

4

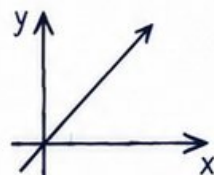
Delaware DeSSA

GRADE
7
MATH

PRACTICE TESTS

Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs

$$y = mx + b$$



$$\frac{2x}{3} + \frac{x}{6} = 2$$



$$V = \frac{1}{3} \pi r^2 h$$

**4 PRINTED TESTS****2 ONLINE TESTS**

USE THESE TWO
ADDITIONAL ONLINE
PRACTICE TESTS

FOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.



Build
Confidence



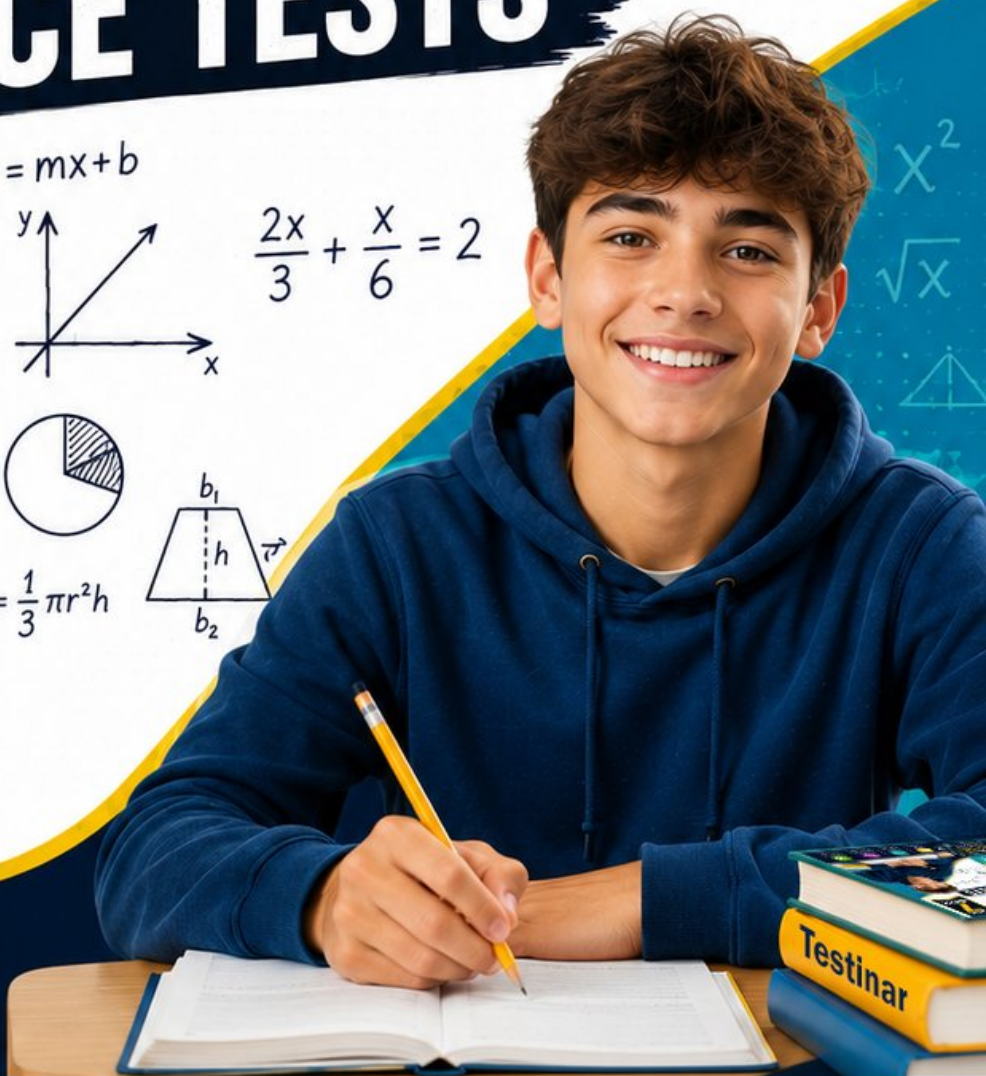
Strengthen
Math Skills



Detailed Answers
& Explanations

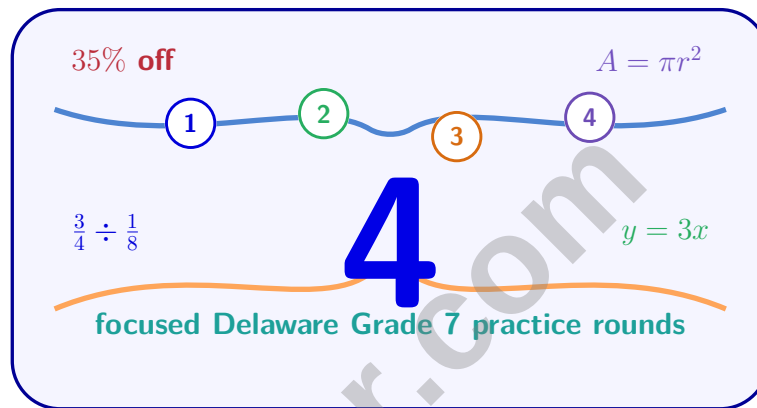


Improve Test
Performance



4 Delaware Smarter Balanced Grade 7 Math Practice Tests

Delaware Grade 7 Practice with Clear Answers and Explanations



Four 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



Copyright ©

Testinar Inc



Published by Testinar Inc

Testinar.com

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the author, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law, including Section 107 or 108 of the 1976 United States Copyright Act.

This publication is independently produced and has no official connection to any state, district, or national testing program.

Test names and organizational names used herein are the property of their respective trademark holders.



Copyright ©

Welcome, Delaware Grade 7 Problem Solver!

Four focused rounds for sharper Smarter Balanced math thinking

This book gives you four 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 four-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?

Four Smarter Balanced tests, 160 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 3–4	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.



Scan me!
For more practice
& answers

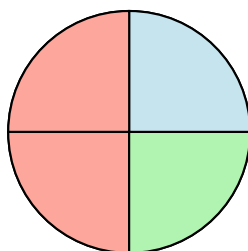
