

9

South Dakota

Smarter Balanced

GRADE 7

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

Program



9 PRINTED
TESTS



2 ONLINE
TESTS



Use these two additional online practice tests
for **extra review** after the printed tests in this book.



BUILT FOR ACAP
Standards-Aligned



**STRENGTHEN
SKILLS**



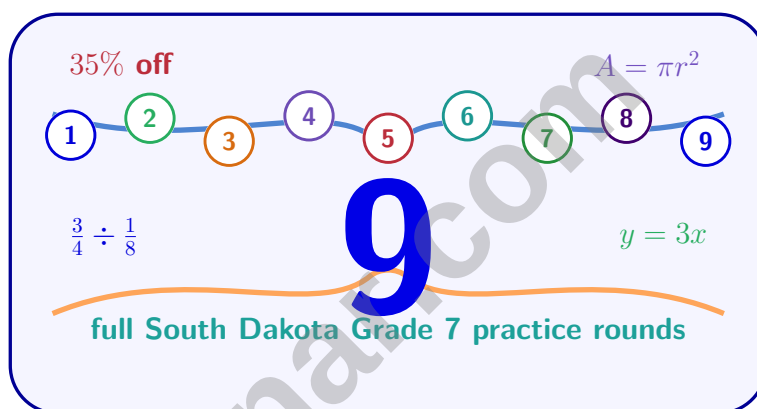
**SHARPEN
THINKING**



BE TEST-READY
Improve Performance

9 South Dakota Smarter Balanced Grade 7 Math Practice Tests

Standards-Aligned South Dakota Practice for Proportional Reasoning, Expressions, Geometry, Statistics, and Probability



Nine 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



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Welcome, South Dakota Grade 7 Problem Solver!

Nine focused rounds for sharper Smarter Balanced math thinking

This book gives you nine 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

A nine-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?

Nine Smarter Balanced tests, 360 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 7–9	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.



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Cost of Apples

Price per pound: \$1.50

Weight: w pounds

Total cost = ?

1)

☐ A. $1.50 + w$

☐ C. $\frac{w}{1.50}$

☐ B. $1.50w$

☐ D. $w - 1.50$

2) A student picks a card from a deck, replaces it, and picks another. The first card is black. What is the probability the second card is also black?

☐ A. $\frac{1}{4}$ because the first was black

☐ C. 0 because exactly one card remains

☐ B. $\frac{26}{52}$ because replacement restores the original deck

☐ D. $\frac{1}{52}$ because only one black card is left

3) A movie theater applies a \$1.50 processing fee to online ticket orders. If a customer buys 4 tickets at \$12 each, what is the total cost?

☐ A. \$48.00

☐ C. \$50.00

☐ B. \$52.50

☐ D. \$49.50

4) A quality control test found that out of 750 items produced, 12 were defective. What is the experimental probability that an item is defective?

☐ A. $\frac{12}{750}$

☐ C. 0.12

☐ B. $\frac{3}{125}$

☐ D. $\frac{1}{12}$



5) When constructing a stem-and-leaf plot, why are the leaves typically arranged in order?

- ☐ A. To make the plot visually appealing ☐ C. Because it is required by mathematical law
☐ B. To make it easier to identify median, quartiles, and other statistics ☐ D. To save space in the plot

6) A rectangular prism has dimensions 5 m, 4 m, and 8 m. What is its volume?

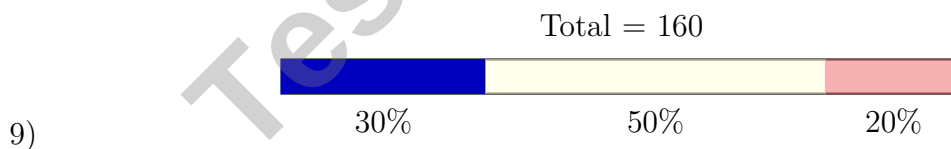
- ☐ A. 320 m^3 ☐ C. 40 m^3
☐ B. 160 m^3 ☐ D. 17 m^3

7) A circle has a diameter of $\frac{30}{7}$ meters. What is its radius?

- ☐ A. $\frac{15}{7}$ meters ☐ C. $\frac{60}{7}$ meters
☐ B. $\frac{30}{7}$ meters ☐ D. 7 meters

8) A large blueprint has scale 2 inches : 5 feet. What is the actual length if the blueprint shows 10 inches?

- ☐ A. 4 feet ☐ C. 20 feet
☐ B. 12.5 feet ☐ D. 25 feet



The bar shows the distribution of 160 items. How many items are in the 50% section?

