

# 8

# Connecticut

## Smarter Balanced

### GRADE 6

# MATH

# PRACTICE TESTS

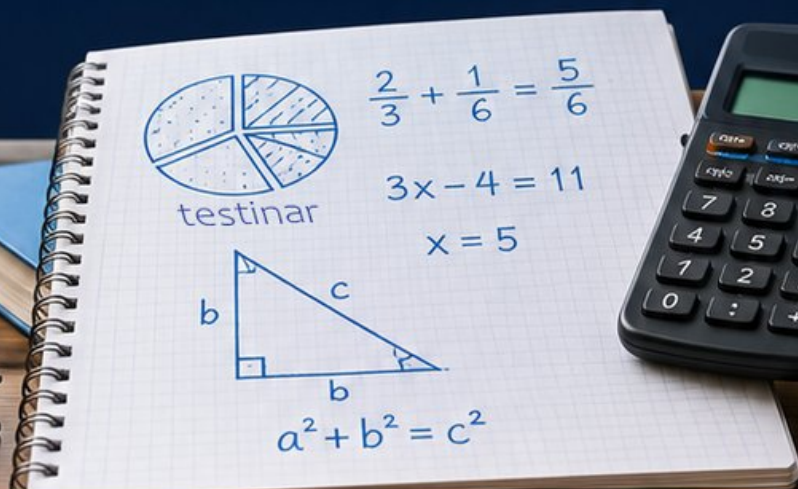
8  
PRINTED  
TESTS

+

2  
ONLINE  
TESTS

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

Standards-Aligned *Steady Southern* Problem Solving for Comprehensive Assessment Program



BUILT FOR  
ACAP SUCCESS



REALISTIC TESTS  
& QUESTION TYPES



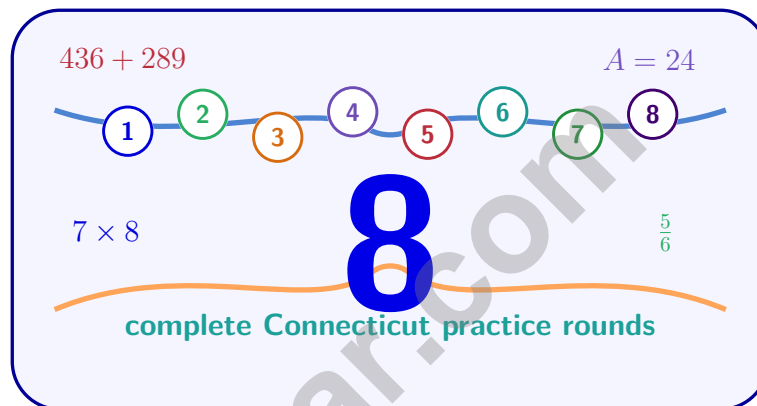
STRENGTHEN  
MATH SKILLS



REVIEW, PRACTICE,  
AND IMPROVE

# 8 Connecticut Smarter Balanced Grade 6 Math Practice Tests

*Standards-Aligned Careful New England Review for Smarter Balanced Assessment Consortium*



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

**Jay Daie and Reza Nazari**



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# Welcome, Connecticut Math Explorer!

Eight focused rounds using careful New England review

This book gives you eight full Grade 6 practice tests for Smarter Balanced. Each round uses town greens, shoreline routes, and precise classroom thinking as a fresh mental backdrop while you read closely, choose a smart strategy, show your work, and check whether your answer makes sense.

## Your Connecticut Practice Promise

Make every answer earn its place by reading labels, checking scale, and explaining the step.

Read

Plan

Check

## How to Use This Book

A eight-session routine for careful New England review

1. **Preview the skills.** Scan the quick review pages before beginning the first round.
2. **Work in order.** Take one 40-question test at a time in a quiet place.
3. **Mark confidence.** Put a small star beside problems where your plan felt strong.
4. **Correct actively.** Retry missed items before reading the full explanation.
5. **Plan the next round.** Use the growth log to choose one habit and one skill to practice.

