

5

Connecticut

Smarter Balanced

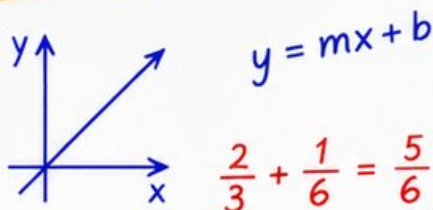
GRADE

7

MATH

PRACTICE TESTS

Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs

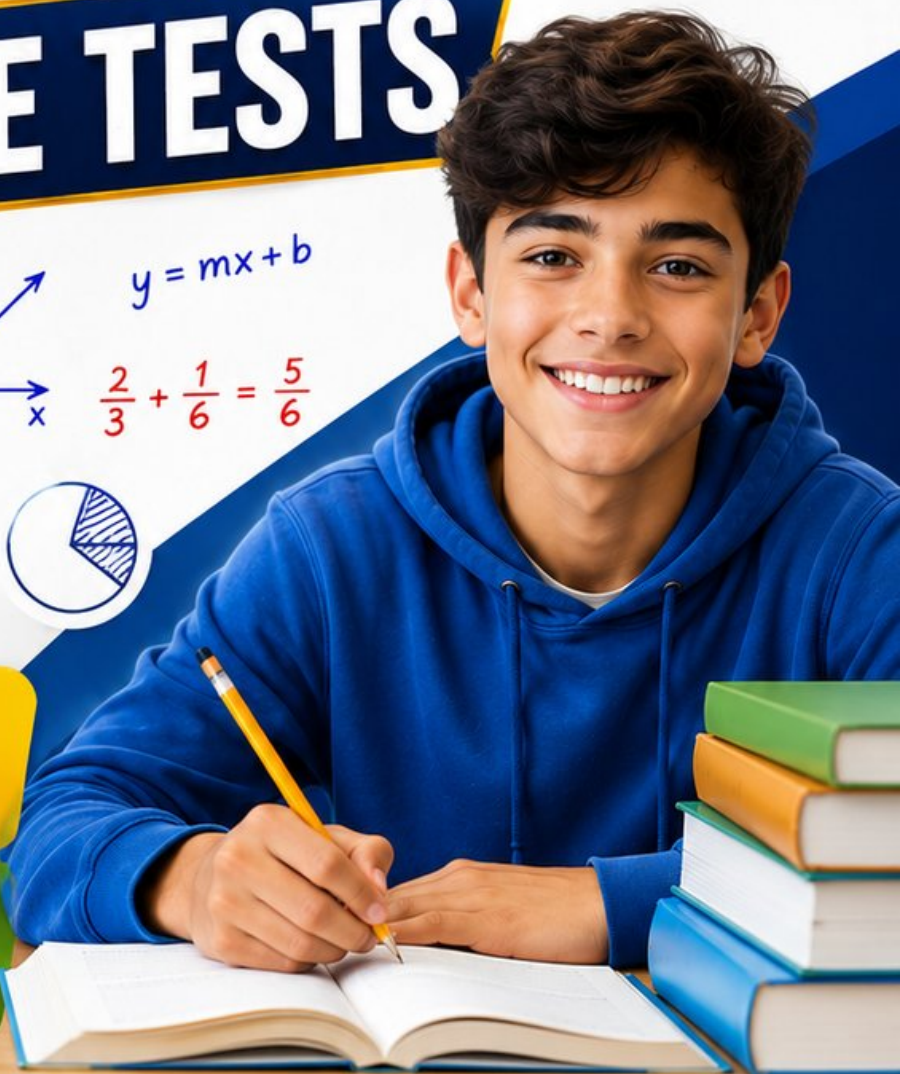


5 PRINTED TESTS



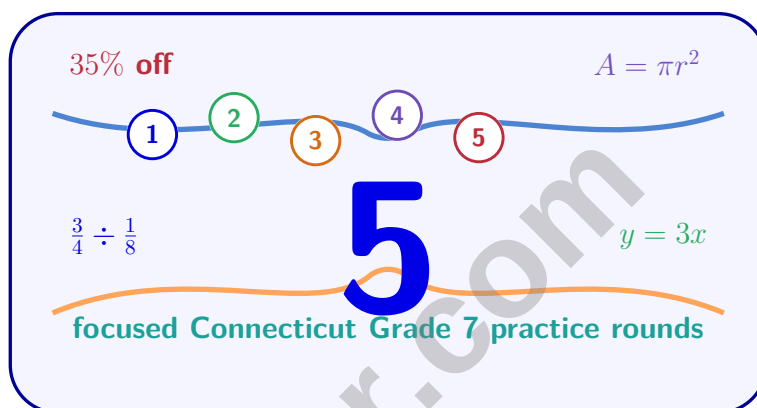
2 ONLINE TESTS

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

Build
ConfidenceStrengthen
Math SkillsDetailed Answers
& ExplanationsImprove Test
Performance

5 Connecticut Smarter Balanced Grade 7 Math Practice Tests

Focused Test Prep with Standards Review, Keys, and Worked Explanations



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, Connecticut 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 Connecticut 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.