- ☐ A. 48 ☐ C. 80
☐ B. 64 ☐ D. 96



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10) What is $-7 + 0$?

☐ A. 0

☐ C. 7

☐ B. -70

☐ D. -7

11) A machine produces $\frac{2}{3}$ box of items in $\frac{4}{9}$ hour. How many boxes per hour?

☐ A. $\frac{8}{27}$ box/hr

☐ C. $\frac{4}{6}$ box/hr

☐ B. $\frac{1}{6}$ box/hr

☐ D. $\frac{3}{2}$ boxes/hr

12) A car travels at a constant speed. After 2 hours, it has gone 110 miles. After 5 hours, it has gone 275 miles. Is the distance proportional to time?

☐ A. Cannot determine

☐ C. Only after 3 hours

☐ B. No

☐ D. Yes

13) The graph of a proportional relationship passes through $(3, 6)$ and the origin. What is the equation?

☐ A. $y = 6x$

☐ C. $y = x + 3$

☐ B. $y = 3x$

☐ D. $y = 2x$

14) A teenager has \$500 in savings and wants to invest it at 6% annual interest. What will be the total balance after 1 year?

☐ A. \$506

☐ C. \$560

☐ B. \$600

☐ D. \$530

15) A hiker starts at an elevation of 500 m. She climbs up 250 m, then descends 80 m. What is her final elevation?

☐ A. 750 m

☐ C. 670 m

☐ B. 730 m

☐ D. 420 m



- 1) A scale drawing uses a scale of 1 cm : 4 m. In the drawing, a wall is 7 cm long. What is the actual length of the wall?

☐ A. 3 m ☐ C. 28 m
☐ B. 11 m ☐ D. 32 m

- 2) A painter completes $\frac{2}{3}$ of a room in $\frac{1}{5}$ hour. At this rate, how many rooms will the painter complete in 1 hour?

☐ A. $\frac{2}{15}$ room ☐ C. 1 room
☐ B. $\frac{3}{5}$ room ☐ D. $\frac{10}{3}$ rooms

- 3) A store charges \$12 per shirt. Create a table for 1, 2, 3, and 4 shirts. Does this represent a proportional relationship?

Shirts	1	2	3	4
Cost (\$)	12	24	36	48

- ☐ A. Cannot determine ☐ C. Yes, constant ratio is 1
☐ B. No, the cost increases too fast ☐ D. Yes, constant ratio is 12
- 4) A photo costs \$0.50 each. If you buy n photos for a total cost of T dollars, which equation is correct?

☐ A. $n = 0.50T$ ☐ C. $T = \frac{0.50}{n}$
☐ B. $T = n + 0.50$ ☐ D. $T = 0.50n$

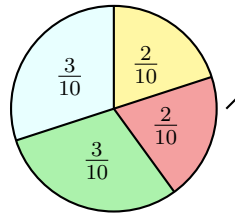
- 5) In the proportional relationship $y = \frac{2}{3}x$, what is the constant of proportionality?

☐ A. $\frac{1}{3}$ ☐ C. $\frac{3}{2}$
☐ B. 2 ☐ D. $\frac{2}{3}$



- 6) A rectangular prism has length 7 in, width 5 in, and height 4 in. If each dimension is increased by 1 inch, by how much does the surface area increase?

- ☐ A. 24 in^2 ☐ C. 70 in^2
☐ B. 48 in^2 ☐ D. 96 in^2



7)

A spinner with four unequal sections is spun 350 times. Section A has probability $\frac{3}{10}$ and Section B has probability $\frac{2}{10}$. How many times would you expect to see either Section A or Section B?

- ☐ A. 70 times ☐ C. 140 times
☐ B. 105 times ☐ D. 175 times

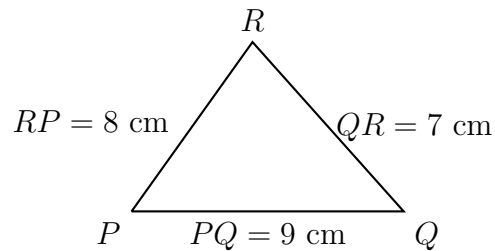
- 8) Evaluate $\frac{m}{2} + 6$ when $m = 10$.

- ☐ A. 8 ☐ C. 16
☐ B. 26 ☐ D. 11

- 9) A salesperson earns a 7% commission on all sales. This month, the salesperson sold \$4,000 worth of merchandise. What is the commission earned?



