

3

Delaware

Smarter Balanced

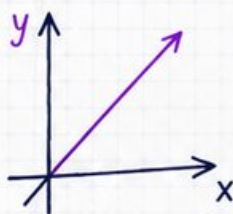
GRADE

7

MATH

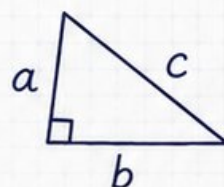
PRACTICE TESTS

- ✓ Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs



$$y = mx + b$$

$$\frac{2}{3}x - \frac{4}{5} = \frac{1}{2}$$



$$3(x - 2) = 2x + 5$$



3 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



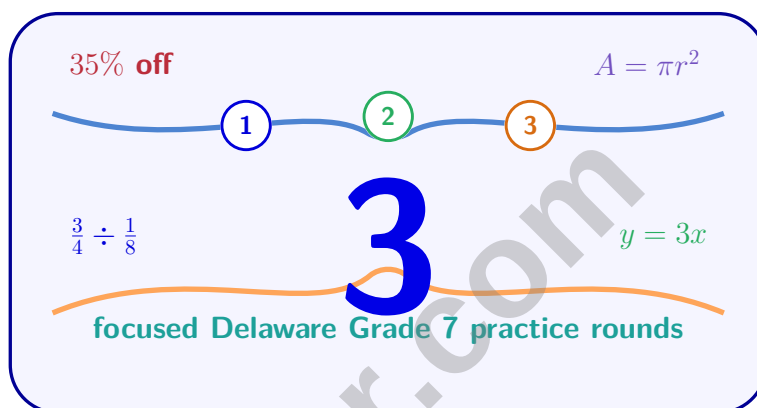
Detailed Answers
& Explanations



Improve Test
Performance

3 Delaware Smarter Balanced Grade 7 Math Practice Tests

Delaware Review Practice for Ratios, Geometry, Data, and More



Three 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, Delaware Grade 7 Problem Solver!

Three focused rounds for sharper Smarter Balanced math thinking

This book gives you three 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 Delaware 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 three-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.

Delaware 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?

Three Smarter Balanced tests, 120 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.
Test 3	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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& answers

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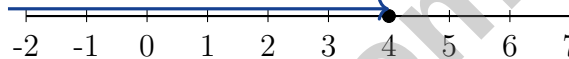
- 1) A jeweler estimated a necklace to weigh 8.2 grams, but it actually weighs 10 grams. What is the percent error?

☐ A. 15% ☐ C. 22%
☐ B. 82% ☐ D. 18%

- 2) Expand: $\frac{1}{4}(8b - 12)$

☐ A. $2b - 3$ ☐ C. $8b - 3$
☐ B. $2b - 12$ ☐ D. $2b - 4$

- 3) Choose the correct number line for $p \leq 4$.



☐ A. Open circle at 4 pointing left ☐ C. Open circle at 4 pointing right
☐ B. Closed circle at 4 pointing right ☐ D. Closed circle at 4 pointing left

- 4) A retirement fund has \$50,000 that earns 3.2% simple interest per year. What will be the total value of the fund after 10 years?

☐ A. \$51,600 ☐ C. \$66,000
☐ B. \$56,000 ☐ D. \$66,400

- 5) A diver begins at sea level (0 meters) and descends 25 meters. Then she ascends 8 meters. What is her final depth below sea level? Write your answer as an integer.



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6) What percent of 60 is 48?

☐ A. 60%

☐ B. 75%

☐ C. 80%

☐ D. 90%

7) What is $-10 + 5 + (-3)$?

☐ A. -18

☐ B. 18

☐ C. 8

☐ D. -8

8) A blueprint has a scale of 1 inch : 8 feet. A room on the blueprint is 3 inches by 2.5 inches. What are the actual dimensions?

☐ A. 9 feet $\times$ 8 feet

☐ B. 3 feet $\times$ 2.5 feet

☐ C. 11 feet $\times$ 10.5 feet

☐ D. 24 feet $\times$ 20 feet

9) Store A sells $\frac{2}{5}$ pound of butter for \$2. Store B sells $\frac{3}{4}$ pound for \$2.25. What is the lower price per pound?