Connecticut 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.



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1) A bank charges a 3% fee on ATM withdrawals outside its network. If a customer withdraws \$300 from an out-of-network ATM, what is the ATM fee?

☐ A. \$6.00

☐ C. \$12.00

☐ B. \$15.00

☐ D. \$9.00

2) What is $4 - 10$?

☐ A. 6

☐ C. 14

☐ B. -14

☐ D. -6

3) Calculate $6 + (-6)$.

☐ A. 0

☐ C. -12

☐ B. 12

☐ D. 1

4) A worker is paid \$18 per hour. What are the earnings for 40 hours?

5) A sector in a circle graph has a central angle of 54° . What percent does it represent?

☐ A. 12%

☐ C. 18%

☐ B. 15%

☐ D. 20%

6) A price increases from \$50 to \$65. What is the percent increase?

☐ A. 20%

☐ C. 30%

☐ B. 25%

☐ D. 35%



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7) A store sells a item for \$84 after applying a 30% markup to its cost. What was the cost?

☐ A. \$54.60

☐ C. \$109.20

☐ B. \$114.86

☐ D. \$64.62

8) On a map where 2.5 cm represents 50 km, how many kilometers does 1 cm represent?

9) A bookstore has 400 books. $\frac{1}{4}$ of them are fiction. What percent of the books are fiction?

☐ A. 15%

☐ C. 25%

☐ B. 20%

☐ D. 40%

10) Evaluate $a^2 + 2ab$ when $a = 3$ and $b = 2$.

☐ A. 12

☐ C. 18

☐ B. 13

☐ D. 15

11) Two stores sell beans at different rates. Which store offers the better price?

Store	Cost	Amount
Store A	\$2	$\frac{1}{2}$ lb
Store B	\$3	$\frac{2}{3}$ lb

☐ A. Store A at \$3.60/lb

☐ C. They cost the same

☐ B. Store B at \$4.50/lb

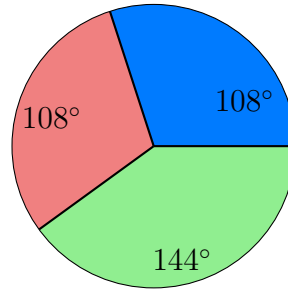
☐ D. Store A at \$4/lb



- 12) If y is proportional to x and $y = 20$ when $x = 4$, what is the constant of proportionality?
- ☐ A. $k = 80$ ☐ C. $k = 20$
☐ B. $k = 4$ ☐ D. $k = 5$
- 13) The graph shows a proportional relationship that passes through the origin and the point $(2, 14)$. What unit rate is represented by the graph?
- ☐ A. 2 ☐ C. $\frac{1}{7}$
☐ B. 14 ☐ D. 7
- 14) A company offers employees a 401(k) match: the company matches 50% of the first 6% of salary contributed by the employee. If an employee earns \$4,000 monthly and contributes 6%, how much does the company match?
- ☐ A. \$60 ☐ C. \$240
☐ B. \$480 ☐ D. \$120
- 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
- 16) What is $48 \div (-6)$?
- ☐ A. -8 ☐ C. 1
☐ B. -1 ☐ D. 8



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1)

This spinner has sectors of 108° , 108° , and 144° . Which is the correct probability for the largest sector?

- ☐ A. $\frac{2}{5}$
☐ B. $\frac{1}{3}$

- ☐ C. $\frac{3}{5}$
☐ D. $\frac{2}{3}$

2) An architect uses a scale of 1 inch = 15 feet for a floor plan. If a hallway is actually 45 feet long, what was the error if someone calculated it as 2 inches instead of the correct answer?

- ☐ A. No error; 2 inches is correct
☐ B. Forgetting to convert units
☐ C. Adding instead of multiplying

- ☐ D. Using the scale 15 : 1 instead of
1 : 15

3) A machine prints 120 pages every 2 minutes. What is the constant of proportionality k if p is pages and t is time in minutes?

- ☐ A. $k = 2$
☐ B. $k = 120$

- ☐ C. $k = \frac{1}{60}$
☐ D. $k = 60$



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4) A car travels 120 miles in 2 hours at a constant speed. What is the constant of proportionality (miles per hour)?

