

8

Delaware

DeSSA

GRADE 7

MATH

PRACTICE TESTS



**Standards Aligned
Problem Solving**

For Comprehensive
Assessment Programs



**8 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 SKILLS



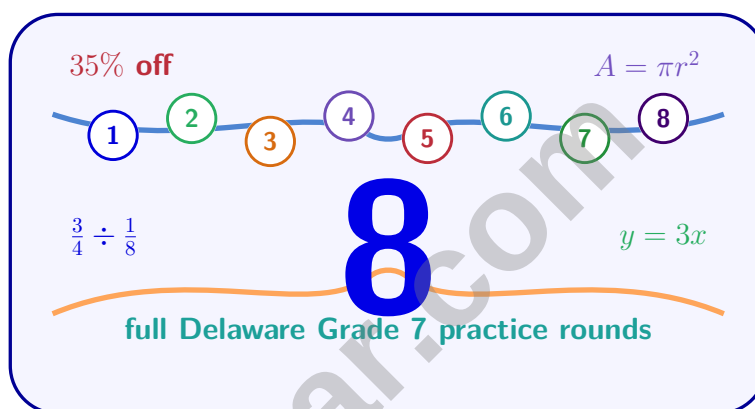
THINK SMARTER



BE TEST-READY

8 Delaware DeSSA Grade 7 Math Practice Tests

Skill-building review for Delaware Grade 7 proportional relationships, expressions, geometry, data analysis, and compound probability



Eight complete 40-question Grade 7 DeSSA 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!

Eight focused rounds for sharper DeSSA math thinking

This book gives you eight full Grade 7 DeSSA 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

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.

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?

Eight DeSSA tests, 320 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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& answers

Table of Contents

★ Practice Test 1	_____	15
★ Practice Test 2	_____	30
★ Practice Test 3	_____	45
★ Practice Test 4	_____	60
★ Practice Test 5	_____	74
★ Practice Test 6	_____	90
★ Practice Test 7	_____	104
★ Practice Test 8	_____	118
Practice Test Answer Keys	_____	133
Practice Test Answers and Explanations	_____	138

1) Simplify: $(d^2)^5$

☐ A. d^{10}

☐ B. d^7

☐ C. d^{32}

☐ D. $2d^{10}$

2) Solve: $6x - 8 = 28$

☐ A. $x = 4$

☐ B. $x = 5$

☐ C. $x = 6$

☐ D. $x = 8$

3) Solve for x : $4(2x + 1) = 3(x + 8)$

☐ A. $x = 2$

☐ B. $x = 3$

☐ C. $x = 4$

☐ D. $x = 5$

4) A book club orders books in bulk at a constant price per book. If 10 books cost \$120, how much do 15 books cost?

☐ A. \$80

☐ B. \$120

☐ C. \$180

☐ D. \$1200

5) Calculate: $4\frac{1}{4} - 1\frac{3}{4}$

☐ A. $2\frac{1}{2}$

☐ B. $3\frac{1}{2}$

☐ C. $2\frac{3}{4}$

☐ D. $3\frac{1}{4}$

6) Convert $\frac{4}{11}$ to a decimal.

☐ A. 0.4

☐ B. $0.\overline{4}$

☐ C. $0.\overline{36}$

☐ D. 0.40



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7) A recipe calls for $\frac{5}{6}$ cup of oil. You have $\frac{2}{3}$ cup available. How much more oil do you need?

☐ A. $\frac{1}{6}$ cup

☐ B. $\frac{1}{2}$ cup

☐ C. $\frac{1}{3}$ cup

☐ D. $\frac{7}{6}$ cups

8) Estimate $\sqrt{75}$ to the nearest whole number.

☐ A. 8

☐ B. 9

☐ C. 10

☐ D. 11

9) A path forms a triangle with sides $(\frac{1}{2}x + 1)$ ft, $(x + 3)$ ft, and $(2x - 1)$ ft. What is the perimeter?

☐ A. $\frac{7}{2}x + 3$

☐ B. $3x + 3$

☐ C. $3.5x + 3$

☐ D. $4x + 3$

10) Maya's monthly income is \$2 500. She wants to save 25% of her income each month. How much should she save?