**Connecticut review rhythm:** Pair each test with a review session so errors become a neat checklist.



## What Is Inside?

Eight Smarter Balanced tests, 320 questions, and a full review path

Part	What You Will Practice
Tests 1–3	Foundation rounds for ratios, rational numbers, operations, and careful reading.
Tests 4–6	Skill-building rounds with expressions, equations, geometry, data, and problem models.
Tests 7–8	Final stamina rounds for mixed review, neat work, and flexible strategy choices.
Answer Pages	Compact keys and explanations that show why each answer works.

The tests are mixed on purpose. Careful new england review means recognizing the skill even when the next question changes topic, changes format, or asks for an explanation.

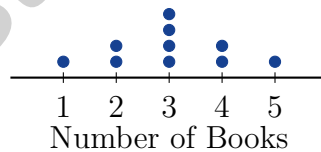


Scan me!  
For more practice  
& answers

# Table of Contents

★ Practice Test 1	_____	14
★ Practice Test 2	_____	29
★ Practice Test 3	_____	45
★ Practice Test 4	_____	60
★ Practice Test 5	_____	75
★ Practice Test 6	_____	90
★ Practice Test 7	_____	106
★ Practice Test 8	_____	122
<b>Practice Test Answer Keys</b>	_____	<b>139</b>
<b>Practice Test Answers and Explanations</b>	_____	<b>144</b>

- 1) A rectangular prism has dimensions  $6\text{ m} \times 4\text{ m} \times 2\text{ m}$ . Which expression correctly computes its surface area?
- A.  $2(6 + 4 + 2)$                        C.  $2(6 \times 4) + 2(6 \times 2) + 2(4 \times 2)$   
 B.  $6 + 4 + 2 + 6 + 4 + 2$                        D.  $6 \times 4 \times 2$
- 2) A concert venue has seating for at most 2,500 people. Which inequality represents the capacity  $c$ ?
- A.  $c > 2,500$                        C.  $c < 2,500$   
 B.  $c \geq 2,500$                        D.  $c \leq 2,500$
- 3) A composite shape is made of a rectangle 10 m by 5 m joined to a parallelogram with base 10 m and height 3 m. What is the total area?
- A.  $50\text{ m}^2$                        C.  $65\text{ m}^2$   
 B.  $30\text{ m}^2$                        D.  $80\text{ m}^2$
- 4) The dot plot shows the number of books read by students last month. How many students read exactly 3 books?



- A. 2                       C. 4  
 B. 3                       D. 5



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

A. 3 : 1

C. 15 : 20

B. 3 : 4

D. 20 : 15

6) A school has  $s$  students. It also has  $s + 25$  staff members. If the school has 600 students, how many staff members does it have?

7) A membership costs \$25 per month with a one-time joining fee of \$50. After  $m$  months, the total cost is  $c = 25m + 50$ . Is this proportional?

A. Yes; the cost is linear

C. Cannot determine without more

B. Yes; the equation matches the definition

data

D. No; there is a one-time fee

8) The table shows the relationship between time and distance for a car traveling at constant speed.

Time (hours)	1	3	5
Distance (miles)	60	180	300

Find the speed of the car in miles per hour.



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& answers

9) A scale drawing of a garden uses the scale 1 inch = 6 feet. How long is the actual garden if the drawing shows 2.5 inches?

- A. 8.5 feet                       C. 15 feet  
 B. 12 feet                         D. 18 feet

10)

Player	Score
Alice	8
Bob	-3
Carol	5
David	-1

Who has the lowest score?

- A. Alice                               C. Carol  
 B. David                               D. Bob
- 11) A stock portfolio shows: Investment A gained \$75, Investment B lost \$120, Investment C gained \$45. What is the total gain or loss?

- A. \$240 loss                         C. \$240 gain  
 B. \$0 (break-even)                 D. \$120 loss

12) Evaluate:  $3^2 + 2 \times (5 - 1)$

- A. 9                                       C. 25  
 B. 17                                     D. 40



- 1) Two storage plans charge monthly fees: Plan P: No upfront cost, \$8 per month Plan Q: \$20 upfront, then \$3 per month  
After 6 months, which plan shows a proportional relationship to the time elapsed?

