = 96$  cubic feet. Difference:  $96 - 48 = 48$  cubic feet.
- 24) **Choice A is correct.** (5.NO.NBT.5) Align by place value and subtract:  $9.87 - 3.42 = 6.45$ .
- 25) **Choice C is correct.** (5.GM.M.3) Find each part first: Prism A is  $8 \times 2 \times 4 = 64$  cubic feet, and Prism B is  $3 \times 5 \times 4 = 60$  cubic feet. Because the parts do not overlap, add them:  $64 + 60 = 124$  cubic feet.
- 26) **Choice B is correct.** (5.NO.NBT.7) When dividing by 10, each digit moves to a place with one-tenth the value, so 640 becomes 64.
- 27) **Choice A is correct.** (5.NO.NBT.3) The tenths digit is 3. The hundredths digit is 4. Since  $4 < 5$ , round down. 15.349 rounded to the nearest tenth is 15.3.
- 28) **Choice C is correct.** (5.NO.NF.3)  $\frac{1}{3}$  is closest to  $\frac{1}{2}$ , and  $\frac{5}{12}$  is also closest to  $\frac{1}{2}$ . Adding the benchmarks gives  $\frac{1}{2} + \frac{1}{2} = 1$ .



**Mission Control Transmission**

---

**Greetings, Space Pioneer!**

★ Mission accomplished! You've successfully completed five simulated space missions, navigating through challenging mathematical asteroid fields and solving complex orbital calculations like a trained astronaut! Each test was a mission into unknown territory, and you handled every challenge with the precision and focus of a space professional. You're ready for launch! ★

◇ **Here's what astronauts understand:** space missions require years of preparation before the actual launch. They simulate every possible scenario, practice emergency procedures, and develop automatic responses to challenges. You've done exactly that through these five tests! You've simulated test conditions, practiced problem-solving under pressure, and developed mathematical instincts that will activate automatically! ◇

**Mission Readiness Assessment**

- **Systems Check:** All mathematical operations functioning at optimal capacity!
- **Navigation Skills:** You can chart a course through any problem successfully!
- **Problem-Solving Protocol:** You respond to challenges systematically and efficiently!
- **Launch Authorization:** Mission Control approves you for test day deployment!

**Remember this space mission protocol:** astronauts stay calm in any situation because they've trained for it. When test day arrives, remember that you've already experienced five complete simulations. There's nothing that test can present that you haven't practiced. Stay calm, trust your training, and execute your mission with confidence!

Want to report your mission findings or share zero-gravity problem-solving insights? Transmit your message to [reza@testinar.com](mailto:reza@testinar.com). Mission Control is standing by!

**Reza Nazari & Jay Daie**

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# 5 FULL-LENGTH TESTS. STRONG SKILLS. BRIGHTER RESULTS.



Build confidence and master math with **5 full-length** practice tests designed to reflect the real test experience. This book provides the practice, review, and support students need to succeed in Grade 5 and beyond!

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### 5 FULL-LENGTH PRACTICE TESTS

Realistic tests that build familiarity, boost focus, and improve test readiness.



### COMPLETE STANDARDS REVIEW

Covers all essential Grade 5 math topics with clear explanations and examples.



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