Table of Contents

★ Practice Test 1	_____	15
★ Practice Test 2	_____	30
★ Practice Test 3	_____	43
★ Practice Test 4	_____	57
Practice Test Answer Keys	_____	71
Practice Test Answers and Explanations	_____	74

- 1) To simulate drawing a card from a standard deck and finding whether it is a heart (probability $\frac{1}{4}$), which spinner design is best?
- ☐ A. Spinner with 2 equal sections (one shaded, one not) ☐ C. Spinner with 6 equal sections (two shaded, four not)
- ☐ B. Spinner with 4 equal sections (one shaded, three not) ☐ D. Spinner with 13 equal sections (one shaded, twelve not)
- 2) A circle has a diameter of 18 meters. Which step is correct to find the area?
- ☐ A. First find $r = 9$ m, then compute $A = \pi \times 9$ ☐ C. Use $A = \pi \times 18$ directly
- ☐ B. First find $r = 9$ m, then compute $A = \pi \times 9^2$ ☐ D. Use $A = \pi \times 18^2$ directly
- 3) A cylinder has a radius of 2.5 m and a volume of 78.5 m^3 . What is the height? Use $\pi \approx 3.14$.
- ☐ A. 2 m ☐ C. 6 m
- ☐ B. 4 m ☐ D. 8 m
- 4) A bar graph shows sales by quarter. The title says “Quarterly Sales Growth,” but the y-axis starts at \$90,000 (not \$0), and Q1–Q2 sales only rise from \$100,000 to \$101,000. Why is this graph potentially misleading?
- ☐ A. The bars are too tall ☐ C. The color scheme is confusing
- ☐ B. The y-axis doesn’t start at zero, exaggerating the growth ☐ D. The labels are too small



Scan me!
For more practice
& answers



5)

A spinner has four equal sections: one blue, two red, and one green. What is the probability of spinning red?

- ☐ A. $\frac{1}{4}$
☐ B. $\frac{1}{2}$

- ☐ C. $\frac{2}{3}$
☐ D. $\frac{3}{4}$

6) A beverage vendor mixes drinks using one flavor (Cherry, