

5

South Dakota

Smarter Balanced

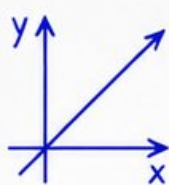
GRADE

7

MATH

PRACTICE TESTS

Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs



$$y = mx + b$$

$$\frac{2}{3} + \frac{1}{6} = \frac{5}{6}$$



$$V = \pi r^2 h$$



5 PRINTED TESTS



2 ONLINE TESTS

USE THESE TWO
ADDITIONAL ONLINE
PRACTICE TESTS
FOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.



Build
Confidence



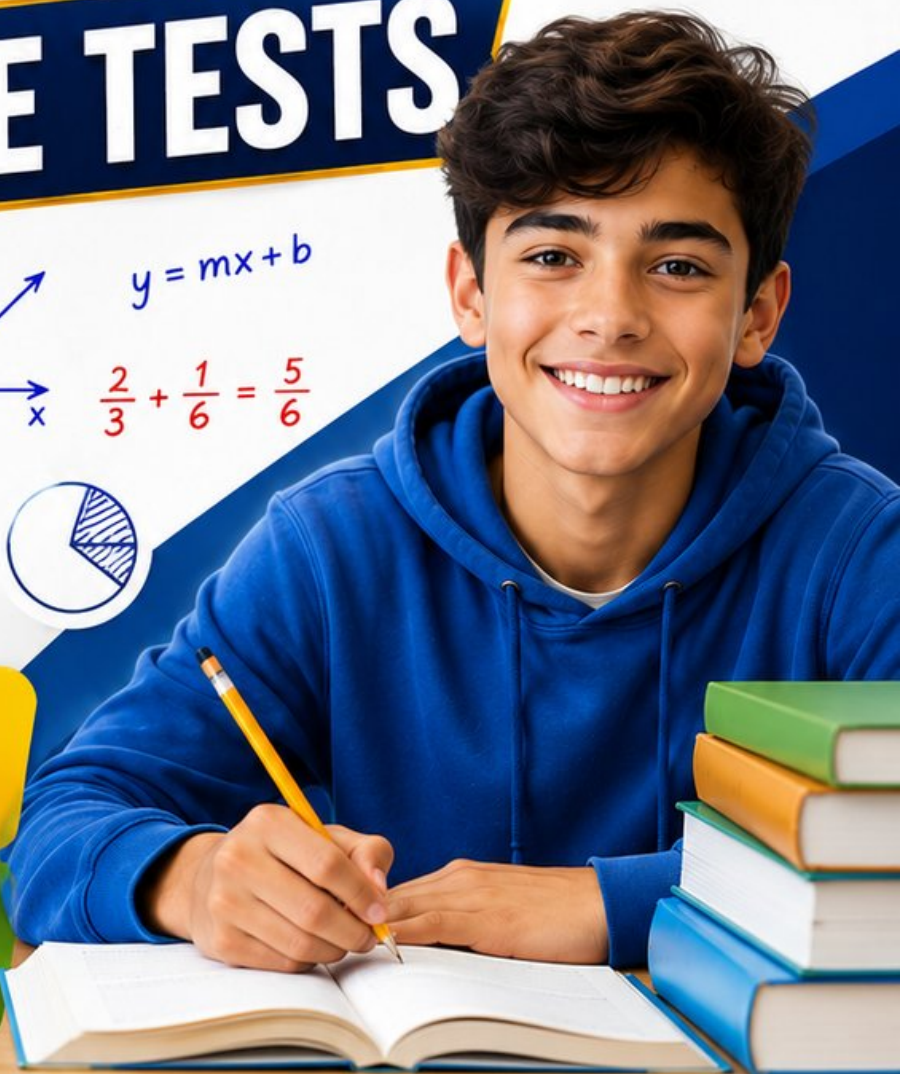
Strengthen
Math Skills



Detailed Answers
& Explanations

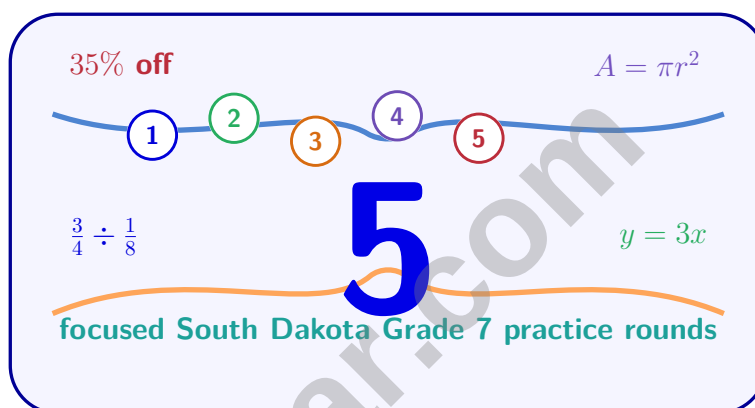


Improve Test
Performance



5 South Dakota Smarter Balanced Grade 7 Math Practice Tests

Focused Practice Tests with Standards Review and Clear Solutions



Five 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!

Five focused rounds for sharper Smarter Balanced math thinking

This book gives you five 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 five-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?

Five Smarter Balanced tests, 200 questions, and a focused review path

Part	What You Will Practice
Tests 1–2	Proportional relationships, unit rates, percents, rational-number operations, and careful reading.
Tests 3–5	Expressions, equations, inequalities, scale drawings, geometry, data, probability, and multi-step problem solving.
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

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- 1) Olivia compares two budgets. Budget A: 40% expenses, 30% savings, 30% investments. Budget B: 45% expenses, 35% savings, 20% investments. How much more does Budget A allocate to investments than Budget B?

- ☐ A. 5% ☐ C. 15%
☐ B. 20% ☐ D. 10%

2)

Item	Original Price	Percent Increase
Video game	\$40	20%

By how much did the video game price increase?

- ☐ A. \$4 ☐ C. \$12
☐ B. \$20 ☐ D. \$8

- 3) What is $4 - (-7)$?

- ☐ A. -11 ☐ C. 3
☐ B. -3 ☐ D. 11

- 4) Simplify: $3x + 4y + 2z - x + y - z$