11) A concert ticket costs \$85. With a 15% service fee, the total is $85(1 + 0.15)$. What is the total cost?

☐ A. \$97.75

☐ B. \$70

☐ C. \$100

☐ D. \$12.75



- 12) A student writes an equation for: "A phone plan costs \$40 monthly plus \$0.10 per text over the limit. After texts, the bill was \$50." The student writes: $40 + 0.10t = 50$. How would you check if t is reasonable?

- ☐ A. Solve: $0.10t = 10$, so $t = 100$ texts. ☐ C. Solve: $40t = 10$, so $t = 0.25$ texts.
 Verify: $40 + 0.10(100) = 50$. ✓ Verify: $40 + 0.10(0.25) = 50$. ✗
☐ B. Solve: $0.10t = 10$, so $t = 100$ texts. ☐ D. The equation cannot be checked
 Verify: $40(100) + 0.10 = 50$. ✗ without more information.

- 13) A student invests \$1,000 at 5% annual compound interest. Calculate the balance after 2 years.

- 14) Write 9.75×10^5 in standard form.

- 15) Arrange these products from smallest to largest: $(-3) \times 4$, $(-2) \times (-5)$, 1×6 , $(-4) \times (-2)$.

- ☐ A. $(-3) \times 4$, $(-2) \times (-5)$, 1×6 , $(-4) \times (-2)$ ☐ C. $(-2) \times (-5)$, $(-4) \times (-2)$, 1×6 , $(-3) \times 4$
☐ B. $(-3) \times 4$, 1×6 , $(-2) \times (-5)$, $(-4) \times (-2)$ ☐ D. $(-3) \times 4$, $(-2) \times (-5)$, $(-4) \times (-2)$, 1×6



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1) A circle has a diameter of $\frac{30}{7}$ meters. What is its radius?

☐ A. $\frac{15}{7}$ meters

☐ C. $\frac{60}{7}$ meters

☐ B. $\frac{30}{7}$ meters

☐ D. 7 meters

2) A rectangular garden has actual dimensions of 15 m by 9 m. A scale drawing uses a scale of 1 cm : 3 m. What is the perimeter of the drawing in centimeters?

☐ A. 8 cm

☐ C. 24 cm

☐ B. 16 cm

☐ D. 32 cm

3) A bicycle wheel has diameter 0.6 meters. If the bike travels 30 meters, how many complete rotations did the wheel make? Use $\pi \approx 3.14$, round to the nearest whole number.

4) Simplify: $(4x - 3) - (2x + 5)$

☐ A. $2x - 8$

☐ C. $6x - 8$

☐ B. $2x + 2$

☐ D. $2x + 8$

5) Which equation does NOT represent the additive inverse property?

☐ A. $-7 + 7 = 0$

☐ C. $-20 + 0 = -20$

☐ B. $35 + (-35) = 0$

☐ D. $100 + (-100) = 0$



6) Two restaurants' customer satisfaction (1–10 scale):

Restaurant	Mean	IQR	Range
Casual Bistro	6.5	3	8
Fine Dining	8.2	2	7

What does the data reveal?

- ☐ A. Fine Dining is universally superior in all ways
 ☐ C. Fine Dining has higher typical satisfaction with more consistent high ratings
- ☐ B. Casual Bistro is more democratic, appealing to diverse preferences
 ☐ D. Both restaurants satisfy customers identically
- 7) A coin is flipped and a number is chosen from a spinner with sections 1, 2, 3, 4. How many favorable outcomes result in a heads and an odd number?
- ☐ A. 1
 ☐ C. 3
- ☐ B. 2
 ☐ D. 4
- 8) A back-to-back stem-and-leaf plot compares writing scores of two 7th-grade classes. Class 1 (left): Stem 7: Leaves 2, 5, 8, 9 | Stem 8: Leaves 1, 4, 7. Class 2 (right): Stem 7: Leaves 3, 4 | Stem 8: Leaves 0, 2, 5, 6, 8. Which statement is true?
- ☐ A. Class 1 has more students with scores in the 70s
 ☐ C. Both classes have the same number of students
- ☐ B. Class 2 has more students with scores in the 80s
 ☐ D. Class 1 has the highest single score



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1) Which expression represents “8 times the sum of x and 3”?

