

7 Hawaii

Smarter Balanced

Grade 7 Math

Practice Tests



7 PRINTED TESTS + 2 ONLINE TESTS

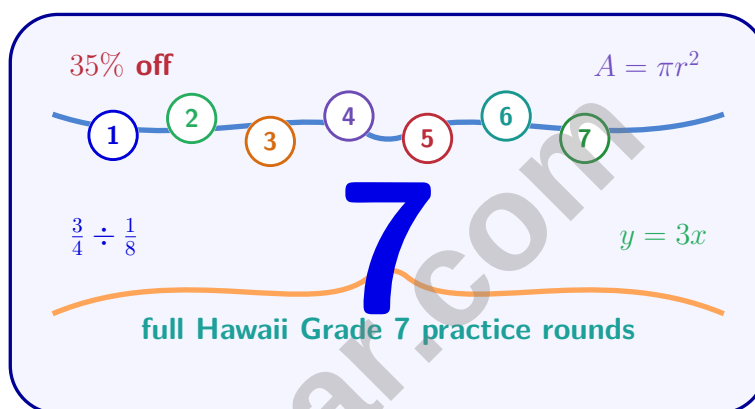


Standards Aligned Problem Solving
For Comprehensive Assessment Programs



8 Hawaii Smarter Balanced Grade 7 Math Practice Tests

A practical review of Hawaii Grade 7 unit rates, proportional graphs, expressions, geometry, circle measures, and data



Eight 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.

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Welcome, Hawaii Grade 7 Problem Solver!

Eight focused rounds for sharper Smarter Balanced math thinking

This book gives you seven 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 Hawaii 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

An eight-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.

Hawaii 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?

Eight Smarter Balanced tests, 280 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.
Tests 7–8	Statistics, probability, mixed review, stamina, and choosing efficient strategies.
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) Add: $\frac{1}{2} + \frac{1}{3}$

☐ A. $\frac{2}{5}$

☐ B. $\frac{5}{6}$

☐ C. $\frac{1}{6}$

☐ D. $\frac{2}{6}$

2) 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

3) Which expression has the largest product?

☐ A. 0.5×10

☐ C. $(-2) \times (-3.5)$

☐ B. 0.25×16

☐ D. $(-1) \times 5$

4) The difference between two integers is -9 . If one integer is 4, what is the other integer? (Hint: difference means subtract.)



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- 5) A photographer charges \$100 per hour for a session plus a 20% editing fee on the session cost. For a 3-hour session, what is the total bill?

☐ A. \$300☐ C. \$380☐ B. \$420☐ D. \$360

- 6) A baker makes 18 loaves of bread in 3 hours. At this constant rate, how many loaves are made per hour?

- 7) Brianna deposits \$1,000 in an account earning 10% interest compounded annually. What is the balance after 2 years?

☐ A. \$1,100☐ C. \$1,210☐ B. \$1,200☐ D. \$1,220

- 8) A student claims that $-14 + 14 = 28$. What is the student's error?

☐ A. They forgot that opposites sum to 0☐ C. The answer is correct☐ B. They should have subtracted instead☐ D. Absolute values were not used

- 9) Simplify: $7m^2 + 3n + 2m^2 - n + 4$

☐ A. $16m^2n + 4$ ☐ C. $16m^2 + 2n$ ☐ B. $9m^2 + 2n + 4$ ☐ D. $5m^2 + 2n + 4$ 

10) Evaluate $-3(x - 2)$ when $x = 5$.

☐ A. 9

☐ C. 21

☐ B. -9

☐ D. -21

11) Which expression shows $4x + 8y$ factored completely?

☐ A. $4(x + 2y)$

☐ C. $2(2x + 4y)$

☐ B. $4x(1 + 2y)$

☐ D. $x(4 + 8y)$

12) A laptop originally costs \$1200. It is discounted by 20%. What is the new price?

13) Solve: $3x - 4 \leq 11$

☐ A. $x \geq 5$

☐ C. $x > 5$

☐ B. $x \leq 5$

☐ D. $x \leq 15$



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1) A pizza delivery service adds a \$2.50 delivery fee to orders under \$25 and a \$4.00 fee to orders \$25 or more. What is the total cost of a \$32 order with the delivery fee?

