10 South Dakota Smarter Balanced

GRADE 6 MATH

PRACTICE TESTS

Standards-Aligned Review
Mixed Practice & Answer Key

10 PRINTED TESTS
Realistic practice to build confidence and mastery

2 ONLINE TESTS
Extra practice for continued success

DETAILED ANSWER EXPLANATIONS
Learn with step-by-step solutions

FOCUSED & EFFECTIVE
Target key math skills with purposeful practice

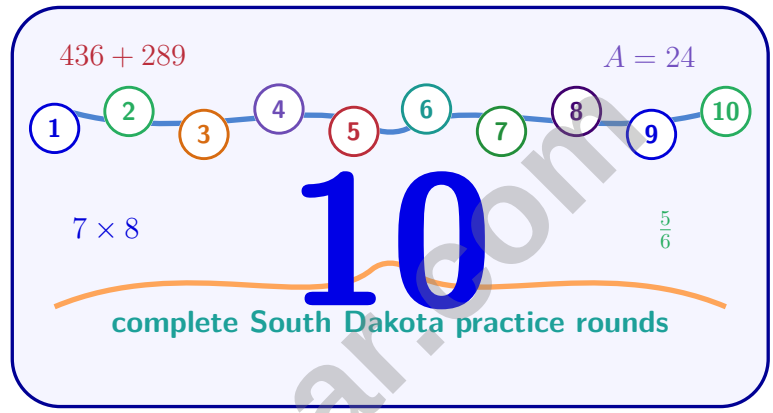
10 PRINTED TESTS + 2 ONLINE TESTS

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

PRACTICE • REVIEW • SUCCEED

10 South Dakota Smarter Balanced Grade 6 Math Practice Tests

Standards-Aligned Landmark Thinking for Smarter Balanced Assessment Consortium



Ten complete 40-question Grade 6 practice rounds for Smarter Balanced, with ratios, rational numbers, expressions, equations, geometry, statistics, answer keys, and clear explanations for every item.

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Jay Daie and Reza Nazari

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Welcome, South Dakota Math Explorer!

Ten steady rounds on a prairie-and-peaks review route

This book gives you ten full Grade 6 practice tests for Smarter Balanced. Each round uses open prairie, stone landmarks, and careful math pacing as a fresh mental backdrop while you read closely, choose a smart strategy, show your work, and check whether your answer makes sense.

Your South Dakota Practice Promise

Use landmarks in the problem: labels, units, and key numbers. I will slow down for the question, circle what matters, solve one step at a time, and use mistakes as clues for getting stronger.

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Read Plan Check

How to Use This Book

A ten-session routine for landmark thinking

1. **Preview the skills.** Read the quick review pages before the first test.
2. **Take one test at a time.** Work in a quiet place and answer all 40 questions.
3. **Mark your confidence.** Put a small star beside problems you solved with a strong plan.
4. **Check, then retry.** For missed questions, try the problem again before reading the explanation.
5. **Track your next move.** Use the growth log to name one habit and one skill for the next test.

South Dakota review rhythm: Test one day, correct carefully the next day, then return for the next round when your corrections feel clear.

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What Is Inside?

Ten Smarter Balanced tests, 400 questions, and a full review path

Part	What You Will Practice
Tests 1–3	Warm-up rounds for ratios, rational numbers, operations, and careful reading.
Tests 4–6	Skill-building rounds with expressions, equations, geometry, data, and problem models.
Tests 7–9	Stamina rounds for mixed review, neat work, and flexible strategy choices.
Test 10	Final South Dakota round to show growth across the whole book.
Answer Pages	Compact keys and explanations that show why each answer works.

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The tests are mixed on purpose. Landmark thinking means recognizing the skill even when the next question changes topic.

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1) A table is missing a value. Which number is most likely the missing value if the ratio is 3 : 8?

First Quantity	Second Quantity
6	16
9	?

☐ A. 20
☐ B. 24
☐ C. 18
☐ D. 25

2) A business budgets $5000 for operations. They allocate 60% to salaries. After paying salaries, what percent of the original $5000 budget is remaining?

☐ A. 20%
☐ B. 30%
☐ C. 40%
☐ D. 50%

3) A trapezoid has bases of 12 cm and 8 cm with a height of 5 cm. What is the area?

4) A student has a scale of 1 cm = 6 m for a model. The actual object is 24 m long. The student calculates the drawing length as $24 \times 6 = 144$ cm. What is the student's error?

☐ A. The answer is correct.
☐ B. The student multiplied instead of dividing; the correct answer is 4 cm.
☐ C. The student only changed the unit label to meters.
☐ D. The student used the wrong scale entirely.

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5) A recipe calls for $\frac{3}{4}$ cup of sugar. If you want to make exactly *half* of the recipe (so that every ingredient is halved), how much sugar do you need?
Which expression represents this situation?