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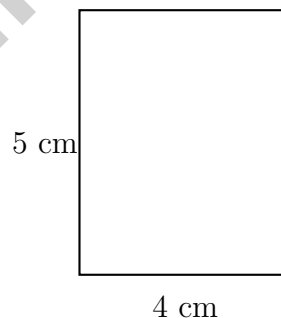
1)

Triangle PQR with $PQ = 9\text{ cm}$, $QR = 7\text{ cm}$, $RP = 8\text{ cm}$ is compared to another triangle with sides 9 cm , 7 cm , 8 cm (in different order). Are these congruent?

- ☐ A. No, different side orderings matter ☐ C. Only if angles are also equal
☐ B. Yes, both have the same three side lengths ☐ D. Cannot determine without coordinates

2) Solve: $5x - 2 \geq 18$

- ☐ A. $x \geq 4$ ☐ C. $x \geq 20$
☐ B. $x \leq 4$ ☐ D. $x > 4$

Scale: $1\text{ cm} : 5\text{ cm}$ 

3)

A student calculated the actual area by multiplying $4 \times 5 \times 5 = 100\text{ cm}^2$ instead of correctly squaring the scale factor. What is the correct actual area?

- ☐ A. 100 cm^2 ☐ C. 400 cm^2
☐ B. 200 cm^2 ☐ D. 500 cm^2



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4) A cube is sliced diagonally such that the cutting plane passes through two opposite edges (not just vertices). What is the maximum number of sides the cross-section can have?

☐ A. 3☐ C. 5☐ B. 4☐ D. 6

5) Two similar figures have a scale factor of 3 : 4. If the smaller figure has a side length of 9 cm, what is the length of the corresponding side in the larger figure?

☐ A. 6.75 cm☐ C. 13.5 cm☐ B. 12 cm☐ D. 27 cm

6) Which group is an example of a *population* in a statistical study?

☐ A. 200 students randomly selected from all high schools in Texas☐ C. Shoppers interviewed at one mall on Saturday☐ B. All teenagers who own a smartphone☐ D. The 50 customers called to participate in a phone survey

7) A line plot shows the number of hours a student practices violin each week over 10 weeks: 1, 2, 2, 2, 3, 3, 3, 3, 4, 5. Which measure best describes the typical practice time?

☐ A. The mean (average)☐ C. The median☐ B. The mode☐ D. The range

8) Which division problem has a quotient of $\frac{2}{5}$?

☐ A. $\frac{4}{5} \div 2$ ☐ C. $\frac{2}{15} \div 3$ ☐ B. $\frac{1}{5} \div 2$ ☐ D. $\frac{4}{10} \div 2$ 