☐ A. \$32.00

☐ C. \$36.00

☐ B. \$34.50

☐ D. \$36.40

2) A price p increases by 7%. Write the new price in factored form.

☐ A. $p + 0.07p = p(1 + 0.07) = 1.07p$

☐ C. $0.07p$

☐ B. $p - 0.07p$

☐ D. $p + 7$

3) Two box plots compare the calories burned (per session) during exercise for two fitness programs. Program 1: IQR = 75 calories. Program 2: IQR = 150 calories. Which program offers more consistent calorie burn?

☐ A. Program 1 (smaller IQR means less variation)

☐ C. Both programs are identical

☐ B. Program 2 (larger IQR means more options)

☐ D. Program 2 (higher numbers indicate better)

4) A jewelry box lid has a square face ($8\text{ cm} \times 8\text{ cm}$) with a semicircular handle attached to the top (diameter 8 cm). Using $\pi \approx 3.14$, what is the total area?

☐ A. 64 cm^2

☐ C. 100.48 cm^2

☐ B. 89.12 cm^2

☐ D. 127.04 cm^2

5) A rectangular prism has a length of 20 cm. The width is half the length. The height is 10 cm. What is the volume?

☐ A. $1,200\text{ cm}^3$

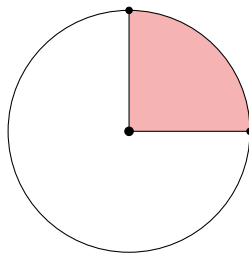
☐ C. $4,000\text{ cm}^3$

☐ B. $2,000\text{ cm}^3$

☐ D. $2,400\text{ cm}^3$



6) In the diagram, approximately what fraction of the circle is shaded?



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

- ☐ C. $\frac{1}{4}$
☐ D. $\frac{1}{8}$

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

- ☐ A. $2x + 5y + z$
☐ B. $4x + 4y + 2z$

- ☐ C. $9xyz$
☐ D. $2x + 3y - z$

8) Subtract: $6\frac{1}{3} - 2\frac{5}{6}$. Express your answer as a mixed number.

9) Evaluate $4x^2 - 3x$ when $x = 2$.

- ☐ A. 2
☐ B. 4

- ☐ C. 16
☐ D. 10



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- 1) A table shows a proportional relationship: when $x = 3$, $y = 21$; when $x = 5$, $y = 35$; when $x = 7$, $y = 49$. What is the unit rate?

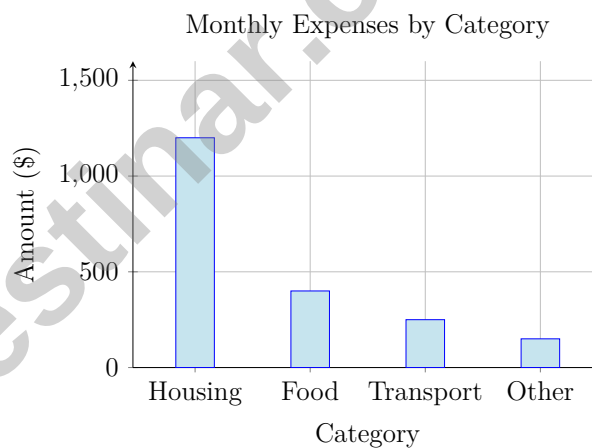
- ☐ A. 3 ☐ C. 7
☐ B. 5 ☐ D. 21

- 2) A teen saves money to buy a gaming console. The table shows their savings each month:

Month	January	February	March
Savings	\$25	\$50	\$75

If the pattern continues, how much will they save in May?

- ☐ A. \$100 ☐ C. \$150
☐ B. \$175 ☐ D. \$125



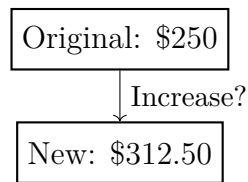
3)

Based on the chart, how much is spent on housing?

- ☐ A. \$400 ☐ C. \$1 200
☐ B. \$600 ☐ D. \$2 000



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4)

A diagram shows an original price of \$250 increased to \$312.50. What is the percent increase?

- ☐ A. 20% ☐ C. 30%
- ☐ B. 62.50% ☐ D. 25%

5) A student has \$50 and spends \$12 on a book. Write an inequality to find how much can be spent on a pen.

- ☐ A. $12 + p \leq 50$ ☐ C. $p \geq 62$
- ☐ B. $p + 50 \geq 12$ ☐ D. $p \leq 50$

6) A square pyramid has a base with side length 12 cm and slant height 10 cm. What is the surface area?

- ☐ A. 144 cm^2 ☐ C. 384 cm^2
- ☐ B. 240 cm^2 ☐ D. 480 cm^2

7) A rectangular pool on a site plan is 4 cm by 6 cm at scale 1 cm : 5 m. When enlarged to scale 1 cm : 2.5 m, what will be the new dimensions?

- ☐ A. 2 cm by 3 cm ☐ C. 8 cm by 12 cm
- ☐ B. 4 cm by 6 cm ☐ D. 20 cm by 30 cm



**Smarter Balanced Assessment Consortium 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 Smarter Balanced Assessment Consortium practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** (7.NS.1-7.NS.3) Common denominator is 6: $\frac{3}{6} + \frac{2}{6} = \frac{5}{6}$.
- 2) **Choice C is correct.** (7.SP.5-7.SP.8) Larger sample sizes reduce the effect of random variation and produce more stable estimates. The 500-trial simulation is more reliable.
- 3) **Choice C is correct.** (7.NS.2) A: $0.5 \times 10 = 5$. B: $0.25 \times 20 = 5$. C: $(-2) \times (-3.5) = 7$. D: $(-1) \times 5 = -5$. The largest is 7 (only C).
- 4) **The correct answer is 13.** (7.NS.1-7.NS.3) If the difference is $4 - x = -9$, then $x = 4 - (-9) = 4 + 9 = 13$. Check: $4 - 13 = -9$ ✓.
- 5) **Choice D is correct.** (7.RP.3) Session cost = $100 \times 3 = \$300$. Editing fee = $0.20 \times 300 = \$60$. Total = $300 + 60 = \$360$.
- 6) **The correct answer is 6.** (7.RP.1-7.RP.3) Unit rate = $18 \div 3 = 6$ loaves per hour.
- 7) **Choice C is correct.** (7.RP.3) After year 1: $1000 \times 1.10 = \$1,100$. After year 2: $1100 \times 1.10 = \$1,210$.
- 8) **Choice A is correct.** (7.NS.1-7.NS.3) The correct answer is $-14 + 14 = 0$ because -14 and 14 are opposites. The student incorrectly added the absolute values.
- 9) **Choice B is correct.** (7.EE.1) Group like terms: $(7 + 2)m^2 + (3 - 1)n + 4 = 9m^2 + 2n + 4$. The constant 4 has no like terms.
- 10) **Choice B is correct.** (7.EE.1-7.EE.2) Substitute: $-3(5 - 2) = -3(3) = -9$.
- 11) **Choice A is correct.** (7.EE.1-7.EE.2) GCF of 4 and 8 is 4. Factor: $4x + 8y = 4(x + 2y)$.
- 12) **The correct answer is \$960.** (7.RP.3) Discount: $\frac{20}{100} \times 1200 = 240$. New price: $1200 - 240 = \$960$.
- 13) **Choice B is correct.** (7.EE.4b) Add 4: $3x \leq 15$. Divide by 3: $x \leq 5$.
- 14) **Choice C is correct.** (7.G.4-7.G.6) Two triangular bases: $2 \times \frac{1}{2}(3)(4) = 12 \text{ ft}^2$. Three rectangular sides: $3 \times 3 = 9$, $4 \times 3 = 12$, $5 \times 3 = 15 \text{ ft}^2$. Total: $12 + (9 + 12 + 15) = 12 + 36 = 48 \text{ ft}^2$.
- 15) **Choice B is correct.** (7.NS.2d) Divide $5 \div 8 = 0.625$. It is a terminating decimal.
- 16) **Choice A is correct.** (7.NS.1-7.NS.3) Total change: $-3.20 \times 5 = -16$ dollars.
- 17) **Choice B is correct.** (7.NS.1-7.NS.3) $83,500 = 8.35 \times 10,000 = 8.35 \times 10^4$. Decimal moved 4 places left.
- 18) **Choice A is correct.** (7.EE.4a) Distribute: $-5x - 10 = 20$. Add 10: $-5x = 30$. Divide by -5 : $x = -6$.
- 19) **Choice A is correct.** (7.EE.3-7.EE.4) Subtract 6: $-2x = 12$. Divide by -2 : $x = -6$. Check: $-2(-6) + 6 = 12 + 6 = 18$ ✓. Reasonable: negative coefficient times negative answer yields positive; add 6 gives 18.
- 20) **Choice C is correct.** (7.G.1-7.G.5) Halving the real scale (10 m to 5 m) doubles the drawing dimensions. Original area: $5 \times 7 = 35 \text{ cm}^2$. New area: $(10) \times (14) = 140 \text{ cm}^2$. Ratio: $140 : 35 = 4 : 1$.
- 21) **The correct answer is A, C.** (7.RP.3) Choice A: $50\% = \frac{1}{2}$. Choice B: $75\% = \frac{3}{4}$, not $\frac{2}{3}$. Choice C: $\frac{3}{4} = 0.75 = 75\%$. Choice D is false because $\frac{1}{5} = 20\%$, not 25% .
- 22) **Choice D is correct.** (7.G.1-7.G.5) A plane can intersect a cube in a hexagon if it cuts through all six faces. This occurs when a plane passes through two opposite edges at an appropriate angle.
- 23) **Choice D is correct.** (7.G.1-7.G.5) Angles on a straight line sum to 180° : $34 + k = 180^\circ$, so $k = 146^\circ$.
- 24) **Choice B is correct.** (7.G.1-7.G.5) First reflection over $y = x$: $(1, -3) \rightarrow (-3, 1)$. Second reflection over x -axis: $(-3, 1) \rightarrow (-3, -1)$.
- 25) **Choice C is correct.** (7.G.4-7.G.6) $A = \pi r^2 = 3.14 \times 5^2 = 3.14 \times 25 = 78.5 \text{ ft}^2$.
- 26) **Choice A is correct.** (7.G.4-7.G.6) $157 = 2(3.14)(r)(10) \Rightarrow 157 = 62.8r \Rightarrow r = 2.5 \text{ cm}$.
- 27) **Choice B is correct.** (7.SP.1-7.SP.4) Patients at a heart disease clinic have higher cholesterol by definition. This sampling method systematically selects people with elevated cholesterol, making them unrepresentative of all city adults. This bias in WHO is selected is selection bias.
- 28) **Choice B is correct.** (7.SP.1-7.SP.4) Reliability is about consistency of retest results. Test B's MAD = 0.3 (very tight clustering of differences) shows more reliable, consistent results compared to Test A's MAD = 1.2 (wider spread of differences).
- 29) **Choice C is correct.** (7.SP.1-7.SP.4) Percentage = $\frac{90}{360} \times 100\% = \frac{1}{4} \times 100\% = 25\%$.