☐ A. $\frac{3}{4} \div \frac{1}{2}$
☐ B. $\frac{3}{4} \times \frac{1}{2}$
☐ C. $\frac{3}{4} + \frac{1}{2}$
☐ D. $\frac{1}{2} \div \frac{3}{4}$

6) Two water tanks are filled with salt water in different ratios. Tank 1 has salt to water in the ratio 1 : 4. Tank 2 has salt to water in the ratio 2 : 8. The diagrams represent each tank's contents.

Tank 1: 1 : 4

Tank 2: 2 : 8

Which statement is correct?

☐ A. Tank 1 has more salt per unit of water.
☐ B. Tank 2 has more salt per unit of water.
☐ C. Both tanks have the same salt-to-water ratio.
☐ D. Tank 1 is larger overall.

7) A box plot shows the distribution of daily temperatures. The box spans from $Q1 = 68$ to $Q3 = 78$. What is the IQR?

☐ A. 5
☐ B. 10
☐ C. 15
☐ D. 68

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8) A teacher scores 15 quizzes:

Stem	Leaf
7	0, 5, 8
8	1, 2, 4, 6, 7, 9
9	0, 2, 3, 5, 6

How many scores are in the 80s?

☐ A. 3
☐ B. 5
☐ C. 6
☐ D. 7

9)

Wheat Peach

The bar model shows a ratio of wheat to peach of 3 : 1. If the total bar is 20 units, how many units is the wheat section?

☐ A. 5 units
☐ B. 3 units
☐ C. 10 units
☐ D. 15 units

10) A square pyramid has a square base with side length 10 cm and a slant height of 13 cm. What is the total surface area including the base (in cm^2)?

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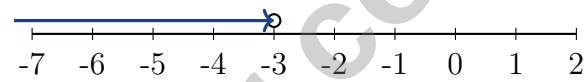
1) Factor $27 + 18$ using the GCF.

☐ A. $3(9 + 6)$
☐ B. $9(3 + 2)$
☐ C. $6(4.5 + 3)$
☐ D. $18(2 + 1)$

2) Evaluate $2n - 7$ when $n = 15$.

3) Which number line shows $x < -3$?



☐ A. Open circle at -3, arrow left
☐ B. Closed circle at -3, arrow left
☐ C. Open circle at -3, arrow right
☐ D. Closed circle at 3, arrow left

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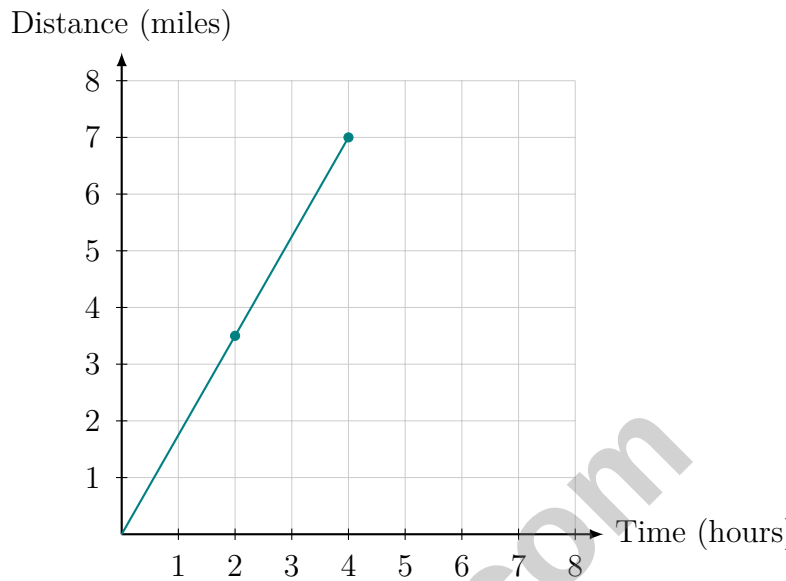
4) The graph below represents the distance a train travels over time.



What is the train's speed?

☐ A. 1.5 miles per hour
☐ B. 3.5 miles per hour
☐ C. 2 miles per hour
☐ D. 1.75 miles per hour

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1) A data set in order: $4, 6, 8, 10, 12, 14$. The median is 9. What are Q1 and Q3?

☐ A. Q1 = 6, Q3 = 12
☐ B. Q1 = 6, Q3 = 14
☐ C. Q1 = 4, Q3 = 12
☐ D. Q1 = 8, Q3 = 12

2) A toy that costs \$24 is bought at 20% off. What is the final price?

☐ A. \$4.80
☐ B. \$9.60
☐ C. \$14.40
☐ D. \$19.20

3) If 15 out of 50 marbles are red, what percent are red?

4) A sports team won 15 games and lost 5 games. What is the ratio of wins to total games played?