South Dakota Smarter Balanced 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 South Dakota Smarter Balanced practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** (7.EE.1-7.EE.2) Multiply price per pound by number of pounds: $1.50w$.
- 2) **Choice B is correct.** (7.SP.5-7.SP.8) With replacement, the deck is restored and events are independent. $P(\text{black second}) = \frac{26}{52} = \frac{1}{2}$.
- 3) **Choice D is correct.** (7.RP.3) Ticket cost = $4 \times 12 = \$48$. Total = $48 + 1.50 = \$49.50$.
- 4) **Choice A is correct.** (7.SP.6) Experimental probability of defect = $\frac{12}{750}$. This simplifies to $\frac{2}{125} = 0.016$. Option A is the most direct answer from the data.
- 5) **Choice B is correct.** (7.SP.1-7.SP.4) Ordering leaves helps quickly locate the median and identify patterns in the data distribution.
- 6) **Choice B is correct.** (7.G.4-7.G.6) Volume = $l \times w \times h = 5 \times 4 \times 8 = 160 \text{ m}^3$.
- 7) **Choice A is correct.** (7.G.4-7.G.6) $r = \frac{d}{2} = \frac{30}{7} \div 2 = \frac{30}{14} = \frac{15}{7}$ meters.
- 8) **Choice D is correct.** (7.RP.1-7.RP.3) Scale is 2 : 5, so 1 : 2.5. Actual length: $10 \times 2.5 = 25$ feet.
- 9) **Choice C is correct.** (7.RP.3) 50% of 160 is $0.50 \times 160 = 80$ items.
- 10) **Choice D is correct.** (7.NS.1b) Adding zero to any number leaves it unchanged (additive identity). $-7 + 0 = -7$.
- 11) **Choice D is correct.** (7.RP.1-7.RP.3) Unit rate: $\frac{\frac{3}{4}}{\frac{2}{9}} = \frac{3}{4} \times \frac{9}{2} = \frac{18}{8} = \frac{9}{4} = 2\frac{1}{4} = 2.25$ boxes/hr.
- 12) **Choice D is correct.** (7.RP.1-7.RP.3) Check the constant-of-proportionality across rows: $\frac{110}{2} = 55$ mph and $\frac{275}{5} = 55$ mph. The ratio is constant, so distance is proportional to time.
- 13) **Choice D is correct.** (7.RP.1-7.RP.3) The constant is $k = \frac{6}{3} = 2$. The equation is $y = 2x$.
- 14) **Choice D is correct.** (7.RP.3) Total = $\$500 + (6\% \times \$500) = \$500 + \$30 = \$530$.
- 15) **Choice C is correct.** (7.NS.1-7.NS.3) $500 + 250 - 80 = 750 - 80 = 670$ m.
- 16) **Choice A is correct.** (7.NS.1-7.NS.3) $(50 + 12) \times 2 - 8 = 62 \times 2 - 8 = 124 - 8 = 116$.
- 17) **Choice C is correct.** (7.RP.3) Annual before discount: $80 \times 12 = 960$. Discount: $\frac{10}{100} \times 960 = 96$. Price: $960 - 96 = \$864$.
- 18) **Choice A is correct.** (7.EE.1-7.EE.2) Combine: $(-7m + 11m) + (-3 + 9) = 4m + 6$.
- 19) **Choice B is correct.** (7.EE.4a) Area: $3(x + 2) = 30$. Divide by 3: $x + 2 = 10$. (So length is 10 units; if needed, $x = 8$.)
- 20) **Choice C is correct.** (7.G.1-7.G.5) Actual side length: $2 \times 3 = 6$ m. Area: $6 \times 6 = 36 \text{ m}^2$.
- 21) **Choice A is correct.** (7.G.1-7.G.5) Complementary angles sum to 90° : $y = 90 - 37 = 53^\circ$.
- 22) **The correct answer is A,C.** (7.G.4-7.G.6) Large square: $20 \times 20 = 400 \text{ m}^2$ (A). Small square: $5 \times 5 = 25 \text{ m}^2$. Remaining: $400 - 25 = 375 \text{ m}^2$ (C). The cutout is $\frac{25}{400} = \frac{1}{16}$ of the original area, not $\frac{1}{20}$.
- 23) **Choice C is correct.** (7.SP.1-7.SP.4) Reading the line graph from left to right: $72 \rightarrow 74 \rightarrow 75$ (rise), $75 \rightarrow 73 \rightarrow 70 \rightarrow 68$ (fall), $68 \rightarrow 71$ (slight rise). This describes the overall pattern accurately.
- 24) **Choice C is correct.** (7.SP.5-7.SP.8) Each spin is independent: $P(A) = \frac{1}{4}$ and $P(B) = \frac{1}{4}$, so $P(A \text{ and then } B) = \frac{1}{4} \times \frac{1}{4} = \frac{1}{16}$.
- 25) **The correct answer is 20 .** (7.RP.1-7.RP.3) Cross multiply: $7 \times 100 = 35 \times x$. So $700 = 35x$, giving $x = 20$.
- 26) **The correct answer is 1600 .** (7.SP.1-7.SP.4) Set up the proportion: $\frac{80}{250} = \frac{x}{5000}$. Solve: $x = \frac{80 \times 5000}{250} = 1600$.
- 27) **Choice B is correct.** (7.NS.2) Negative times negative always yields a positive product.
- 28) **Choice C is correct.** (7.EE.1-7.EE.2) With a 6% tax, you pay $100\% + 6\% = 106\%$ of the original price: 25×1.06 .
- 29) **The correct answer is 0 .** (7.G.1-7.G.5) Compute $81 + 144 - 225 = 0$. This confirms the side lengths satisfy the Pythagorean relationship, forming a right triangle.
- 30) **Choice D is correct.** (7.RP.3) Interest = $0.02 \times 500 = \$10$ in one year.
- 31) **Choice D is correct.** (7.RP.3) Compound interest means each period's interest calculation includes the accumulated balance, earning "interest on interest."



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Hi, Confident Learner!

◇ This high-stamina book gave you nine substantial Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. Grade 7 math can feel big because it brings together rational numbers, expressions, equations, geometry, probability, and data. ◇

★ **Remember this:** But big topics become manageable when you practice one skill at a time. That is what you have been doing with every test in this book. ★

Confidence Builders

- **Know the Goal:** Identify what the question asks.
- **Use Vocabulary:** Math words point to math actions.
- **Show Work:** Give yourself something to check.
- **Celebrate Effort:** Practice is proof that you are moving.

Grade 7 test-day tip: When reviewing, do not only mark wrong answers. Write one sentence about what you learned from each one.

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

Jay Daie

Your Confidence Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **9** 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:

9 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!

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