

7 South Dakota Smarter Balanced Grade 7 Math Practice Tests



7 PRINTED TESTS + 2 ONLINE TESTS

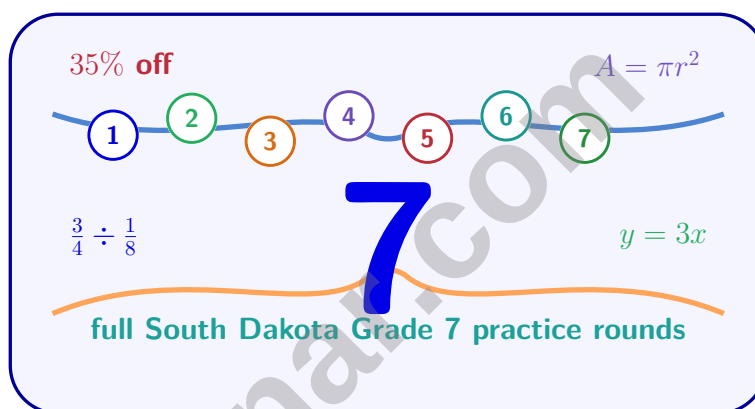


Standards Aligned Problem Solving
For Comprehensive Assessment Programs



8 South Dakota Smarter Balanced Grade 7 Math Practice Tests

A focused rehearsal for South Dakota Grade 7 ratios, equations, transformations, similar figures, population data, and chance



Eight complete 40-question Grade 7 Smarter Balanced practice rounds with proportional relationships, percents, rational numbers, expressions, equations, geometry, statistics, probability, answer keys, and clear explanations for every item.

Jay Daie and Reza Nazari



Copyright ©

Testinar Inc



Published by Testinar Inc

Testinar.com

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the author, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law, including Section 107 or 108 of the 1976 United States Copyright Act.

This publication is independently produced and has no official connection to any state, district, or national testing program.

Test names and organizational names used herein are the property of their respective trademark holders.



Copyright ©

Welcome, South Dakota Grade 7 Problem Solver!

Eight focused rounds for sharper Smarter Balanced math thinking

This book gives you seven full Grade 7 Smarter Balanced 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 South Dakota 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.

Read

Model

Verify

How to Use This Book

An eight-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.

South Dakota review rhythm: Work a test, score it, study your misses, then come back ready for the next round with one clear goal.



What Is Inside?

Eight Smarter Balanced tests, 280 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.
Tests 7–8	Statistics, probability, mixed review, stamina, and choosing efficient strategies.
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.



Scan me!
For more practice
& answers

Table of Contents

★ Practice Test 1	_____	14
★ Practice Test 2	_____	28
★ Practice Test 3	_____	43
★ Practice Test 4	_____	57
★ Practice Test 5	_____	71
★ Practice Test 6	_____	86
★ Practice Test 7	_____	103
Practice Test Answer Keys	_____	117
Practice Test Answers and Explanations	_____	122

1) The additive inverse (opposite) of -14 is which value?

- ☐ A. 14
☐ B. -14

- ☐ C. 0
☐ D. $\frac{1}{14}$

2) What is $\frac{3}{4} \times 8$?

- ☐ A. 6
☐ B. 8

- ☐ C. 10
☐ D. 12

3)

Service	Fee
Check deposit	\$0.25
Wire transfer	\$15.00
ATM withdrawal (out-of-network)	\$2.50
Monthly account fee	\$8.00

A customer performs one of each service during a month. What is the total in fees?

- ☐ A. \$25.00
☐ B. \$27.50

- ☐ C. \$26.00
☐ D. \$25.75

4) Which of the following is the correct criterion for constructing a right triangle when the hypotenuse and one leg are given?

☐ A. SSS

☐ C. SAS

☐ B. RHS (Right angle–Hypotenuse–Side)

☐ D. ASA

5) If a number is positive, its opposite is:

- ☐ A. Negative
☐ B. Positive

- ☐ C. Zero
☐ D. The same magnitude doubled



6) Simplify: $7m^2 + 3n + 2m^2 - n + 4$

☐ A. $16m^2n + 4$

☐ C. $16m^2 + 2n$

☐ B. $9m^2 + 2n + 4$

☐ D. $5m^2 + 2n + 4$

7) Identify the correct factorization of $-9m - 12$:

☐ A. $-3(3m + 4)$

☐ C. $-3(3m - 4)$

☐ B. $3(-3m - 4)$

☐ D. $9(-m - 1.33)$

8) A rectangular prism has dimensions 6 cm $\times$ 4 cm $\times$ 3 cm. What is its surface area?