☐ A. 3 : 1
☐ B. 3 : 4
☐ C. 15 : 20
☐ D. 20 : 15

5) A length of 8 inches is to be written as a number of feet. Which value, in feet, equals 8 inches? (Use 1 foot = 12 inches.)

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

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6) Jordan receives \$120 monthly as income. He spends \$45 on lunch, \$30 on entertainment, and \$20 on transportation. How much does he have left?

☐ A. \$20
☐ B. \$25
☐ C. \$35
☐ D. \$40

7) Divide: $0.84 \div 0.7$

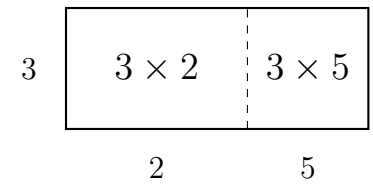
☐ A. 1.2
☐ B. 0.12
☐ C. 12
☐ D. 1.54

8) A gardener is arranging plants. They have 35 tomato plants and 49 pepper plants. They want to arrange them in rows with the same number of each type of plant per row, using all plants. How many rows can they make?

☐ A. 5 rows
☐ B. 49 rows
☐ C. 35 rows
☐ D. 7 rows

9) What integer added to -10 equals -6?

10) The area model below shows a rectangle divided into two parts. Which expression does it represent?



☐ A. $3(2+5)$
☐ B. $2(3+5)$
☐ C. $5(3+2)$
☐ D. $(3+2)(3+5)$

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South Dakota Smarter Balanced Practice Test Answer Keys

How to use this section with a Grade 6 student:

1. check the answer first
2. mark questions to try again
3. rework the problem before reading the full explanation

A calm correction routine turns every missed item into useful practice.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

1) **Choice B is correct.** 6.SP.5 The ratio $3:8$ is constant. Row 1: $6:16$ simplifies to $3:8$ (divide by 2). For Row 2, when first is 9 (multiply by 3), second is $8 \times 3 = 24$.
2) **Choice C is correct.** 6.G.2 Remaining percent: $100\% - 60\% = 40\%$ of the original budget.
3) **The correct answer is** 50. 6.RP.1 Area $= \frac{1}{2}(12+8) \times 5 = \frac{1}{2}(20)(5) = 50$ cm^2.
4) **Choice B is correct.** 6.NS.3 To find drawing length from actual length, divide by the scale factor: 24 m$\div$6 m/cm $= 4$ cm. The student confused the direction of the ratio.
5) **Choice B is correct.** 6.RP.3 "Half the recipe" means multiply each ingredient by $\frac{1}{2}$, not divide by $\frac{1}{2}$. So you want $\frac{3}{4} \times \frac{1}{2} = \frac{3}{8}$ cup of sugar.
6) **Choice C is correct.** 6.NS.3 Tank 1 has a salt-to-water ratio of $1:4$. Tank 2 has $2:8$, which simplifies to $1:4$, so the ratios are the same.
7) **Choice B is correct.** 6.NS.1 IQR $= Q3 - Q1 = 78 - 68 = 10$ degrees. The box in a box plot represents the IQR.
8) **Choice C is correct.** 6.EE.3 Stem 8 has 6 leaves: $81, 82, 84, 86, 87, 89$.
9) **Choice D is correct.** 6.RP.3 The whole bar has $3 + 1 = 4$ equal parts. Each part is $20 \div 4 = 5$ units, and wheat is 3 parts: $3 \times 5 = 15$ units.
10) **The correct answer is** 360. 6.NS.5 Base area $= 10^2 = 100$ cm^2. Lateral area $= 4 \times \frac{1}{2}(10)(13) = 260$ cm^2. Total $SA = 100 + 260 = 360$ cm^2.
11) **Choice C is correct.** 6.EE.3 Divide total cost by number of notebooks: $6.40 \div 8 = 0.80$ dollars per notebook.
12) **Choice B is correct.** 6.NS.8 $100 \div 25 = 4$ meters per second.
13) **Choice B is correct.** 6.SP.4 The ratio is 6 balls:2 rackets, which simplifies to 3:1. So for every 3 tennis balls (x), there is 1 tennis racket (y). The constant of proportionality is $k = \frac{2}{6} = \frac{1}{3}$. Therefore, $y = \frac{1}{3}x$.
14) **Choice B is correct.** 6.SP.4 Since the total is 100, the percent equals the number: 23 out of 100 $= 23\%$.
15) **The correct answer is** 2.4. 6.EE.7 Mean $= (6+8+10+12+14)/5 = 10$. Deviations: $|6-10| = 4$, $|8-10| = 2$, $|10-10| = 0$, $|12-10| = 2$, $|14-10| = 4$. MAD $= (4+2+0+2+4)/5 = 2.4$.
16) **Choice B is correct.** 6.EE.4 Commission is 5% of \$2000 $= 0.05 \times 2000 =$ \$100.
17) **Choice A is correct.** 6.EE.6 $6:9$ simplifies by dividing both by 3: $6 \div 3 = 2$ and $9 \div 3 = 3$, giving $2:3$.
18) **The correct answer is A: $\frac{1}{2} \times 14 \times 9 = 63$ m^2 (correct). D: $\frac{1}{2} \times 6 \times 15 = 45$ in^2 (correct).** 6.EE.5 A is correct because $\frac{1}{2} \times 14 \times 9 = 63$ m^2. D is correct because $\frac{1}{2} \times 6 \times 15 = 45$ in^2. B doubles instead of halves, C uses the inverse formula incorrectly, and E describes the wrong effect of tripling the base.
19) **Choice B is correct.** 6.EE.8 Convert 2 quarts to pints: $2 \times 2 = 4$ pints. Total: $6 + 4 = 10$ pints.
20) **Choice D is correct.** 6.NS.2, 6.NS.3 Rent to Food: \$1200 : \$800 $= 12:8 = 3:2$ (dividing both by 400).
21) **Choice A is correct.** 6.EE.9 The constant of proportionality is $k = \frac{\text{cost}}{\text{items}} = \frac{10}{2} = \frac{20}{4} = \frac{30}{6} = \frac{40}{8} = 5$. The cost is \$5 per item.
22) **Choice B is correct.** 6.SP.2 Check each one: $2{,}500 \div 25 = 100$, $3{,}000 \div 24 = 125$ ✓, $3{,}600 \div 30 = 120$, and $2{,}750 \div 25 = 110$. The match is choice B because $24 \times 125 = 3{,}000$.
23) **Choice C is correct.** 6.RP.3 This is an LCM problem. Prime factors: $15 = 3 \times 5$, $25 = 5^2$. LCM $= 3 \times 5^2 = 75$ minutes. 75 minutes after noon is 1 : 15 PM.
24) **Choice C is correct.** 6.G.1 Both numbers are 4.5 units from zero (one on each side). $|4.5| = 4.5$ and $|-4.5| = 4.5$.
25) **Choice C is correct.** 6.G.1 On a number line, $-\frac{3}{8} = -0.375$ is to the left of $-\frac{1}{8} = -0.125$. The student confused the order of negative numbers.
26) **Choice C is correct.** 6.G.4 Both the x-coordinate and y-coordinate are negative, so the point is in Quadrant III (lower left).
27) **Choice C is correct.** 6.SP.2 $X = -4$ and $Y = 2$. Distance $= 2 - (-4) = 2 + 4 = 6$ units.