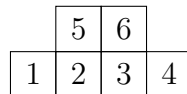
- A. Plan P only  
 B. Plan Q only  
 C. Both plans are proportional  
 D. Neither plan is proportional

- 2) A game records scores over 12 rounds:

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

What is the difference between the maximum and minimum scores?

- A. 18  
 B. 17  
 C. 16  
 D. 15
- 3) In the net of a cube, which arrangement would result in faces 1 and 2 being on opposite sides of the cube?



- A. 1 and 2  
 B. 3 and 6  
 C. 2 and 5  
 D. 1 and 4

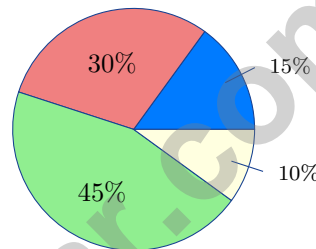


4) What does Mean Absolute Deviation (MAD) measure?

- A. How far each value is from the mean on average
- B. The middle value in the data set
- C. The difference between the max and min
- D. The most common value in the data set

5) If  $Q_1 = 15$  and  $Q_3 = 35$ , what is the IQR?

- A. 10
- B. 15
- C. 20
- D. 50



6)

A circle graph with 600 total items has sections of 15%, 30%, 45%, and 10%. Which is the second-largest section by count?

- A. The 30% section with 180 items.
- B. The 15% section with 90 items.
- C. The 10% section with 60 items.
- D. The 45% and 30% sections equally.

7) A teacher uses a histogram to compare test scores. The histogram has intervals: 50–60 (freq 2), 60–70 (freq 5), 70–80 (freq 8), 80–90 (freq 4), 90–100 (freq 1).

What percentage of students scored between 70 and 90?

- A. 48%
- B. 52%
- C. 60%
- D. 80%



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& answers

1) A town's elevation is 350 meters. A nearby valley is 120 meters lower. What is the valley's elevation?

A. -230 meters

C. 470 meters

B. 230 meters

D. -470 meters

2) A rectangular prism has dimensions 5 cm by 5 cm by 2 cm. What is the volume?

A.  $12 \text{ cm}^3$

C.  $50 \text{ cm}^3$

B.  $25 \text{ cm}^3$

D.  $75 \text{ cm}^3$

3) Divide 5,940 by 36 and write the quotient.

4)



If  $A = 1$  and  $B = 4$ , order  $-A$ ,  $-B$ , and 0.

A.  $-B < -A < 0$

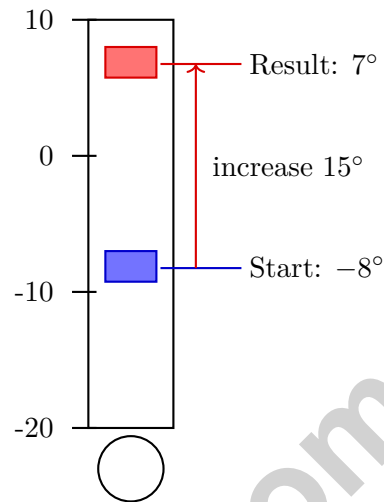
C.  $0 < -A < -B$

B.  $-A < -B < 0$

D.  $-B = -A$



- 5) Which statement correctly translates: “Temperature starts at  $-8^{\circ}\text{C}$  and increases by  $15^{\circ}\text{C}$ ”?



- A.  $-8 + 15 = 7$ 
 C.  $8 + 15 = 23$   
 B.  $-8 - 15 = -23$ 
 D.  $-8 + (-15) = -23$
- 6) Which expression equals 9?
- A.  $3^2$ 
 C.  $1^9$   
 B.  $2^3$ 
 D.  $3 \times 3^2$
- 7) In the expression  $2 \cdot 3 \cdot x$ , written as  $6x$ , what are the factors of the coefficient 6?
- A. 2 and 3
  C. 6 only  
 B. 2, 3, and  $x$ 
 D. 1 and 6



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& answers

**Connecticut Smarter Balanced Practice Test Answer Keys**

**How to use this Connecticut Smarter Balanced answer section with a Grade 6 student:**

1. check the answer first, then write one quick reason the choice is correct
2. mark questions to try again, especially the skills that feel connected to careful New England review
3. rework the problem before reading the full explanation, using this reminder: Make every answer earn its place by reading labels, checking scale, and explaining the step.

