

6

WASHINGTON

Smarter Balanced

GRADE

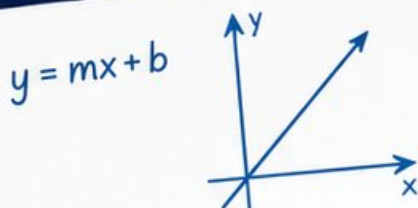
7

MATH

PRACTICE TESTS



Standards Aligned
Problem Solving For
Comprehensive
Assessment Programs



$$2(x - 3) = 4x + 6$$

6 PRINTED TESTS



2 ONLINE TESTS



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



Build
Confidence



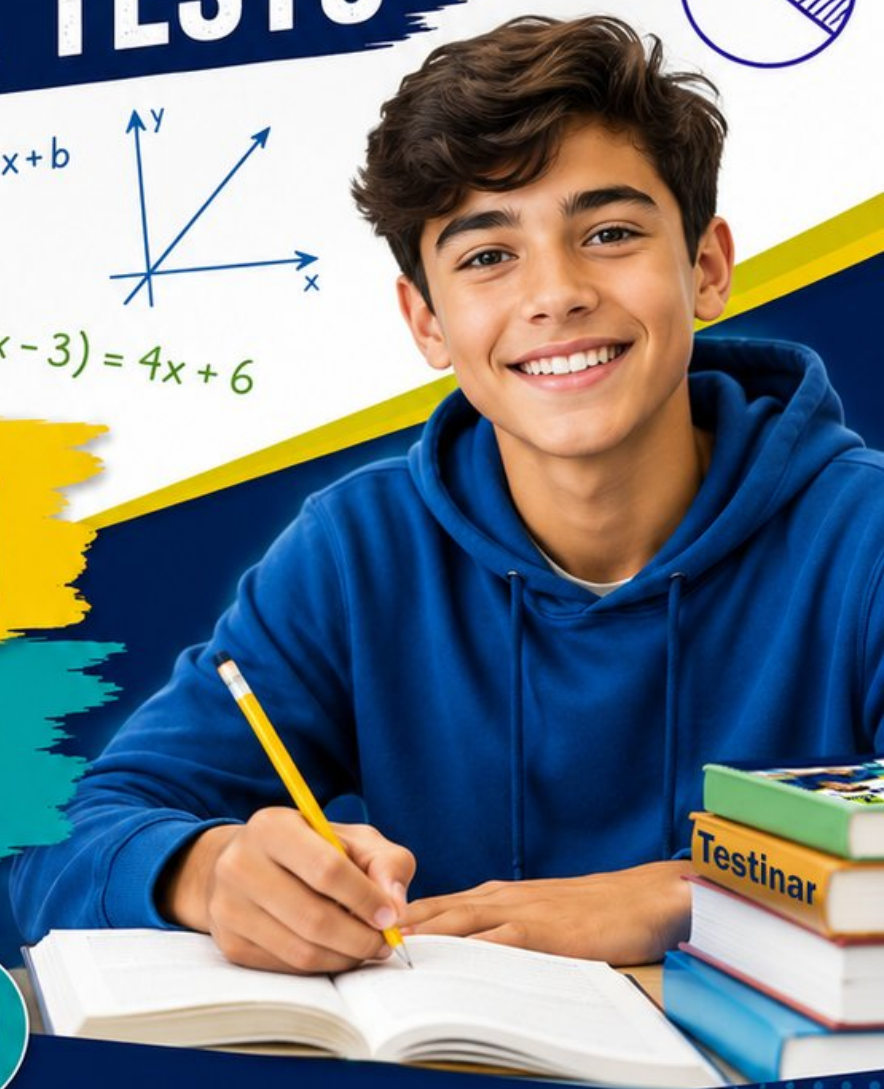
Strengthen
Math Skills



Detailed Answers
& Explanations



Improve Test
Performance



6 Washington Smarter Balanced Grade 7 Math Practice Tests

Smarter Balanced Review with Keys and Explanations



Six 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, Washington Grade 7 Problem Solver!

Six focused rounds for sharper Smarter Balanced math thinking

This book gives you six 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 Washington 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 six-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.

Washington 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?

Six Smarter Balanced tests, 240 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.
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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& answers

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- 1) Which model correctly shows $5 + (-5) = 0$ using a chip diagram where red = positive and blue = negative?