10) A video game originally costs \$50. After a 20% discount, a customer buys it. If the sales tax is 6%, what is the final amount paid?

☐ A. \$40.00

☐ B. \$47.00

☐ C. \$37.60

☐ D. \$42.40



11) Identify the unlike terms in this expression: $4a + 3b + 2a + 5c$

☐ A. $4a$ and $2a$

☐ C. $4a$ and $3b$

☐ B. $3b$ and $5c$

☐ D. $2a$ and $5c$

12) What is the GCF of $14p$ and 21 ?

☐ A. 7

☐ C. 21

☐ B. 14

☐ D. 42

13) A triangular prism has a right triangular base with legs 6 in and 8 in (hypotenuse 10 in). The prism is 12 in long. What is the surface area?

☐ A. 216 in^2

☐ C. 336 in^2

☐ B. 288 in^2

☐ D. 420 in^2

14) Two fair dice are rolled as a simulation of a compound event. If “success” is rolling a sum of 7, which of the following correctly identifies all successful outcomes?

☐ A. $(1, 7), (2, 7), (3, 7), (4, 7), (5, 7), (6, 7)$ — six outcomes

☐ C. $(1, 6), (2, 5), (3, 4)$ — three outcomes

☐ B. $(1, 6), (2, 5), (3, 4), (4, 3), (5, 2), (6, 1)$ — six outcomes

☐ D. Any roll where one die shows 7 — multiple outcomes

15) Which expression represents “the sum of 6 and twice a number t ”?

☐ A. $6 + 2t$

☐ C. $6(2 + t)$

☐ B. $2(6 + t)$

☐ D. $6 + t^2$



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1)

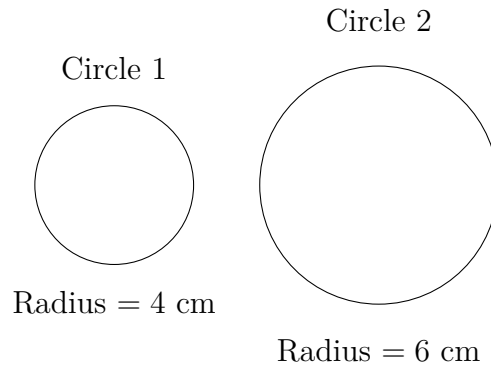
Sample	Left-Handed	Total
Sample A	12	80
Sample B	15	75
Sample C	18	120

Which sample shows the highest proportion of left-handed individuals?

- ☐ A. Sample A
 ☐ C. Sample C
☐ B. Sample B
 ☐ D. All have equal proportions
- 2) A rectangle on a map is 5 cm by 8 cm. The scale is 1 cm : 10 km. If the scale changes to 1 cm : 5 km, what are the new dimensions?
- ☐ A. 5 cm by 8 cm
 ☐ C. 2.5 cm by 4 cm
☐ B. 10 cm by 16 cm
 ☐ D. 50 cm by 80 cm
- 3) A cone is cut by a vertical plane passing through its apex and intersecting the base circle. Which shape is formed?
- ☐ A. Right triangle
 ☐ C. Equilateral triangle
☐ B. Isosceles triangle
 ☐ D. Scalene triangle
- 4) An angle is 18° more than its complement. What is the measure of the angle?
- ☐ A. 36°
☐ C. 54°
☐ B. 45°
☐ D. 108°



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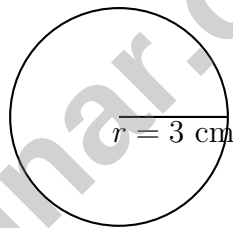


5)

Two circles are similar (scaled). Circle 1 has radius 4 cm. Circle 2 has radius 6 cm. What is the ratio of their areas?

- ☐ A. 4 : 6
- ☐ B. 16 : 36

- ☐ C. 2 : 3
- ☐ D. 8 : 27



6)

Based on the diagram, what is the circumference of the circle? Use $\pi \approx 3.14$.

- ☐ A. 9.42 cm
- ☐ B. 18.84 cm

- ☐ C. 28.26 cm
- ☐ D. 56.52 cm

7) A circular table has radius 3 feet. The owner wants to paint a border strip that is 1 foot wide around the inside edge, leaving a circular center unpainted. What is the area of the border (the painted region)? Use $\pi \approx 3.14$.

- ☐ A. 12.56 ft²
- ☐ B. 18.84 ft²

- ☐ C. 15.7 ft²
- ☐ D. 28.26 ft²



1) A temperature reading shows -5°F in the morning. By afternoon, the temperature increases by 18°F . What is the afternoon temperature?

☐ A. -23°F

☐ C. 23°F

☐ B. 13°F

☐ D. -13°F

2) A classroom has 15 boys and 10 girls. A student is chosen at random. What is $P(\text{girl})$?

☐ A. $\frac{10}{25}$

☐ C. $\frac{1}{2}$

☐ B. $\frac{2}{3}$

☐ D. $\frac{3}{5}$

3) A sales associate earned \$150 in commission on \$2,500 worth of sales. What is the commission rate?

☐ A. 4%

☐ C. 6%

☐ B. 5%

☐ D. 8%

4) A savings account grows from \$600 to \$684 in one year with annual compound interest. What is the interest rate?

☐ A. 10%

☐ C. 14%

☐ B. 12%

☐ D. 15%

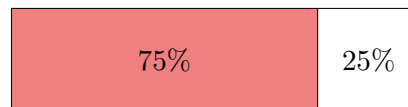




5)

Needs (30%)

The percent grid shows a budget allocation. If monthly income is \$1 200, how much is budgeted for wants?

☐ A. \$120☐ C. \$240☐ B. \$180☐ D. \$360

6)

Original: \$80

New: ?

A bar graph shows that an item has been reduced. The shaded (coral) region represents 75% of the original price of \$80. What is the percent decrease?