**A calm Connecticut correction routine turns every missed item into useful practice. Pair each test with a review session so errors become a neat checklist.**



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& answers

## Connecticut Practice Test Answers and Explanations

Review the eight printed Smarter Balanced tests with precise, calm, and ready for the next assessment day habits.

### Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** **(6.G.A.4)** The surface area of a rectangular prism is  $SA = 2LW + 2LH + 2WH$ . This accounts for all 6 faces: two  $L \times W$  faces, two  $L \times H$  faces, and two  $W \times H$  faces. Choice C is the correct formula.
- 2) **Choice D is correct.** **(6.EE.B.8)** "At most" means the maximum is 2,500:  $c \leq 2,500$ .
- 3) **Choice D is correct.** **(6.G.A.1)** Rectangle area =  $10 \times 5 = 50 \text{ m}^2$ . Parallelogram area =  $10 \times 3 = 30 \text{ m}^2$ . Total =  $50 + 30 = 80 \text{ m}^2$ .
- 4) **Choice C is correct.** **(6.SP.B.4)** Count the dots above the number 3: there are 4 dots, so 4 students read exactly 3 books.
- 5) **Choice B is correct.** **(6.RP.A.3)** Total games:  $15 + 5 = 20$ . Ratio of wins to total is  $15 : 20$ , which simplifies to  $3 : 4$  by dividing both by 5.
- 6) **The correct answer is 625.** **(6.EE.B.6)** If  $s = 600$ , then  $\text{staff} = s + 25 = 600 + 25 = 625$ .
- 7) **Choice D is correct.** **(6.NS.C.7d)** Although linear, this is not proportional because when  $m = 0$ ,  $c = 50 \neq 0$ . Proportional relationships have no constant term and pass through the origin.
- 8) **The correct answer is 60.** **(6.EE.C.9)** The speed is  $\frac{\text{distance}}{\text{time}}$ . From the table,  $\frac{60 \text{ mi}}{1 \text{ h}} = 60 \text{ mph}$ ; or  $\frac{180 \text{ mi}}{3 \text{ h}} = 60 \text{ mph}$ . The constant rate of change is 60 miles per hour.
- 9) **Choice C is correct.** **(6.RP.A.3)** Multiply:  $2.5 \times 6 = 15$  feet.
- 10) **Choice D is correct.** **(6.NS.C.7d)** Bob has a score of  $-3$ , which is the lowest of all scores:  $-3 < -1 < 5 < 8$ .
- 11) **Choice B is correct.** **(6.EE.A.3)** Total:  $75 + (-120) + 45 = 75 - 120 + 45 = 120 - 120 = \$0$  (no gain or loss overall).
- 12) **Choice B is correct.** **(6.EE.A.1)** Work inside the parentheses first:  $5 - 1 = 4$ . Then exponent:  $3^2 = 9$ . Then multiply:  $2 \times 4 = 8$ . Finally add:  $9 + 8 = 17$ .
- 13) **Choice C is correct.** **(6.EE.A.2b)** Combining like terms:  $(5x + 2x) + (3 - 1) = 7x + 2$ . The coefficient of  $x$  in the simplified expression is 7.
- 14) **Choice D is correct.** **(6.EE.B.5)** Multiply both sides by 5:  $x = 3 \times 5 = 15$ .
- 15) **Choice B is correct.** **(6.G.A.1)**  $A = \frac{1}{2} \times 9 \times 12 = 54 \text{ ft}^2$ .
- 16) **Choice A is correct.** **(6.NS.C.8)** Reflection over the  $x$ -axis negates the  $y$ -coordinate only:  $(-3, -1) \rightarrow (-3, 1)$ .
- 17) **Choice D is correct.** **(6.SP.B.5c)** The data is 5, 5, 5, 5, 7, 7, 11. Maximum = 11, minimum = 5. Range =  $11 - 5 = 6$ .
- 18) **Choice D is correct.** **(6.SP.B.5)** Mean =  $(30 + 35 + 40 + 42 + 45 + 90)/6 = 47.0$ ; median of 6 values is average of 3rd and 4th:  $(40 + 42)/2 = 41$ . The outlier 90 pulls the mean up significantly but has minimal impact on the median.
- 19) **The correct answer is 24.** **(6.G.A.2)**  $V = 1.5 \times 6 \times \frac{8}{3} = 9 \times \frac{8}{3} = \frac{72}{3} = 24 \text{ cm}^3$ .
- 20) **Choice C is correct.** **(6.NS.B.3)** Each color has probability  $\frac{1}{4} = 0.25$ . Red or blue =  $0.25 + 0.25 = 0.5$ .
- 21) **Choice C is correct.** **(6.RP.A.3)** For every 1 teaspoon of salt, there are 5 teaspoons of sugar. With 2 teaspoons of salt, multiply both parts by 2, giving 2 : 10.
- 22) **The correct answer is  $\frac{2}{5} = 40\%$  and  $0.6 = 60\%$ .** **(6.RP.A.3c)** A is correct:  $\frac{2}{5} = \frac{40}{100} = 40\%$ . B is correct:  $0.6 \times 100 = 60\%$ . C is wrong because  $\frac{7}{10} = 70\%$ , D is wrong because  $0.08 = 8\%$ , and E is wrong because  $\frac{1}{8} = 12.5\%$ .
- 23) **Choice C is correct.** **(6.RP.A.3d)** Divide total cost by number of cookies:  $6.00 \div 24 = 0.25$  dollars per cookie.
- 24) **Choice B is correct.** **(6.NS.C.7d)** Net income:  $\$3000 - \$400 - \$150 - \$100 = \$2350$ .
- 25) **Choice A is correct.** **(6.EE.C.9)** Surplus is  $\$300 - \$180 = \$120$ . As percent:  $\$120 \div \$300 = 0.40 = 40\%$ .
- 26) **Choice C is correct.** **(6.NS.C.8)** Same  $x$ -coordinate  $(-1)$ :  $|4 - (-1)| = |4 + 1| = 5$  units.