Model A:



5 red + 2 blue

Model B:



5 red + 5 blue

- ☐ A. Model A ☐ C. Neither model
☐ B. Both models show the same thing ☐ D. Model B
- 2) Solve for x : $3(2x - 1) = 15$
- ☐ A. $x = 2$ ☐ C. $x = 4$
☐ B. $x = 3$ ☐ D. $x = 5$
- 3) Convert $\frac{5}{8}$ to a decimal and then to a percent.
- ☐ A. 58% ☐ C. 75%
☐ B. 85% ☐ D. 62.5%
- 4) Three given side lengths are 4 cm, 5 cm, and 10 cm. How many distinct triangles can be formed?
- ☐ A. 0 ☐ C. 2
☐ B. 1 ☐ D. Infinitely many



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5)

Spin Result	Heads	Tails	Total
Frequency	156	144	300

A coin is flipped 300 times. Based on the simulation, what is the estimated probability of getting tails?

☐ A. 0.44☐ C. 0.50☐ B. 0.48☐ D. 0.52

6) A school is trying to estimate the average number of pets owned per household in its attendance area. Which approach would give the most representative sample?

☐ A. Survey the 50 families with the largest houses☐ C. Randomly select a sample from a list of all households☐ B. Ask volunteers from the PTA to participate☐ D. Survey families who shop at the local pet store

7) Two batches of cookies are weighed (in grams):

Batch A	Batch B
47, 48, 49, 50, 51	44, 48, 50, 52, 56

Which statement is true?

☐ A. Both batches have the same mean and median☐ C. Batch B is always heavier☐ D. Cannot compare without MAD☐ B. Batch A is more uniform in weight

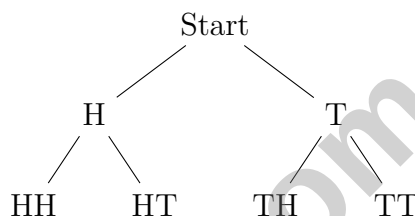
8) Two similar triangles have areas in the ratio 4 : 9. If the smaller triangle has a base of 8 cm, what is the base of the larger triangle?



- 9) A back-to-back stem-and-leaf plot compares the heights of two basketball teams. The stem represents tens of inches. For Team A, stem 7 has leaves 0, 2, 4, 6 (on the left). For Team B, stem 7 has leaves 1, 3, 5, 8 (on the right). How many players are in the 70–79 inch range in total?

- ☐ A. 4 players ☐ C. 12 players
☐ B. 8 players ☐ D. 16 players

- 10) Two coins are flipped. Which tree diagram shows all possible outcomes?



- ☐ A. 2 outcomes only ☐ C. 4 outcomes
☐ B. 3 outcomes ☐ D. 8 outcomes
- 11) A spinner is divided into 5 equal sections labeled A, B, C, D, E . What is the probability of not landing on A ?
- ☐ A. $\frac{1}{5}$ ☐ C. $\frac{4}{5}$
☐ B. $\frac{2}{5}$ ☐ D. $\frac{3}{5}$
- 12) Two dot plots show the time (in minutes) students spend on homework. Group X: 25, 30, 30, 35, 35, 35, 40, 40, 45 minutes; Group Y: 15, 20, 35, 40, 50, 55 minutes. Which group's homework time is most predictable?

- ☐ A. Group X (clusters around 35 minutes) ☐ C. Both groups have the same pattern
☐ B. Group Y (spreads from 15 to 55 minutes) ☐ D. Group Y (longer homework time on average)



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1) Which expression shows $2 \cdot 5 + 2 \cdot 3$ factored?

☐ A. $2(5 + 3)$

☐ C. $2 \cdot 15$

☐ B. $(2 + 5)(2 + 3)$

☐ D. $5 + 3$

2) If a point $(3, 2)$ is translated by $(-3, -2)$, where does it land?

☐ A. $(0, 0)$

☐ C. $(-3, -2)$

☐ B. $(6, 4)$

☐ D. $(0, 4)$

3) A concert ticket costs \$80. With a \$12 service fee added, what is the percent increase from the original price?

☐ A. 12%

☐ C. 19.2%

☐ B. 80%

☐ D. 15%

4) A researcher runs two independent simulations of the same event. Simulation 1 uses 100 trials and estimates probability 0.48. Simulation 2 uses 500 trials and estimates probability 0.52. Which simulation is likely to be a more reliable estimate of the true probability?

☐ A. Simulation 1, because it has fewer trials

☐ C. Simulation 2, because it has more trials

☐ B. Simulation 1, because the estimate is closer to 0.50

☐ D. Both are equally reliable

5) A die is rolled and a letter from the set $\{A, B, C, D, E\}$ is drawn. How many outcomes are in the sample space?

☐ A. 11

☐ C. 25

☐ B. 18

☐ D. 30



6) A bag contains letters spelling PROBABILITY. If one letter is drawn at random, what is the probability of drawing a B OR a Y?