- ☐ A. $2x + 5y + z$ ☐ C. $9xyz$
☐ B. $4x + 4y + 2z$ ☐ D. $2x + 3y - z$

- 5) A circle graph shows students' favorite subjects. If 35% prefer Math and the school has 260 students, how many students prefer Math?

- ☐ A. 35 ☐ C. 91
☐ B. 65 ☐ D. 169



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6) A rectangle has dimensions $12 \text{ cm} \times 8 \text{ cm}$. It is reduced by a scale factor of $\frac{1}{3}$. What is the area of the reduced rectangle?

☐ A. 21.33 cm^2

☐ C. 10.67 cm^2

☐ B. 26.67 cm^2

☐ D. 32 cm^2

7) A stock started the day at \$50. It fell \$12 and then rose \$8. What was its closing price?

☐ A. \$30

☐ C. \$54

☐ B. \$70

☐ D. \$46

8) Which pair of points could NOT lie on a proportional graph through the origin?

☐ A. (0, 0) and (2, 10)

☐ C. (2, 4) and (4, 8)

☐ B. (1, 7) and (2, 14)

☐ D. (3, 6) and (5, 11)

Week 1: \$ - 45

Week 2: \$ + 120

Week 3: \$ - 30

Week 4: \$ + 85

9) Weekly Profit/Loss

A small business tracks its weekly profit and loss. What is the net profit or loss over the 4 weeks?

☐ A. Net loss of \$130

☐ C. Net profit of \$175

☐ B. Net profit of \$130

☐ D. Net loss of \$70



10) Evaluate $3(x + y)$ when $x = 2$ and $y = -3$.

☐ A. 3

☐ C. -3

☐ B. -1

☐ D. 1

11) A tailor cuts 4 identical outfits using $\frac{8}{3}$ yards of fabric. How many yards of fabric per outfit?

☐ A. $\frac{1}{3}$ yard per outfit

☐ C. 2 yards per outfit

☐ B. $\frac{3}{2}$ yards per outfit

☐ D. $\frac{2}{3}$ yard per outfit

12) In a proportional relationship, if the unit rate is 2.5, what is the value of y when $x = 6$?

☐ A. 2.5

☐ C. 15

☐ B. 8.5

☐ D. 25

13) A clothing store has a rack with 50 items. The sign says “60% off summer collection.” How many items are in the summer collection?

☐ A. 20 items

☐ C. 40 items

☐ B. 60 items

☐ D. 30 items

14) A lemonade stand charges \$0.75 per cup. What is the constant of proportionality for revenue per cup?



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1) A coin is biased: $P(\text{Heads}) = 0.6$. Which model is valid?

- ☐ A. $P(\text{Tails}) = 0.4$
☐ D. $P(\text{Heads})$ and $P(\text{Tails})$ cannot sum to 1.
- ☐ B. $P(\text{Tails}) = 0.6$
- ☐ C. $P(\text{Tails}) = 0.5$

2) The table shows the relationship between minutes and pages copied.

Minutes	Pages
5	25
8	40
10	50

Write the equation for pages p in terms of minutes m .

- ☐ A. $p = \frac{m}{5}$
☐ C. $p = 25m$
- ☐ B. $p = m + 20$
☐ D. $p = 5m$

3) The equation $y = \frac{4}{5}x$ represents a proportional relationship. Which point lies on the line?

- ☐ A. (5, 5)
 ☐ C. (4, 5)
- ☐ B. (4, 3)
 ☐ D. (5, 4)

4) In a simulation of drawing colored balls from a bag, which change would improve the reliability of the probability estimate?

- ☐ A. Using a smaller bag
 ☐ C. Using fewer colors
- ☐ B. Performing more trials
 ☐ D. Replacing the bag after each trial



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& answers

5) Which inequality represents “twice a number is at most 30”?

☐ A. $2x > 30$

☐ C. $x \leq 30$

☐ B. $2x \leq 30$

☐ D. $2x < 30$

6) A cube has edge length 6 cm. Find its surface area.

☐ A. 36 cm^2

☐ C. 144 cm^2

☐ B. 72 cm^2

☐ D. 216 cm^2

7) What is the greatest common factor of $16m$ and $24n$?

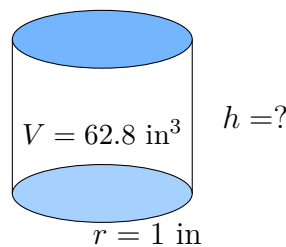
8) A scale drawing of a rectangular garden is 6 cm long at a scale of 1 cm : 0.5 m. If the scale is changed to 1 cm : 1 m, what will be the new length?

☐ A. 3 cm

☐ C. 12 cm

☐ B. 6 cm

☐ D. 24 cm



9)

What is the height of the cylinder if the volume is 62.8 in^3 and the radius is 1 inch?
Use $\pi \approx 3.14$.

☐ A. 10 inches

☐ C. 20 inches

☐ B. 15 inches

☐ D. 30 inches



- 1) A frequency table shows results from drawing cards with replacement 500 times:

Card Type	Hearts	Diamonds	Clubs	Spades
Frequency	140	125	128	107

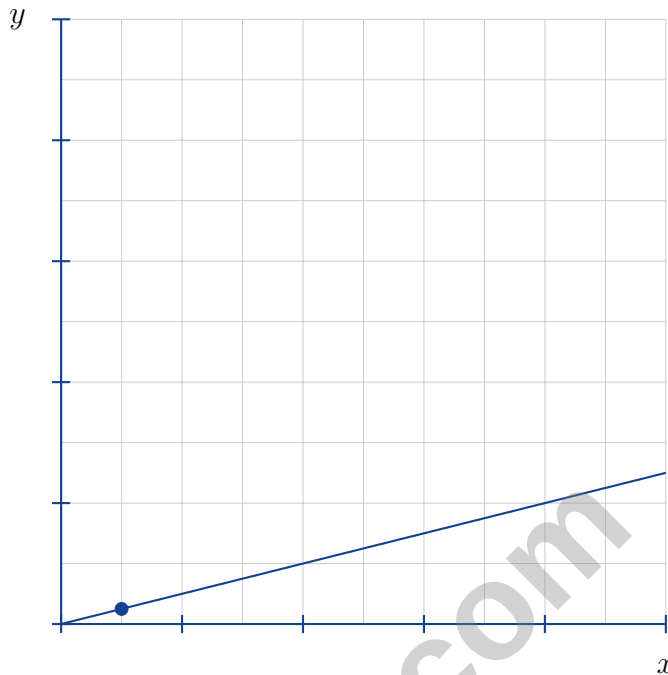
Which suit has the lowest experimental probability?