Hi, Math Communicator!

◇ Grade 7 math is not only about getting a number. It is about explaining relationships and making your reasoning visible. ◇

★ **Remember this:** When you show steps, label diagrams, and write clear answers, you are joining the conversation that math is trying to have. You practiced across 7 full Grade 7 practice tests, and that repeated effort matters. ★

Communication Skills

- **Use Words:** Explain what the answer means.
- **Use Symbols:** Keep equations accurate.
- **Use Diagrams:** Show relationships visually.
- **Use Units:** Connect math to context.

Grade 7 test-day tip: For open-ended questions, answer in a complete thought: value, unit, and reason.

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

Jay Daie

Your Math Communication Coach

Practice Today. Succeed Tomorrow!

This book includes **7** 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:

7 Full-Length Printed Tests

2 Online Practice Tests

 Detailed Answer 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



Stronger Math Skills

Build a solid foundation through targeted practice and review.



Better Problem Solving

Develop logical thinking and effective solution strategies.



Deeper Understanding

Reinforce key concepts with clear explanations and meaningful practice.



Test Confidence

Familiarize with test formats and improve accuracy and speed.



Achieve Success

Build confidence and perform your best on test day.

TOPICS COVERED

- ✓ Ratios & Proportions
- ✓ The Number System
- ✓ Expressions & Equations
- ✓ Geometry
- ✓ Percents & Decimals
- ✓ Statistics & Probability
- ✓ Data Analysis
- ✓ Measurement & Conversions
- ✓ Algebraic Thinking
- ✓ And More!



PRACTICE
REGULARLY



STAY
FOCUSED



SOLVE
CONFIDENTLY



SUCCEED
BRIGHTLY



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