

$\frac{2}{3}$

# FULL-LENGTH

$\frac{2}{4}$

# South Dakota

$7 \times 8 =$

0,25



★★★★★  
Aligned to State Standards

$7 \times 8$

## Smarter Balanced

$56 \div 7$

# MATH

## Grade

# 5

$(a+b)^2$

# PRACTICE TESTS

Complete State Standards Review  
with Answer Key and  
Essential Math Skills Practice



**3 Full-Length Practice Tests**  
Aligned to State Standards



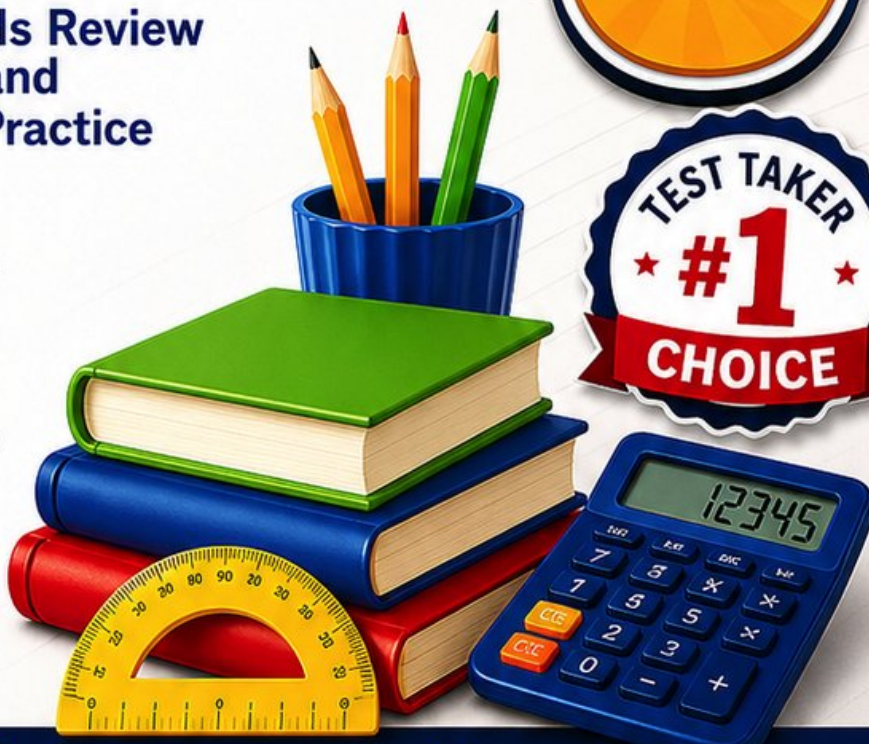
**Covers All Grade 5 Math Topics**  
Numbers & Operations, Fractions,  
Decimals, Geometry, Measurement,  
Data & Problem Solving



**Build Confidence**  
Strengthen Skills • Improve Accuracy  
• Boost Test Readiness



**Detailed Answer Key**  
Step-by-Step Explanations  
for All Questions



WRITTEN FOR  
GRADE 5 STUDENTS



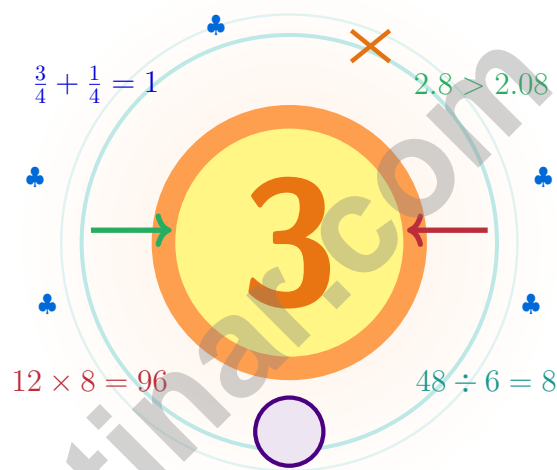
PERFECT FOR  
TEST PREP & REVIEW



CLASSROOM, HOME,  
OR SELF-STUDY USE

# 3 South Dakota Smarter Balanced Grade 5 Math Practice Tests

*Mount-Rushmore math for thinkers who carve careful*



Three full tests, a friendly quick review, smart strategy pages, and student-tested support that help Grade 5 mathematicians from The Mount Rushmore State walk in ready to think.

**Jay Daie and Reza Nazari**



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# South Dakota Mathematicians, Step Up

Mount-Rushmore math for thinkers who carve careful

## To Every Math Brain in South Dakota

Math is like Mount Rushmore – big results come from small careful chips, day after day.

Some questions will feel easy from the very first read. Others will ask you to pause, sketch, estimate, or try again. That is not a problem. That is practice doing exactly what it should do. Every honest attempt grows your math brain a little stronger.

### Notice

Notice the numbers, units, and any tricky words.

### Sketch

Sketch a picture, table, or quick number line.

### Confirm

Confirm your answer with an estimate or check.

**A South Dakota promise to yourself:** I will chip at each problem like a careful sculptor – small steps, steady hands, sharp focus.

# Use This Book Like a Coach

A simple game plan that turns practice into real progress

## Step 1: Plan

**Plan a quiet hour for one full test.**  
Wake up the big Grade 5 ideas before the test starts so your brain is already warmed up.

## Step 2: Practice

**Take the test with steady focus.**  
Find a calm corner, settle in, and aim for careful, honest choices before quick ones.

## Step 3: Inspect

**Inspect every answer like a careful builder.**  
Circle missed questions, sort out what went sideways, and notice which skills are calling for more attention.

## Step 4: Adjust

**Adjust what needs adjusting and ride into the next test.**  
Read the explanation, fix the work, and carry that lesson forward into the next test.

## Your 3-Week Sharpening Plan

<b>Week 1</b>	Begin with Test 1 – a low-pressure read of your math.
<b>Week 2</b>	Run Test 2 with one new habit, like always checking labels.
<b>Week 3</b>	Finish Test 3 with calm, careful, confident effort.



Scan me

## Test-Style Practice

What these practice tests help Grade 5 students build

These three practice tests prepare Grade 5 students in the Mount Rushmore State for the South Dakota Smarter Balanced with the steady focus of a long carving day. The goal is bigger than getting answers right. Students are practicing how to read with care, choose a strategy, solve step by step, and explain their reasoning clearly – the same way mathematicians do every single day.

### Selected-Response Questions

Students solve the problem and choose the best answer. Estimating first, ruling out weak choices, and checking for reasonableness can save both time and points.

### Constructed-Response Questions

Students show their steps, explain a method, or back up an answer with clear math. Clean reasoning matters because it shows how the answer was actually found.

### Grade 5 Ideas That Show Up Again and Again

- place value, comparing numbers, and rounding
- multi-digit addition, subtraction, multiplication, and division
- fractions, mixed numbers, and decimals
- perimeter, area, volume, and measurement conversions
- line plots, tables, numerical patterns, and coordinate points
- geometry and multi-step real-world problems

**What strong work looks like on the Smarter Balanced:** the math is correct, the steps are readable, the labels and units match the problem, and the final answer truly answers the question being asked.



# Table of Contents

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

Volume of Rectangular Prism  $V = l \times w \times h$

### LENGTH

#### Customary

1 foot (ft) = 12 inches (in.)

1 yard (yd) = 3 feet (ft)

1 yard (yd) = 36 inches (in.)

#### Metric

1 meter (m) = 100 centimeters (cm)

1 centimeter (cm) = 10 millimeters (mm)

1 kilometer (km) = 1,000 meters (m)

### CAPACITY

#### Customary

1 cup (c) = 8 fluid ounces (fl oz)

1 pint (pt) = 2 cups (c)

1 quart (qt) = 2 pints (pt)

1 gallon (gal) = 4 quarts (qt)

#### Metric

1 liter (L) = 1,000 milliliters (mL)

### WEIGHT AND MASS

#### Customary

1 pound (lb) = 16 ounces (oz)

#### Metric

1 kilogram (kg) = 1,000 grams (g)

1 gram (g) = 1,000 milligrams (mg)

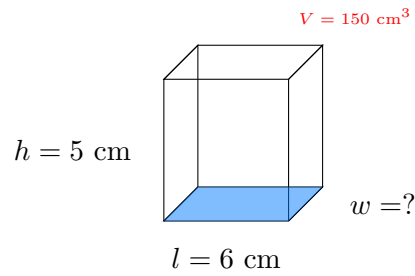
### TIME

1 minute (min) = 60 seconds (sec)    1 week = 7 days

1 hour (hr) = 60 minutes (min)    1 year = 12 months

1 day = 24 hours (hr)    1 year = 52 weeks





1)

Find the width.