- ☐ A. Hearts
 ☐ C. Clubs
☐ B. Diamonds
 ☐ D. Spades
- 2) A rectangle has width w meters. The length is $3w - 2$. If the perimeter is 28 meters, what is the width? (Hint: perimeter = $2(\text{length}) + 2(\text{width})$)
- ☐ A. $w = 2$
☐ C. $w = 4$
☐ B. $w = 3$
☐ D. $w = 5$
- 3) A blueprint of a house wing shows a rectangular area 5 cm by 7 cm at scale 1 cm : 3 m. A new blueprint is drawn at scale 1 cm : 6 m. What are the dimensions on the new blueprint?

- ☐ A. 2.5 cm by 3.5 cm
 ☐ C. 10 cm by 14 cm
☐ B. 5 cm by 7 cm
 ☐ D. 15 cm by 21 cm



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& answers



4)

What is the unit rate represented by this graph?

☐ A. 10☐ C. 2.5☐ B. 1☐ D. 0.25

5) A student computed $-8 + 5$ and got -13 . What was the error?

☐ A. Subtracted instead of added☐ C. Used the wrong sign for the result☐ B. Added the absolute values without☐ D. The answer is correct

keeping correct sign



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 D is correct.** **(7.RP.3)** Difference = $30\% - 20\% = 10\%$.
- 2) **Choice D is correct.** **(7.RP.3)** A 20% increase of \$40 is $0.20 \times 40 = 8$ dollars.
- 3) **Choice D is correct.** **(7.NS.1-7.NS.3)** Subtracting a negative is the same as adding its opposite: $4 - (-7) = 4 + 7 = 11$.
- 4) **Choice A is correct.** **(7.EE.1)** Combine like terms by variable: $(3 - 1)x + (4 + 1)y + (2 - 1)z = 2x + 5y + z$.
- 5) **Choice C is correct.** **(7.SP.1-7.SP.4)** 35% of 260 = $0.35 \times 260 = 91$ students.
- 6) **Choice C is correct.** **(7.RP.1-7.RP.3)** New dimensions are $12 \times \frac{1}{3} = 4$ cm and $8 \times \frac{1}{3} = \frac{8}{3}$ cm. Area = $4 \times \frac{8}{3} = \frac{32}{3} \approx 10.67$ cm². (Common error: using scale ($\frac{1}{3}$) instead of $(\frac{1}{3})^2 = \frac{1}{9}$ gives $96 \div 3 = 32$ cm².)
- 7) **Choice D is correct.** **(7.NS.1b)** Model as $50 + (-12) + 8 = 50 - 12 + 8 = 46$. The stock fell \$12 then rose \$8 for a net change of -\$4.
- 8) **Choice D is correct.** **(7.RP.1-7.RP.3)** For a line through the origin with form $y = kx$: (3, 6) gives $k = 6/3 = 2$. Check (5, 11): $k = 11/5 = 2.2 \neq 2$. The constant of proportionality does not match, so this pair cannot both lie on the same proportional line through the origin.
- 9) **Choice B is correct.** **(7.NS.1-7.NS.3)** Net = $-45 + 120 - 30 + 85 = 130$ dollars (profit).
- 10) **Choice C is correct.** **(7.EE.1-7.EE.2)** Substitute: $3(2 + (-3)) = 3(-1) = -3$.
- 11) **Choice D is correct.** **(7.RP.1-7.RP.3)** Unit rate: $\frac{8/3}{4} = \frac{8}{3} \times \frac{1}{4} = \frac{8}{12} = \frac{2}{3}$ yard per outfit.
- 12) **Choice C is correct.** **(7.RP.1-7.RP.3)** With unit rate $k = 2.5$, the equation is $y = 2.5x$. When $x = 6$, $y = 2.5 \times 6 = 15$.
- 13) **Choice D is correct.** **(7.RP.3)** Using the proportion $\frac{60}{100} = \frac{x}{50}$, cross-multiply: $x = 30$ items.
- 14) **The correct answer is 0.75.** **(7.RP.1-7.RP.3)** Revenue is price per cup times cups sold, so the constant is 0.75.
- 15) **Choice B is correct.** **(7.NS.1-7.NS.3)** Subtraction can be rewritten as adding the opposite: $8 - 3 = 8 + (-3) = 5$.
- 16) **The correct answer is \$48.83.** **(7.RP.3)** Tax = $0.085 \times 45 = \$3.825 \approx \3.83 . Final price = $45 + 3.83 = \$48.83$.
- 17) **Choice B is correct.** **(7.NS.1-7.NS.3)** Descent of 336 m is -336. Rate: $(-336) \div 12 = -28$ m/s. Negative indicates downward motion.
- 18) **The correct answer is A,D.** **(7.RP.1-7.RP.3)** Options A and D are the two correct answers. A is true because $y = kx = 2x$ is the equation for any proportional relationship with $k = 2$. D is true because substituting $x = 2$ into $y = 2x$ gives $y = 4$. All other options are false.