☐ A. 72 cm^2

☐ C. 144 cm^2

☐ B. 108 cm^2

☐ D. 216 cm^2

9)

Number of Heads	0	1	2	3	Total
Frequency	12	36	37	15	100

A coin is flipped 3 times in each trial, and this is repeated 100 times. The table shows the number of heads per trial. What is the estimated probability of getting exactly 2 heads in three flips?

☐ A. 0.27

☐ C. 0.37

☐ B. 0.35

☐ D. 0.40

10) Solve: $2x + 7 \geq -1$

☐ A. $x \geq -4$

☐ C. $x \leq -4$

☐ B. $x \geq 3$

☐ D. $x > -4$



Scan me!

For more practice
& answers

+ -

.....

17

.....

$\times \div$

Testinar.com

11) Convert $\frac{2}{3}$ to a decimal.

☐ A. $0.\overline{2}$

☐ C. 0.23

☐ B. $0.\overline{6}$

☐ D. 0.32

12) Evaluate $3a^2 - 2a + 4$ when $a = 1$.

☐ A. 9

☐ C. 3

☐ B. -1

☐ D. 5

13) A tutoring center charges an enrollment fee of \$30 and \$45 per session. Write an equation that models the total cost T for s sessions.

☐ A. $T = (30 + 45)s$

☐ C. $T = 30 + 45s$

☐ B. $T = 30s + 45$

☐ D. $T = 45 + 30s$

14) Which value of x satisfies $4x + 2 = 18$?

☐ A. $x = 2$

☐ C. $x = 5$

☐ B. $x = 4$

☐ D. $x = 8$

15) A bank account has a balance of -45 dollars (overdrawn). After a deposit and withdrawal, the balance becomes -20 dollars. What was the net change in the account (deposit minus withdrawal)? Write your answer as an integer with the appropriate sign.



- 1) A rental car company charges \$40 per day plus a 15% insurance premium. If a customer rents for 5 days, what is the total rental cost?

- ☐ A. \$200 ☐ C. \$250
☐ B. \$280 ☐ D. \$230

Equivalence Table

Form 1	Form 2	Value
$x - 0.25x$	$0.75x$	\$60

2)

Using the equivalence table, if both forms equal \$60, what is x ?

- ☐ A. $x = 45$ ☐ C. $x = 80$
☐ B. $x = 75$ ☐ D. $x = 100$

- 3) A histogram displays the age distribution of members at two gyms. Gym Alpha: ages 20–35 have the most members. Gym Beta: ages evenly distributed across 18–65. Which gym best serves a targeted demographic?

- ☐ A. Gym Alpha (serves a specific younger demographic) ☐ C. Both gyms serve identical demographics
☐ B. Gym Beta (more diverse membership) ☐ D. Gym Beta (younger members on average)

- 4) A park is shaped like a large rectangle (30 m $\times$ 20 m) with a triangular picnic area (20 m base, 5 m height) and a circular pond (radius 3 m) inside. What is the open grassy area? (Use $\pi \approx 3.14$.)

- ☐ A. 521.74 m² ☐ C. 571.74 m²
☐ B. 550 m² ☐ D. 600 m²



Scan me!
For more practice
& answers

5) A rectangular prism has a volume of 360 in^3 . If the length is 10 inches and the width is 6 inches, what is the height?

☐ A. 3 in

☐ C. 9 in

☐ B. 6 in

☐ D. 12 in

6) Which is the best approximation for π ?

☐ A. $\frac{22}{7}$

☐ C. 2.5

☐ B. 3

☐ D. 4

7) A scholarship fund grows from \$5,000 to \$5,512.50 in two years under annual compound interest. What is the interest rate?

☐ A. 4%

☐ C. 5.12%

☐ B. 10%

☐ D. 5%

8) If $x \div (-2) = 6$, find x .

9) Simplify: $8x + 5y - 3x - 2y + x$

☐ A. $6x + 3y$

☐ C. $4x + 3y$

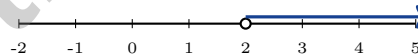
☐ B. $12x + 3y$

☐ D. $8x + 5y$

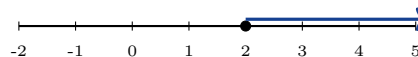


- 1) A cone with base radius 10 cm is sliced by a plane parallel to the base at a distance of 8 cm from the apex. If the cone's height is 12 cm, what is the radius of the circular cross-section?
- ☐ A. $\frac{20}{3}$ cm ☐ C. 8 cm
☐ B. $\frac{16}{3}$ cm ☐ D. 6 cm
- 2) A bicycle costs \$80. The price is marked up by 25%. What is the new price?
- ☐ A. \$55 ☐ C. \$105
☐ B. \$20 ☐ D. \$100
- 3) A store advertises “Save 30% on all winter coats!” If a coat originally costs \$120, what is the sale price?
- ☐ A. \$36 ☐ C. \$90
☐ B. \$150 ☐ D. \$84
- 4) Compare these two number lines. Graph P shows the solution to $5 - 2x < 1$; Graph Q shows an incorrect solution. Which statement is true?

Graph P (correct):



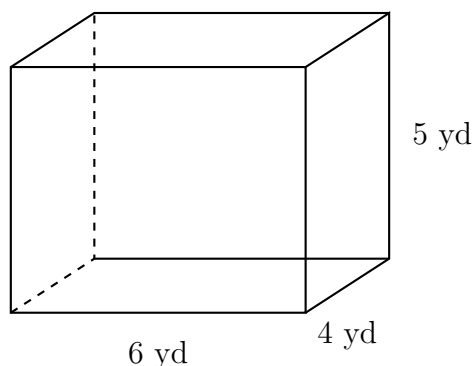
Graph Q (incorrect):



- ☐ A. Graph Q should have an open circle (not closed) ☐ C. Graph Q should use a boundary at 3 (not 2)
☐ B. Graph Q should have a left arrow (not right) ☐ D. Both graphs are identical



Scan me!
For more practice
& answers



5)

A rectangular prism has dimensions $6 \text{ yd} \times 5 \text{ yd} \times 4 \text{ yd}$. Find the surface area.

☐ A. 120 yd^2 ☐ C. 180 yd^2 ☐ B. 148 yd^2 ☐ D. 240 yd^2

6) To simulate the probability of guessing a true/false question correctly 3 times in a row, which tool best models this compound event?

☐ A. Rolling a six-sided die once☐ D. Drawing a card from a deck of 52
once☐ B. Flipping a coin 3 times☐ C. Spinning a spinner with 3 equal
sections once

7) A rectangular field on a map is 9 cm by 12 cm at a scale of $1 \text{ cm} : 0.75 \text{ km}$. If the scale is changed to $1 \text{ cm} : 1.5 \text{ km}$, what will be the new length?

☐ A. 6 cm☐ C. 18 cm☐ B. 12 cm☐ D. 24 cm

Smarter Balanced Assessment Consortium 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 Smarter Balanced Assessment Consortium practice test.



Scan me!
For more practice
& answers

Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** (7.NS.1b) The additive inverse of -14 is the number that, when added to -14 , gives 0. That number is 14, since $-14 + 14 = 0$.
- 2) **Choice A is correct.** (7.NS.2) $\frac{3}{4} \times 8 = \frac{3 \times 8}{4} = \frac{24}{4} = 6$.
- 3) **Choice D is correct.** (7.RP.3) Total fees = $0.25 + 15.00 + 2.50 + 8.00 = \25.75 .
- 4) **Choice B is correct.** (7.G.1-7.G.5) When constructing a right triangle with a known right angle, hypotenuse, and one leg, the RHS condition guarantees a unique triangle. This is a special case applicable only to right triangles.
- 5) **Choice A is correct.** (7.NS.1-7.NS.3) The opposite of any positive number is its negative. For example, the opposite of $+7$ is -7 .
- 6) **Choice B is correct.** (7.EE.1) Group like terms: $(7 + 2)m^2 + (3 - 1)n + 4 = 9m^2 + 2n + 4$. The constant 4 has no like terms.
- 7) **Choice A is correct.** (7.EE.1-7.EE.2) Factor out the GCF -3 : $-9m - 12 = -3(3m + 4)$.
- 8) **Choice B is correct.** (7.G.4-7.G.6) $SA = 2(6 \cdot 4 + 6 \cdot 3 + 4 \cdot 3) = 2(24 + 18 + 12) = 2(54) = 108 \text{ cm}^2$.
- 9) **Choice C is correct.** (7.SP.5-7.SP.8) Relative frequency = $\frac{37}{100} = 0.37$. (Theoretical is $\frac{3}{8} = 0.375$, so this is very close.)
- 10) **Choice A is correct.** (7.EE.4b) Subtract 7: $2x \geq -8$. Divide by 2: $x \geq -4$.
- 11) **Choice B is correct.** (7.NS.2d) Divide $2 \div 3 = 0.666 \dots = 0.\bar{6}$. The denominator 3 produces a repeating decimal.
- 12) **Choice D is correct.** (7.EE.1-7.EE.2) Substitute: $3(1)^2 - 2(1) + 4 = 3(1) - 2 + 4 = 3 - 2 + 4 = 5$.
- 13) **Choice C is correct.** (7.EE.4a) Enrollment fee (constant \$30) plus per-session charge (\$45s). Equivalent forms: $T = 30 + 45s$ or $T = 45s + 30$ (commutativity).
- 14) **Choice B is correct.** (7.EE.3-7.EE.4) Subtract 2: $4x = 16$. Divide by 4: $x = 4$.
- 15) **The correct answer is 25.** (7.NS.1-7.NS.3) Net change = final balance - initial balance = $-20 - (-45) = -20 + 45 = 25$ dollars. The account increased by 25 dollars (a net deposit of 25).
- 16) **Choice C is correct.** (7.G.1-7.G.5) The error states the scale is doubled (from 1:500 to 1:1000, meaning each inch now represents 1000 ft instead of 500 ft). However, "doubling the scale" in this error context means the drawing is mistakenly enlarged by a factor of 2 (perhaps from copying at 200%). For the same real park: new drawing dimensions are $6 \times 2 = 12$ in and $8 \times 2 = 16$ in.
- 17) **Choice C is correct.** (7.G.4-7.G.6) $A = \pi r^2 = 3.14 \times 5^2 = 3.14 \times 25 = 78.5 \text{ ft}^2$.
- 18) **Choice B is correct.** (7.G.4-7.G.6) A: $V = \pi r^2 h = 3.14 \times (1)^2 \times 12 = 3.14 \times 1 \times 12 = 37.68 \text{ units}^3$. B: $V = 3.14 \times (3)^2 \times 1.5 = 3.14 \times 9 \times 1.5 = 42.39 \text{ units}^3$. Cylinder B is greater.
- 19) **The correct answer is 1.5.** (7.RP.1-7.RP.3) The unit rate is $6 \div 4 = 1.5$.
- 20) **The correct answer is A, C.** (7.RP.1-7.RP.3) True: A ($4 \times 6 = 24$ feet) and C ($2 \times 6 = 12$ feet; $2.5 \times 6 = 15$ feet). False: B (area scales by $6^2 = 36$, not 6); D (area: $900 \div 36 = 25$ sq in, not 36); E (areas are reduced by $\frac{1}{36}$ on the plan, not $\frac{1}{6}$).
- 21) **Choice A is correct.** (7.SP.1-7.SP.4) The phrase "Didn't you love" is leading language that biases respondents toward agreeing. This loaded wording introduces response bias in the survey question itself.
- 22) **Choice B is correct.** (7.SP.1-7.SP.4) Range only tells the difference between max and min. IQR and MAD show how data is distributed within that range, distinguishing clustered from spread-out data with the same range.
- 23) **Choice B is correct.** (7.SP.5-7.SP.8) First spinner: 3 outcomes; second spinner: 2 outcomes. Total: $3 \times 2 = 6$ outcomes.
- 24) **The correct answer is \$129.71.** (7.RP.3) Apply the 15% discount to get $140(0.85) = 119$. Then add 9% tax: $119(1.09) = 129.71$.
- 25) **Choice D is correct.** (7.NS.1-7.NS.3) Same denominator: $\frac{3}{10} + \frac{4}{10} = \frac{7}{10}$.
- 26) **The correct answer is 0.08.** (7.RP.3) $900(1 + r)^2 = 1059.48 \Rightarrow (1 + r)^2 = 1.1772 \Rightarrow 1 + r = 1.08 \Rightarrow r = 0.08$.
- 27) **Choice D is correct.** (7.NS.1-7.NS.3) Negative divided by negative is positive. Calculate the magnitude: $36 \div 9 = 4$. Apply sign rule: $(-) \div (-) = (+)$. Thus $-36 \div (-9) = 4$.
- 28) **Choice B is correct.** (7.NS.1-7.NS.3) $-245 + 35 = -210$ meters.



You Know More Than You Think

Hi, Skilled Learner!

◇ After working through Grade 7 practice, you now have more tools than you may realize: models, formulas, graphs, equations, and reasoning habits. ◇

★ **Remember this:** The next step is learning when to use each tool. That comes from practice, review, and the courage to try a method even when you are unsure. This version gave you 7 opportunities to rehearse test-day habits. ★

Tools You Can Use

- **Models:** Make relationships visible.
- **Equations:** Represent unknowns clearly.
- **Graphs:** Show change and location.
- **Formulas:** Organize measurement problems.

Grade 7 test-day tip: Before solving, name the tool you plan to use. That small choice makes your work more intentional.

If you want to share something or ask a question, please email me at jay@testinar.com.

Jay Daie

Your Skill-Building Coach

Practice Today. Succeed Tomorrow!

This book includes **7** 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:

7 Full-Length Printed Tests

2 Online Practice Tests

 Detailed Answer 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



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 concepts with clear explanations and meaningful practice.



Test Confidence

Familiarize with test formats and improve accuracy and speed.



Achieve Success

Build confidence and perform your best on test day.

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!



VISIT [TESTINAR.COM/MATH7](https://www.testinar.com/math7)
FOR MORE PRACTICE TESTS



PRACTICE
REGULARLY



STAY
FOCUSED



SOLVE
CONFIDENTLY



SUCCEED
BRIGHTLY