- A. 5 cm
- B. 6 cm

- C. 25 cm
- D. 30 cm

2) Error analysis: A student computed  $52 \times 10$  and wrote the answer as 520. Which statement is correct?

- A. The student added a digit instead of shifting place value.
- B. The student multiplied by 5 instead of 10.
- C. There is no error; the answer is correct.
- D. The student forgot to add a zero at the end.

3) Two students mixed paints. Student A used  $\frac{3}{8}$  liter and Student B used  $\frac{5}{12}$  liter. How much paint together?

- A.  $\frac{8}{20}$  liter
- B.  $\frac{8}{12}$  liter
- C.  $\frac{19}{24}$  liter
- D. 1 liter

4) A fruit juice is  $\frac{1}{3}$  litre. It is poured equally into 6 cups. How much juice is in each cup?

- A.  $\frac{1}{9}$  litre
- B.  $\frac{6}{3}$  litres
- C.  $\frac{1}{3}$  litre
- D.  $\frac{1}{18}$  litre





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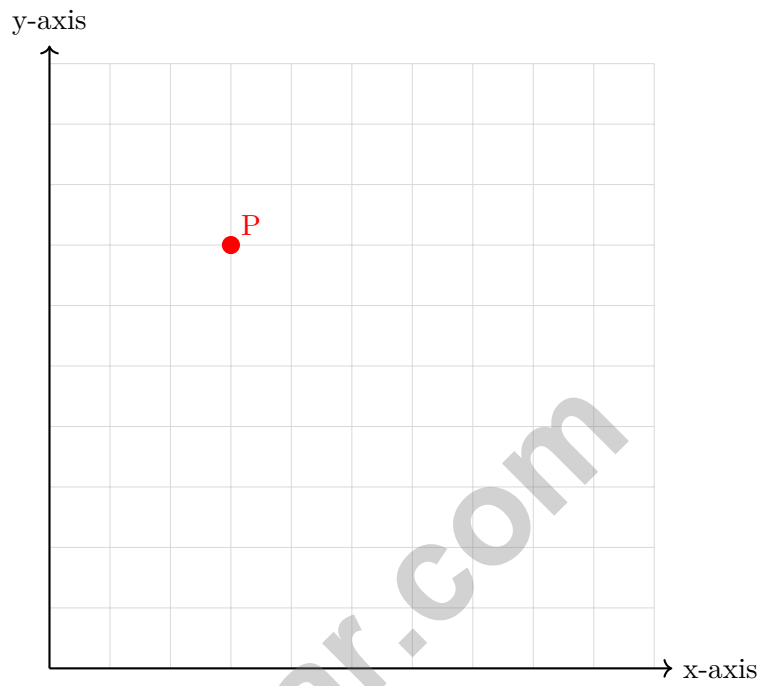
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1) What ordered pair represents the location of the point marked on the grid?



- A. (7, 3)
- B. (7, 7)

- C. (3, 3)
- D. (3, 7)



## Grade 5 Mathematics Reference Materials

### PERIMETER AND AREA

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1 minute (min) = 60 seconds (sec)    1 week = 7 days

1 hour (hr) = 60 minutes (min)    1 year = 12 months

1 day = 24 hours (hr)    1 year = 52 weeks



1) Subtract:  $\frac{5}{7} - \frac{1}{2}$

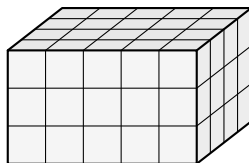
A.  $\frac{4}{5}$

B.  $\frac{3}{14}$

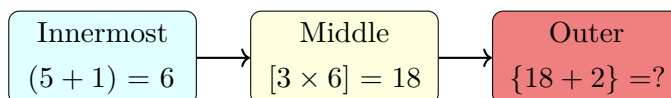
C.  $\frac{3}{5}$

D.  $\frac{4}{14}$

- 2) A rectangular prism has a base of
- $4 \times 5$
- unit cubes. If it contains 60 unit cubes total, how many layers high is it?