☐ A. 240 mph

☐ C. 100 mph

☐ B. 90 mph

☐ D. 60 mph

5) A bag contains 3 red marbles, 2 blue marbles, and 5 green marbles. To simulate drawing one marble, which probability does rolling a standard die best represent?

☐ A. Probability of drawing red

☐ D. Probability of drawing blue or green

☐ B. Probability of drawing blue

☐ C. Probability of drawing green

6) A rectangular prism has length 10 cm, width 4 cm, and height 3 cm. What is the surface area?

☐ A. 120 cm^2

☐ C. 180 cm^2

☐ B. 164 cm^2

☐ D. 240 cm^2

7) A researcher surveys parents at a soccer game to ask about their family's eating habits. What bias does this sampling method introduce?

☐ A. Convenience sampling

☐ C. Non-response bias

☐ B. Voluntary response bias

☐ D. Leading question bias

8) Solve for x : $2(3x - 2) = 14$

☐ A. $x = 2$

☐ C. $x = 4$

☐ B. $x = 3$

☐ D. $x = 5$



- 1) Four vendors sell apples at different rates. Which vendor charges the least per pound?

Vendor	Amount (lb)	Cost (\$)
W	$\frac{3}{8}$	0.60
X	$\frac{1}{2}$	1.00
Y	$\frac{2}{5}$	0.80
Z	$\frac{5}{6}$	1.25

- ☐ A. Vendor Z at \$1.50/lb
- ☐ B. Vendor X at \$2/lb
- ☐ C. Vendor Y at \$2/lb
- ☐ D. Vendor W at \$1.60/lb
- 2) A person buys an item for \$45 and sells it for 20% more. What is the selling price?
- ☐ A. \$36
- ☐ B. \$54
- ☐ C. \$65
- ☐ D. \$90
- 3) Solve: $0.5x + 2 < 7$
- ☐ A. $x < 10$
- ☐ B. $x > 10$
- ☐ C. $x < 18$
- ☐ D. $x < 4.5$
- 4) A streaming service charges a monthly subscription at a constant rate. For 3 months, the cost is \$36. What is the monthly charge?
- ☐ A. \$3
- ☐ B. \$108
- ☐ C. \$36
- ☐ D. \$12



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5) Evaluate: $-\frac{2}{3} - \frac{5}{6}$

☐ A. $-\frac{7}{6}$

☐ B. $-\frac{4}{3}$

☐ C. $-1\frac{1}{2}$

☐ D. $\frac{7}{6}$

6) A hiker is 480 meters below sea level (elevation -480 m). She ascends equally over 16 hours. What is her change in elevation per hour?

☐ A. -480 m/hr

☐ B. 30 m/hr (ascent)

☐ C. -30 m/hr

☐ D. 16 m/hr

7) Which fraction converts to a terminating decimal?

☐ A. $\frac{1}{3}$

☐ B. $\frac{2}{5}$

☐ C. $\frac{1}{6}$

☐ D. $\frac{1}{7}$

8) A bakery divides $\frac{5}{8}$ pound of flour equally among 4 batches. How much flour is in each batch?