## Hi, Brave Explorer!

◇ What a trip! You explored 8 full tests. You went to many math places: multiplication, fractions, area, time, and more. ◇

★ **Smart explorers know:** every trip teaches something. Through 8 tests, you learned a lot. You are a stronger math explorer now. ★

### Your Explorer Tools

- **Map Reading:** You read problems carefully.
- **Trail Skills:** You take steps in the right order.
- **Backpack:** You have many math tools.
- **Brave Heart:** You explore even hard problems.

**Explorer tip:** on test day, use the tools you packed. You have the skills. You are ready!

If you want to share something or ask a question, please email me at [jay@testinar.com](mailto:jay@testinar.com).

**Jay Daie**

Your Math Trail Guide

# MASTER MATH. ACE YOUR TESTS.

This Grade 6 Math Practice Tests book is designed to help students build confidence, strengthen math skills, and excel on comprehensive assessments.

With 8 full-length printed tests and 2 online tests, this resource provides realistic practice, a variety of question types, and detailed answer explanations to help students achieve their best.

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

★ PRACTICE TODAY.  
SUCCEED 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.



### Understand Key Concepts

Reinforce important math ideas 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
- ✓ Percents
- ✓ The Number System
- ✓ Statistics & Probability
- ✓ Expressions & Equations
- ✓ Data Analysis
- ✓ Geometry
- ✓ Measurement & Conversions
- ✓ Fractions & Decimals
- ✓ 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.



8 FULL-LENGTH  
PRACTICE TESTS



2 ONLINE  
PRACTICE TESTS



DETAILED ANSWER  
EXPLANATIONS