- A. 2 layers
- B. 3 layers
- C. 4 layers
- D. 6 layers
- 3) Compare the relationship between place values. Which of the following is
- true*
- ?
- A. Each place value is  $\frac{1}{100}$  of the place to its left.
- B. Ones is 10 times the tenths place.
- C. Hundredths is 100 times the thousandths place.
- D. Tenths is  $\frac{1}{10}$  of the hundredths place.
- 4) A pool holds 240 gallons of water. A worker drains
- $\frac{1}{6}$
- of the water, then uses
- $\frac{1}{2}$
- of that drained water for cleaning. How many gallons are used for cleaning?
- A. 20 gallons
- B. 40 gallons
- C. 60 gallons
- D. 80 gallons
- 5) The diagram shows the order of operations for nested groupings. What is the value at the outermost level?



A. 18

B. 20

C. 24

D. 26



## 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.**

Testinar.com



## Practice Test Answers and Explanations

### Practice Test 1 Answers and Explanations

- Choice A is correct.** **(5.MD.4)** The known length and height make groups of  $6 \times 5 = 30$  cubic centimeters. Since  $150 \div 30 = 5$ , the width is 5 cm.
- Choice C is correct.** **(5.NBT.2)** There is no error. Multiplying by 10 shifts the digits one place left, so 52 becomes 520.
- Choice C is correct.** **(5.NF.1)**  $\text{LCM}(8,12) = 24$ .  $\frac{3}{8} = \frac{9}{24}$  and  $\frac{5}{12} = \frac{10}{24}$ .  $\frac{9}{24} + \frac{10}{24} = \frac{19}{24}$  liter.
- Choice D is correct.** **(5.NF.7)**  $\frac{1}{3} \div 6 = \frac{1}{3} \times \frac{1}{6} = \frac{1}{18}$ .
- Choice C is correct.** **(5.NBT.2)** Divide total grains by number of people:  $2,000 \div 100 = 20$  grains per person.
- Choice D is correct.** **(5.MD.5)** Use the rectangular-prism volume formula:  $12 \times 7 \times 2 = 168$ . So the volume is 168 cubic meters.
- Choice D is correct.** **(5.G.1)** Points on the same horizontal grid line have the same second coordinate, but their first coordinates can be different. Points A, B, C are all 5 units above the x-axis and have first coordinates 2, 5, and 8.
- Choice D is correct.** **(5.NF.5)**  $15 \times \frac{2}{5} = \frac{30}{5} = 6$  inches. The product is smaller because the scaling factor is less than 1.
- Choice D is correct.** **(5.OA.2)** The divisor is the whole sum  $2 + 3$ , so it needs parentheses. That gives  $10 \div (2 + 3)$ .
- Choice A is correct.** **(5.G.2)** A horizontal line has the same  $y$ -coordinate for both points. Choice A has both points at  $y = 3$ , making them horizontal.
- Choice D is correct.** **(5.NF.6)**  $5 \div \frac{1}{4} = 5 \times 4 = 20$  bags.
- Choice C is correct.** **(5.NF.7)**  $4 \div \frac{1}{5} = 4 \times 5 = 20$ . We can make 20 packages.
- Choice B is correct.** **(5.NBT.7)** The area model breaks into four parts:  $3 \times 2 = 6$ ,  $3 \times 0.5 = 1.5$ ,  $0.2 \times 2 = 0.4$ ,  $0.2 \times 0.5 = 0.1$ . Total:  $6 + 1.5 + 0.4 + 0.1 = 8$ .
- Choice D is correct.** **(5.NF.6)** The model counts half-size pieces in 4 wholes. So the matching equation is  $4 \div \frac{1}{2} = n$ .
- The correct answer is 12.85.** **(5.MD.1)** Total spent:  $8.65 + 3.50 = 12.15$ . Remaining:  $25.00 - 12.15 = 12.85$ .
- Choice B is correct.** **(5.OA.2)** The first expression divides 50 by the larger divisor  $(5 + 5)$ . The second expression divides by 5 and then adds 5 more, so the second expression is greater.
- The correct answer is 7.5 m.** **(5.MD.1)**  $750 \div 100 = 7.5$  m. Since 100 centimeters make 1 meter, divide centimeters by 100.
- Choice C is correct.** **(5.NBT.2)**  $\frac{10^5}{10^3} = 10^2 = 100$  times larger.
- Choice B is correct.** **(5.NBT.2)** Multiplying by 10 moves the decimal one place right:  $0.003 \rightarrow 0.03$ .
- Choice A is correct.** **(5.OA.3)** Divide by 2 each step:  $12.5 \div 2 = 6.25$ .
- Choice A is correct.** **(5.MD.5)** If one fraction has denominator  $m$  and the other has denominator  $n$ , the grid has  $m \times n$  total squares. The overlap squares equal the product of the numerators.
- Choices A, B are correct.** **(5.MD.1)** Convert first: 3 L is 3,000 mL. Since  $3000 \div 250 = 12$ , 12 glasses fill the pitcher; C and D use the wrong count or conversion.
- Choice D is correct.** **(5.NF.5)**  $\frac{3}{3} = 1$ , so  $6 \times \frac{3}{3} = 6 \times 1 = 6$ .
- Choice C is correct.** **(5.NBT.2)**  $3.5 \times 10 = 35$  mm (move decimal 1 place right).
- Choice D is correct.** **(5.NF.6)**  $1\frac{1}{3} = \frac{4}{3}$  and  $1\frac{1}{2} = \frac{3}{2}$ . Multiply:  $\frac{4}{3} \times \frac{3}{2} = \frac{12}{6} = 2$ .
- Choice C is correct.** **(5.G.2)** The  $y$ -values increase by 2: 6, 8, 10, 12. When  $x = 4$ ,  $y = 12$ .
- Choice B is correct.** **(5.NF.1)** Use twelfths:  $\frac{3}{4} = \frac{9}{12}$  and  $\frac{1}{6} = \frac{2}{12}$ . Then  $\frac{9}{12} - \frac{2}{12} = \frac{7}{12}$ .
- Choice C is correct.** **(5.NBT.4)** The tenths place is 7, hundredths is 6. Since  $6 \geq 5$ , round up: 7 becomes 8. Maria uses 8.8 meters.
- Choice C is correct.** **(5.NBT.2)**  $31 \times 100 = 3100$ . Append two zeros to 31.
- Choice C is correct.** **(5.MD.5)** The base area is  $14 \times 5 = 70$  square inches. Since  $420 \div 70 = 6$ , the height is 6 in.
- Choice D is correct.** **(5.G.3)** Shape D does not have two pairs of parallel sides, so it is not a parallelogram. Squares, rhombuses, and rectangles all have two pairs of parallel sides.