☐ A. $\frac{5}{32}$ pound

☐ B. $\frac{5}{12}$ pound

☐ C. $\frac{1}{8}$ pound

☐ D. $\frac{5}{4}$ pounds



Connecticut 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 Connecticut 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) $\text{ATM fee} = 0.03 \times 300 = \9.00 .
- 2) **Choice D is correct.** (7.NS.1-7.NS.3) $4 - 10 = 4 + (-10) = -6$.
- 3) **Choice A is correct.** (7.NS.1b) A number and its opposite always sum to zero (additive inverse). 6 and -6 are opposites, so $6 + (-6) = 0$.
- 4) **The correct answer is \$720.** (7.RP.1-7.RP.3) Use $18 \times 40 = 720$ dollars.
- 5) **Choice B is correct.** (7.SP.1-7.SP.4) $54^\circ \div 360^\circ \times 100 = 15\%$.
- 6) **Choice C is correct.** (7.RP.3) The increase is $65 - 50 = 15$. Percent: $\frac{15}{50} = 0.30 = 30\%$.
- 7) **Choice D is correct.** (7.RP.3) Selling price = cost $\times 1.30$. So $84 = \text{cost} \times 1.30$, giving cost = $84 \div 1.30 \approx \$64.62$.
- 8) **The correct answer is 20.** (7.RP.1-7.RP.3) If 2.5 cm = 50 km, then 1 cm = $50 \div 2.5 = 20$ km.
- 9) **Choice C is correct.** (7.RP.3) Set up the proportion: $\frac{1}{4} = \frac{p}{100}$. Cross-multiply: $p = 25$, so $\frac{1}{4} = 0.25 = 25\%$.
- 10) **Choice D is correct.** (7.EE.1-7.EE.2) Substitute: $(3)^2 + 2(3)(2) = 9 + 12 = 15$.
- 11) **Choice D is correct.** (7.RP.1-7.RP.3) Store A: $\frac{2}{1/2} = 2 \times 2 = 4$ dollars/lb. Store B: $\frac{3}{2/3} = 3 \times \frac{3}{2} = 4.5$ dollars/lb. Store A is cheaper.
- 12) **Choice D is correct.** (7.RP.1-7.RP.3) In $y = kx$, solve for k : $20 = k(4)$, so $k = \frac{20}{4} = 5$.
- 13) **Choice D is correct.** (7.RP.1-7.RP.3) The unit rate is the value of y when $x = 1$. Since $14 \div 2 = 7$, the constant of proportionality is 7.
- 14) **Choice D is correct.** (7.RP.3) Employee contribution = $6\% \times \$4,000 = \240 . Company match = $50\% \times \$240 = 0.50 \times 240 = \120 .
- 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) Positive divided by negative is negative: $48 \div (-6) = -8$.
- 17) **Choice B is correct.** (7.NS.2d) Divide $1 \div 6 = 0.1666\ldots = 0.1\bar{6}$. Since $6 = 2 \times 3$, the factor 3 makes it repeat.
- 18) **Choice A is correct.** (7.NS.1-7.NS.3) Descent is -750 feet: $-750 \div 2.5 = -300$ ft/min.
- 19) **Choice A is correct.** (7.NS.1-7.NS.3) Net change = $15 - 4 + 8 = 19$ yards.
- 20) **The correct answer is A,B.** (7.RP.1-7.RP.3) $k = 5/20 = 0.25$ miles per minute, so A is correct. When $t = 40$: $d = 0.25 \times 40 = 10$ miles, so B is correct. C is incorrect: $d = 0.25t$, not $4t$. D is incorrect: $d = 0.25 \times 60 = 15$ miles, not 12.
- 21) **Choice A is correct.** (7.NS.1-7.NS.3) Option A differs by only $0.1 \times 10^{-2} = 0.001$. Other pairs differ by much larger amounts.
- 22) **Choice C is correct.** (7.NS.1-7.NS.3) Area of a square = $s^2 = 8^2 = 64$ cm².
- 23) **Choice A is correct.** (7.EE.1-7.EE.2) A 25% discount removes 25%, so we keep $1 - 0.25 = 0.75$ of the original price.
- 24) **Choice B is correct.** (7.SP.5-7.SP.8) PROBABILITY has 11 letters. Two B's are present (at positions 4 and 6), so $P(B) = \frac{2}{11}$.
- 25) **Choice C is correct.** (7.NS.2) $2\frac{1}{2} = \frac{5}{2}$. So $\frac{5}{2} \times 4 = \frac{20}{2} = 10$.
- 26) **Choice A is correct.** (7.SP.3) Group X's data concentrates at 30–40 minutes with a clear peak at 35, making it predictable. Group Y spreads across 15–55 minutes, making individual homework times unpredictable.
- 27) **Choice C is correct.** (7.RP.1-7.RP.3) The whole mixture is split into $3 + 2 = 5$ equal ratio parts. Each part is $25 \div 5 = 5$ liters, and red is 3 parts: $3 \times 5 = 15$ liters of red paint.
- 28) **Choice C is correct.** (7.RP.3) Year 1: $500 \times 1.05 = 525$. Year 2: $525 \times 1.05 = 551.25$. Year 3: $551.25 \times 1.05 = 578.81$, rounded to 579.13.
- 29) **The correct answer is 0.03.** (7.RP.3) $240 = 2000 \times r \times 4 \Rightarrow 240 = 8000r \Rightarrow r = 0.03$.
- 30) **The correct answer is 8.33%.** (7.RP.3) Percent error = $\frac{|55000 - 60000|}{60000} \times 100\% = \frac{5000}{60000} \times 100\% \approx 8.33\%$.
- 31) **Choice B is correct.** (7.G.4-7.G.6) Decompose the house shape into a rectangle and a triangular roof. Rectangle: $10 \times 5 = 50$ sq units. Triangle: $\frac{1}{2} \times 6 \times 3 = 9$ sq units. Add: $50 + 9 = 59$ sq units.



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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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