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Hi, Math Champion!

◇ You trained hard! 10 full practice tests is real practice. Your math game is way better now than when you started. ◇

⋆ **Coach's truth:** kids who practice get better. You practiced. You got better. That's how it works! ⋆

Your Game Stats

- **Energy:** HIGH! You can finish a long test.
- **Smart Plays:** You know lots of strategies.
- **Calm Head:** You stay cool with hard problems.
- **Game-Day Ready:** You feel strong and prepared.

Coach's tip: the night before the test, get good sleep. Eat a good breakfast. Bring a sharp pencil. Trust your training!

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

Jay Daie
Your Math Coach

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PRACTICE MORE. ACHIEVE MORE. SUCCEED!

This **Grade 6 Math Practice Tests** book is designed to help students build strong math skills, deepen their understanding of key concepts, and gain the confidence they need to succeed on any test.

With 10 full-length printed tests and 2 online tests, students get the review, practice, and realistic test experience they need to improve accuracy, strengthen problem-solving abilities, and reach their full potential.

Perfect for classroom use, homework, test preparation, and extra practice at home.

PERFECT FOR:

- Classroom Practice
- Homework & Review
- Independent Learning
- Test Preparation
- Skill Reinforcement
- Building Confidence

CONFIDENCE TODAY. SUCCESS TOMORROW!

WHAT STUDENTS WILL GAIN

Stronger Math Skills
Build a solid foundation through targeted practice and review.

Better Problem Solving
Develop logical thinking and effective solution strategies.

Deepen Understanding
Reinforce key math concepts aligned with standards.

Test Confidence
Get familiar with test formats and improve accuracy.

Achieve Success
Build confidence and perform your best on test day.

TOPICS COVERED

- Ratios & Rates
- The Number System
- Expressions & Equations
- Geometry
- Fractions & Decimals
- Percents
- Statistics & Probability
- Data Analysis
- Measurement & Conversions
- And More!

2 ONLINE TESTS

Extra online practice to reinforce learning and build confidence.

MORE PRACTICE. GREATER RESULTS.

Give your child the tools needed to develop strong math skills, confidence, and a positive attitude toward learning.

10 PRINTED PRACTICE TESTS | **2 ONLINE PRACTICE TESTS** | **DETAILED ANSWER EXPLANATIONS**