☐ A. 75%☐ C. 20%☐ B. 30%☐ D. 25%

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Delaware 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 Delaware 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) Percent error = $\frac{|8.2-10|}{10} \times 100\% = \frac{1.8}{10} \times 100\% = 18\%$.
- 2) **Choice A is correct.** (7.EE.1-7.EE.2) Distribute $\frac{1}{4}$: $\frac{1}{4}(8b) - \frac{1}{4}(12) = 2b - 3$.
- 3) **Choice D is correct.** (7.EE.4b) $p \leq 4$ includes 4, so a closed circle, with the arrow pointing left toward smaller values.
- 4) **Choice C is correct.** (7.RP.3) Interest earned: $I = 50000 \times 0.032 \times 10 = \$16,000$. Total value: $A = P + I = 50000 + 16000 = \$66,000$.
- 5) **The correct answer is -17.** (7.NS.1-7.NS.3) After descending: $0 - 25 = -25$. After ascending 8 meters: $-25 - (-8) = -25 + 8 = -17$. She is 17 meters below sea level.
- 6) **Choice C is correct.** (7.RP.3) $\frac{48}{60} = \frac{4}{5} = 0.80 = 80\%$.
- 7) **Choice D is correct.** (7.NS.1b) Step-by-step: $-10 + 5 = -5$, then $-5 + (-3) = -8$. Or combine negatives first: $-10 + (-3) = -13$, then $-13 + 5 = -8$.
- 8) **Choice D is correct.** (7.RP.1-7.RP.3) Multiply each dimension by the scale factor: $3 \times 8 = 24$ feet and $2.5 \times 8 = 20$ feet.
- 9) **The correct answer is \$3.** (7.RP.1-7.RP.3) Store A costs $2 \div \frac{2}{5} = 5$ dollars per pound. Store B costs $2.25 \div \frac{3}{4} = 3$ dollars per pound, so the lower price is \$3.
- 10) **Choice D is correct.** (7.RP.3) After discount: $50 - 0.20(50) = \$40$. Tax on \$40: $0.06(40) = \$2.40$. Final: $40 + 2.40 = \$42.40$.
- 11) **Choice B is correct.** (7.EE.1) Unlike terms have different variables. b and c are different variables, so $3b$ and $5c$ are unlike.
- 12) **Choice A is correct.** (7.EE.1-7.EE.2) GCF of 14 and 21 is 7. The second term has no variable factor.
- 13) **Choice C is correct.** (7.G.4-7.G.6) Two triangular bases: $2 \times \frac{1}{2}(6)(8) = 48 \text{ in}^2$. Three rectangular faces have area length $\times$ side: $6 \times 12 = 72$, $8 \times 12 = 96$, and $10 \times 12 = 120 \text{ in}^2$. Total: $48 + (72 + 96 + 120) = 48 + 288 = 336 \text{ in}^2$.
- 14) **Choice B is correct.** (7.SP.5-7.SP.8) Each standard die shows 1–6, so (1, 7) is impossible. To get a sum of 7, identify all pairs (a, b) where $a + b = 7$ and $1 \leq a, b \leq 6$. These are the six outcomes listed. The probability is thus $\frac{6}{36} = \frac{1}{6}$.
- 15) **Choice A is correct.** (7.EE.1-7.EE.2) Twice a number t is $2t$. Sum of 6 and $2t$ is $6 + 2t$.
- 16) **Choice A is correct.** (7.EE.3-7.EE.4) Multiply by 5, then subtract 12: $5x - 12 = 28$. This is the correct translation.
- 17) **Choice C is correct.** (7.EE.4a) Distribute left side: $2(x) + 2(-7) = 2x - 14$. This gives $2x - 14 = 2x - 14$, an identity. Since both sides are identical for every value of x , all real numbers are solutions. (This is a special case showing the importance of distributing correctly.)
- 18) **Choice A is correct.** (7.EE.4b) Subtract 3: $-\frac{x}{2} \geq 6$. Multiply by -2 and flip: $x \leq -12$.
- 19) **Choice A is correct.** (7.G.1-7.G.5) The translation is: $(3, 2) + (-3, -2) = (0, 0)$.
- 20) **Choice C is correct.** (7.SP.1-7.SP.4) This is stratified random sampling: dividing the population into groups (grades) and randomly selecting from each ensures all grade levels are represented proportionally. This avoids bias toward any one grade's study habits.
- 21) **The correct answer is A,C.** (7.SP.1-7.SP.4) Bread: $0.35 \times 400 = 140$ items, so A is correct. Pastries and cakes together make 200 items, not 50, so B is false. Other: $0.15 \times 400 = 60$ items, so C is correct. Pastries (28%) plus other (15%) equals 43%, not 45%.
- 22) **Choice A is correct.** (7.SP.1-7.SP.4) Week 1: \$450–465 (range = 15, mean = 456, tight cluster). Week 2: \$300–550 (range = 250, mean = 440, highly variable). Week 1 is much more predictable for planning.
- 23) **Choice D is correct.** (7.RP.1-7.RP.3) Rate is $\frac{200 \text{ oz}}{4 \text{ sec}} = 50$ ounces per second.
- 24) **Choice D is correct.** (7.RP.1-7.RP.3) The unit rate is 0.9 (from the point (1, 0.9)). When $x = 5$, $y = 5 \times 0.9 = 4.5$.
- 25) **Choice D is correct.** (7.RP.3) Using the proportion $\frac{12}{48} = \frac{p}{100}$, simplify $\frac{12}{48} = \frac{1}{4} = 0.25 = 25\%$.
- 26) **Choice D is correct.** (7.RP.3) Account 1: $\$1,500 \times 0.04 = \60 . Account 2: $\$1,500 \times 0.06 = \90 . A higher interest rate (6% vs. 4%) always yields more interest on the same principal over the same time period, illustrating the investment trade-off: higher rates = higher returns.



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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 3 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 **3** 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:

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2 Online Practice Tests

 Detailed Answers & Explanations



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

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Practice regularly to feel prepared and test-ready.



Strengthen Math Skills

Develop key math concepts and problem solving abilities.



Detailed Answers & Explanations

Learn from clear explanations and step-by-step solutions.



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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.



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