☐ A. $8x + 3$

☐ C. $(8 + x) + 3$

☐ B. $8(x + 3)$

☐ D. $8 + x + 3$

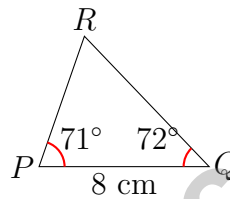
2) A rectangular prism has length 12 cm, width 5 cm, and height 3 cm. Which expression correctly represents the volume?

☐ A. $(12 + 5) \times 3$

☐ C. $2(12 + 5 + 3)$

☐ B. $12 \times 5 \times 3$

☐ D. $12 + 5 + 3$



3)

A triangle has angles of 71° and 72° , and the side between them is 8 cm. How many non-congruent triangles can be drawn?

☐ A. 1

☐ C. 3

☐ B. 2

☐ D. Infinitely many

4) Expand: $-2(3c + 7)$

☐ A. $-6c - 14$

☐ C. $6c - 14$

☐ B. $-6c + 14$

☐ D. $-6c + 7$

5) Add: $-12 + 7 + (-5)$. Show your work.



6) What is $-7 - 4$?

☐ A. 3

☐ C. -11

☐ B. -3

☐ D. 11

7) Temperature readings are 12.5°C , 13.2°C , 12.8°C , and 14.1°C . If the temperature is expected to increase by 10% over the next hour, what will the temperature be after that increase?

8) A painter needs to paint all six faces of a cubic wooden crate with edge length 2 m. If one liter of paint covers 10 m^2 , how many liters of paint are needed?

☐ A. 2.4 liters

☐ C. 5 liters

☐ B. 4 liters

☐ D. 24 liters

9)