- 19) **Choice B is correct.** **(7.NS.2d)** Divide $1 \div 4 = 0.25$. This terminating decimal results because $4 = 2^2$.
- 20) **Choice C is correct.** **(7.NS.1-7.NS.3)** Start at 5, go down 8: $5 - 8 = -3$ (basement). Then up 6: $-3 + 6 = 3$.
- 21) **Choice B is correct.** **(7.NS.1-7.NS.3)** Move decimal 5 places right: $0.00008 \rightarrow 8$. Exponent is -5.
- 22) **Choice A is correct.** **(7.NS.1-7.NS.3)** Statement A is correct: $4 \times 4 = 16$ and $\sqrt{16} = 4$ (principal square root is positive). Statement B is false: $\sqrt{25} = 5$, not -5 (the square root symbol yields only the positive root). Statement C is false: $6^2 = 36$, not 37. Statement D is true but only A is the correct answer for this single-answer MC.
- 23) **Choice B is correct.** **(7.EE.1-7.EE.2)** Distribute the 4 and 3 to each term in the parentheses: $4x - 8 + 3x + 3$. Then combine like terms: $(4x + 3x) + (-8 + 3) = 7x - 5$. The simplified form shows the final equivalent expression.
- 24) **Choice A is correct.** **(7.SP.5-7.SP.8)** $P(A) = \frac{1}{2} = 0.5$ is the largest probability. $B = 0.25$, $C = D = 0.125$.
- 25) **The correct answer is \$6000.** **(7.RP.3)** $I = 5000 \times 0.08 \times 2.5 = \1000 . $A = 5000 + 1000 = \$6000$.
- 26) **Choice B is correct.** **(7.NS.2)** $-\frac{1}{2} \times 10 = \frac{-10}{2} = -5$. Negative times positive is negative.
- 27) **Choice B is correct.** **(7.SP.3)** The IQR (from Q1 to Q3) represents the spread of the middle 50% of data. A larger IQR (8 vs. 3) indicates more variability in the central portion of the distribution.
- 28) **Choice C is correct.** **(7.RP.3)** Order is $\$32 \geq \25 , so delivery fee is \$4.00. Total = $32 + 4 = \$36.00$.
- 29) **Choice D is correct.** **(7.SP.1-7.SP.4)** All leaves appear exactly once, so no value repeats. There is no mode.
- 30) **Choice B is correct.** **(7.G.4-7.G.6)** Calculate the area of each triangle using the formula $\frac{1}{2} \times b \times h$. Each triangle: $\frac{1}{2} \times 6 \times 4 = 12$ cm². Add the two triangles: $12 + 12 = 24$ cm².



Hi, Persistent Problem Solver!

◇ Some Grade 7 questions ask you to hold several ideas in your mind at once. That can feel hard, and that is exactly why practice matters. ◇

★ **Remember this:** You showed persistence by continuing through the set. That habit is powerful because difficult problems often open after one more good attempt. You practiced across 5 full Grade 7 practice tests, and that repeated effort matters. ★

Persistence Tools

- **Try a Smaller Case:** Use an easier number to see the pattern.
- **Draw It:** Make the situation visible.
- **Restate It:** Say the question in your own words.
- **Check One Step:** Fix the first unclear place.

Grade 7 test-day tip: When stuck, do not restart everything. Find the first step you trust, then rebuild from there.

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

Jay Daie

Your Persistence Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **5** 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:

5 Full-Length Printed Tests

2 Online Practice Tests

 Detailed Answers & 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



Build Confidence

Practice regularly to feel prepared and test-ready.



Strengthen Math Skills

Develop key math concepts and problem solving abilities.



Improve Understanding

Learn with clear explanations and step-by-step solutions.



Test Confidence

Familiarize with test formats and improve accuracy and speed.



Boost Performance

Apply your knowledge and achieve your best score!

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!



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