### A Mentor's Quiet Encouragement

---

#### To My Thoughtful Student,

◇ I want to take a moment, away from the noise of practice, to tell you something true: you have done excellent work. 3 practice tests is a real commitment. Most students do not finish what they start. You did. ◇

★ **What mentors notice:** growth is quiet. It doesn't shout. But it shows up in how you tackle a problem today versus how you tackled it weeks ago. That growth is your real prize. ★

#### What I See In You

- **Determination:** DEEP. You don't quit when problems get tough.
- **Curiosity:** BRIGHT. You wonder why and how, not just "what's the answer."
- **Self-Awareness:** REAL. You know what you understand and what you're learning.
- **Kindness:** CONSISTENT. You're patient with yourself.

**Mentor's note:** on test day, treat yourself like you'd treat a friend. Be patient. Be encouraging. Be kind. The same skills that helped you finish 3 tests will carry you through the real one.

If you want to share a proud moment or ask a question, please email me at [jay@testinar.com](mailto:jay@testinar.com). I'd love to hear from you!

**Jay Daie**

Your Math Mentor (Quietly Cheering)

# Build Skills. Boost Confidence. Excel on the Grade 5 Math Test.

Help your child succeed with confidence! This book includes **3 full-length Grade 5 Math practice tests** aligned to state standards. With a focus on essential skills, problem solving, and test readiness, it's the perfect resource for classroom, home, or on-the-go practice.



## WHAT'S INSIDE:



### 3 Full-Length Grade 5 Math Practice Tests

Realistic test format to build familiarity and confidence.



### Covers All Essential Math Topics

Fractions, decimals, geometry, measurement, data, number operations, and more.



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- ✓ Improve accuracy and speed
- ✓ Reduce test anxiety
- ✓ Achieve your best score!



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