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



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Delaware DeSSA 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 DeSSA practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** (7.EE.1-7.EE.2) Multiply exponents: $(d^2)^5 = d^{2 \times 5} = d^{10}$.
- 2) **Choice C is correct.** (7.EE.3-7.EE.4) Add 8: $6x = 36$. Divide by 6: $x = 6$.
- 3) **Choice C is correct.** (7.EE.4a) Distribute both sides: $4(2x) + 4(1) = 3(x) + 3(8) \Rightarrow 8x + 4 = 3x + 24$. Subtract $3x$: $5x + 4 = 24$. Subtract 4: $5x = 20$. Divide by 5: $x = 4$. Verify: $4(2 \cdot 4 + 1) = 4(9) = 36$ and $3(4 + 8) = 3(12) = 36$. ✓
- 4) **Choice C is correct.** (7.RP.1-7.RP.3) Unit rate is $\$120 \div 10 = \12 per book. For 15 books: $15 \times \$12 = \180 .
- 5) **Choice A is correct.** (7.NS.1-7.NS.3) Regroup the whole and fraction: $4\frac{1}{4} = 3 + 1\frac{1}{4} = 3\frac{5}{4}$. Subtract: $3\frac{5}{4} - 1\frac{3}{4} = 2\frac{2}{4} = 2\frac{1}{2}$.
- 6) **Choice C is correct.** (7.NS.2d) Divide $4 \div 11 = 0.363636\ldots = 0.\overline{36}$. The denominator 11 produces a repeating block.
- 7) **Choice A is correct.** (7.NS.1-7.NS.3) Amount needed: $\frac{5}{6} - \frac{2}{3} = \frac{5}{6} - \frac{4}{6} = \frac{1}{6}$ cup.
- 8) **Choice B is correct.** (7.NS.1-7.NS.3) $8^2 = 64$ and $9^2 = 81$. Since 75 is closer to 81 than to 64, $\sqrt{75} \approx 8.66$, which rounds to 9.
- 9) **Choice A is correct.** (7.EE.1-7.EE.2) Add all sides: $(\frac{1}{2}x + 1) + (x + 3) + (2x - 1) = (\frac{1}{2}x + x + 2x) + (1 + 3 - 1) = \frac{7}{2}x + 3$.
- 10) **The correct answer is \$625.** (7.RP.3) Savings: $0.25 \times 2500 = \$625$ per month.
- 11) **Choice A is correct.** (7.EE.1-7.EE.2) $85(1.15) = 85 + 0.15(85) = 85 + 12.75 = 97.75$.
- 12) **Choice A is correct.** (7.EE.4a) This develops the habit of solving and then substituting back to verify. It also introduces realistic numbers for a cell phone bill context.
- 13) **The correct answer is \$1102.50.** (7.RP.3) Year 1: $1000 \times 1.05 = 1050$. Year 2: $1050 \times 1.05 = 1102.50$.
- 14) **The correct answer is 975,000.** (7.NS.1-7.NS.3) Move the decimal 5 places to the right: $9.75 \rightarrow 975,000$.
- 15) **Choice A is correct.** (7.NS.2) Products are: $(-3) \times 4 = -12$, $(-2) \times (-5) = 10$, $1 \times 6 = 6$, $(-4) \times (-2) = 8$. From smallest to largest: $-12, 6, 8, 10$, so answer is A.
- 16) **Choice B is correct.** (7.SP.3) Region Q's range is 12 inches (0–12) compared to Region P's 8 inches (1–9). Region Q also shows a larger gap from Q2 to Q3 ($9 - 4 = 5$) vs. Region P's ($7 - 5 = 2$), indicating greater variability.
- 17) **Choice D is correct.** (7.SP.5-7.SP.8) Since $P(\text{Heads}) + P(\text{Tails}) = 1$, we have $P(\text{Tails}) = 1 - \frac{2}{3} = \frac{1}{3}$.
- 18) **Choice D is correct.** (7.RP.3) Tip amount $= 0.18 \times 45 = \$8.10$.
- 19) **Choice B is correct.** (7.SP.1-7.SP.4) Ordering leaves helps quickly locate the median and identify patterns in the data distribution.
- 20) **The correct answer is A,C.** (7.RP.3) Automation (A) ensures consistent saving without temptation, and increasing income (C) provides more funds to allocate to goals. Options B and D actively reduce savings, and E overlooks the powerful effect of compound growth over time.
- 21) **Choice D is correct.** (7.G.4-7.G.6) Decompose into two rectangles: First rectangle $7 \times 2 = 14$ sq units. Second rectangle $7 \times 2 = 14$ sq units. Add them: $14 + 14 = 28$ sq units.
- 22) **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.
- 23) **Choice B is correct.** (7.G.4-7.G.6) $V = B \times h = 24 \times 6 = 144 \text{ in}^3$.
- 24) **Choice B is correct.** (7.G.1-7.G.5) The sum of angles in a triangle is 180° . Thus $\angle X = 180^\circ - 35^\circ - 60^\circ = 85^\circ$.
- 25) **Choice A is correct.** (7.G.4-7.G.6) The radius is any segment from the center to the circle. OP is labeled and is a radius.
- 26) **Choice B is correct.** (7.SP.5-7.SP.8) By definition, an impossible event has probability 0 and a certain event has probability 1.
- 27) **Choice C is correct.** (7.SP.1-7.SP.4) $\frac{64}{160} = \frac{x}{4000}$. Reduce: $\frac{2}{5} = \frac{x}{4000} \Rightarrow x = 1600$.
- 28) **Choice D is correct.** (7.NS.1-7.NS.3) The opposite of 11 is -11 . The opposite of -11 is 11. So the opposite of the opposite returns you to the original number.
- 29) **Choice D is correct.** (7.RP.1-7.RP.3) Actual dimensions: $4 \times 10 = 40$ feet; $2.5 \times 10 = 25$ feet. Perimeter $= 2(40 + 25) = 130$ feet.



Hi, Confident Learner!

◇ This wide-ranging book gave you eight serious Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. Grade 7 math can feel big because it brings together rational numbers, expressions, equations, geometry, probability, and data. ◇

★ **Remember this:** But big topics become manageable when you practice one skill at a time. That is what you have been doing with every test in this book. ★

Confidence Builders

- **Know the Goal:** Identify what the question asks.
- **Use Vocabulary:** Math words point to math actions.
- **Show Work:** Give yourself something to check.
- **Celebrate Effort:** Practice is proof that you are moving.

Grade 7 test-day tip: When reviewing, do not only mark wrong answers. Write one sentence about what you learned from each one.

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

Jay Daie

Your Confidence Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **8** 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:

8 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!



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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