☐ A. $\frac{2}{11}$

☐ B. $\frac{3}{11}$

☐ C. $\frac{4}{11}$

☐ D. $\frac{1}{11}$

7) A weather report analyzed 365 days of data. It rained on 78 days. What is the experimental probability that it will rain on any given day, based on this data?

☐ A. 0.17

☐ B. 0.21

☐ C. 0.31

☐ D. 0.78

8) A biology class conducted experiments. In 40 trials, 8 showed unexpected results. If the class conducts 200 trials total, about how many are expected to show unexpected results?

☐ A. 20

☐ B. 30

☐ C. 40

☐ D. 50

9) Machine A has MAD 0.08 cm and Machine B has MAD 0.15 cm. What is the difference in MADs?

10) A nutritionist estimated 2200 calories per day but the actual need was 2000 calories. What is the percent error?

☐ A. 10%

☐ B. 11%

☐ C. 200%

☐ D. 90.9%



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- 1) Two shops have different pricing on the same jacket. Shop A: originally \$80, marked down 15%. Shop B: originally \$75, marked down 10%. Which shop has the lower final price?

☐ A. Shop A; \$68 ☐ C. They cost the same.
☐ B. Shop A; \$65 ☐ D. Shop B; \$67.50

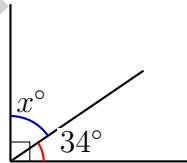
- 2) A map shows a rectangular park with scale 1 in : 500 ft. An error causes the scale to be doubled (widening the drawing). If the park measures 6 inches by 8 inches on the original map, what are the dimensions on the incorrectly scaled map?

☐ A. 3 in by 4 in ☐ C. 12 in by 16 in
☐ B. 6 in by 8 in ☐ D. 24 in by 32 in

- 3) A rectangular prism has a square base with side 6 cm and height 10 cm. A vertical plane cuts through the center, parallel to one pair of opposite rectangular faces. What is the area of the cross-section?

☐ A. 30 cm^2 ☐ C. 36 cm^2
☐ B. 60 cm^2 ☐ D. 360 cm^2

4)



Two rays form a right angle, and a third ray splits it into complementary angles. One angle measures 34° . What is the measure of angle x ?

☐ A. 56° ☐ C. 90°
☐ B. 34° ☐ D. 124°



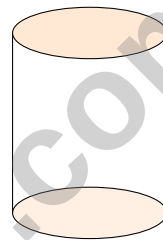
- 5) A circular track for running has circumference 400 meters. What is its diameter?
Use $\pi \approx 3.14$, round to the nearest whole.

☐ A. About 64 m
☐ B. About 127 m
☐ C. About 200 m
☐ D. About 254 m

- 6) A student wants to find the area of a circle with radius 1.5 meters. Which expression is set up correctly before solving?

☐ A. $A = 3.14 \times 1.5$
☐ B. $A = 3.14 \times 1.5^2$
☐ C. $A = 3.14 \times 3$
☐ D. $A = 2 \times 3.14 \times 1.5$

$h = 7$ in



$r = 3$ in

7)

Which formula gives the volume of the cylinder shown?

☐ A. $\pi \times 3 \times 7$
☐ B. $\pi \times 3^2 \times 7$
☐ C. $2\pi \times 3 \times 7$
☐ D. $2\pi \times 3^2 \times 7$

- 8) A meal costs \$40. The tax and tip together add 25%. What is the total?

☐ A. $40(1.25) = \$50$
☐ B. $40(0.25) = \$10$
☐ C. $40 + 25 = \$65$
☐ D. $40 \div 1.25 = \$32$



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Washington 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 Washington Smarter Balanced practice test.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- Choice D is correct.** (7.NS.1-7.NS.3) For $5 + (-5) = 0$, we need exactly 5 positive (red) chips and 5 negative (blue) chips, where each pair cancels out. Model A has 5 red but only 2 blue (incorrect). Model B has 5 red and 5 blue (correct).
- Choice B is correct.** (7.EE.4a) Distribute: $6x - 3 = 15$. Add 3: $6x = 18$. Divide by 6: $x = 3$.
- Choice D is correct.** (7.RP.3) Using the proportion $\frac{5}{8} = \frac{p}{100}$, solve to get $p = 62.5$. Thus $\frac{5}{8} = 0.625 = 62.5\%$.
- Choice A is correct.** (7.G.1-7.G.5) Check Triangle Inequality: $4 + 5 = 9 \not> 10$. The sum of the two smaller sides does not exceed the largest, so no triangle exists.
- Choice B is correct.** (7.SP.5-7.SP.8) Relative frequency = $\frac{144}{300} = 0.48$.
- Choice C is correct.** (7.SP.1-7.SP.4) Random selection from a complete list ensures every household has an equal chance of selection, avoiding bias. Options A and D select households more likely to own pets; option B has voluntary response bias. Only option C produces a representative sample.
- Choice B is correct.** (7.SP.1-7.SP.4) Batch A: 47–51 (range = 4), perfectly uniform spread. Batch B: 44–56 (range = 12), highly variable. Batch A has consistent weight; Batch B is less uniform.
- The correct answer is 12.** (7.G.1-7.G.5) Area ratio 4 : 9 gives linear scale factor $\sqrt{4} : \sqrt{9} = 2 : 3$. Larger base = $8 \times \frac{3}{2} = 12$ cm.
- Choice B is correct.** (7.SP.1-7.SP.4) Team A has 4 players (70, 72, 74, 76). Team B has 4 players (71, 73, 75, 78). Total = $4 + 4 = 8$.
- Choice C is correct.** (7.SP.5-7.SP.8) The tree shows all branches: HH, HT, TH, TT. That is 4 equally likely outcomes.
- Choice C is correct.** (7.SP.5-7.SP.8) Not A: sections B, C, D, E (4 out of 5). $P(\text{not A}) = \frac{4}{5}$.
- 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.
- Choice C is correct.** (7.SP.5-7.SP.8) $P(\text{not 1}) = \frac{4}{5}$ on each spin. Both spins: $\frac{4}{5} \cdot \frac{4}{5} = \frac{16}{25}$.
- The correct answer is 14.** (7.G.4-7.G.6) $C = 2\pi r \Rightarrow 88 = 2 \times \frac{22}{7} \times r \Rightarrow 88 = \frac{44}{7}r \Rightarrow r = 88 \times \frac{7}{44} = 14$ cm.
- Choice B is correct.** (7.SP.6) Total students: $72 + 48 + 36 + 24 = 180$. Music or Art: $48 + 36 = 84$. Experimental probability = $\frac{84}{180} = \frac{7}{15}$.
- The correct answer is 10.** (7.G.4-7.G.6) From $A = \pi r^2$: $314 = 3.14 \times r^2 \Rightarrow r^2 = 100 \Rightarrow r = 10$ m.
- Choice B is correct.** (7.SP.5-7.SP.8) The marked position is at 0.2. Rolling a 6 on a standard die has probability $\frac{1}{6} \approx 0.167 \approx 0.2$.
- Choice C is correct.** (7.SP.1-7.SP.4) Ages 12–17: $\frac{85}{100} = 0.85$ or 85%. Ages 18–24: $\frac{102}{120} = 0.85$ or 85%. Ages 25+: $\frac{44}{100} = 0.44$ or 44%. Ages 25+ is lowest.
- Choice A is correct.** (7.RP.3) Percent error = $\frac{|3-4.5|}{4.5} \times 100\% = \frac{1.5}{4.5} \times 100\% \approx 33.3\%$.
- The correct answer is A,D.** (7.G.1-7.G.5) (A) $(1, 0) \xrightarrow{90^\circ \text{CCW}} (0, 1) \xrightarrow{\text{reflect } x\text{-axis}} (0, -1)$. ✓ (B) $(2, 3) \xrightarrow{90^\circ \text{CCW}} (-3, 2) \xrightarrow{\text{reflect } x\text{-axis}} (-3, -2)$ —mathematically correct but not asked. (C) The composite is NOT equivalent to 90° clockwise (that would be $(y, -x)$, giving $(0, -1)$ for $(1, 0)$, which matches by coincidence, but try $(2, 3) \rightarrow (3, -2)$ for 90° CW). (D) Both operations preserve distance from origin.
- Choice A is correct.** (7.EE.1-7.EE.2) Expand: $-1(x) - 1(5) + 2x = -x - 5 + 2x = x - 5$. Combine like terms.
- Choice D is correct.** (7.RP.3) $I = 2000 \times 0.055 \times 3 = \330 . $A = 2000 + 330 = \$2330$.
- Choice D is correct.** (7.NS.1-7.NS.3) $2 - 5 = 2 + (-5) = -3$. Check: A = 7, B = -3, C = -5, D = -9.
- Choice C is correct.** (7.NS.1b) The temperature change is modeled by $-7 + 15 = 8$. A rise of 15° means we add 15 to the initial temperature of -7° .
- Choice C is correct.** (7.SP.1-7.SP.4) 15% of 320 = $0.15 \times 320 = 48$ households.
- Choice D is correct.** (7.RP.1-7.RP.3) Actual dimensions: $5 \times 4 = 20$ feet; $3 \times 4 = 12$ feet. Area = $20 \times 12 = 240$ sq ft.



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 6 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 **6** 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:

6 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!

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- ✓ 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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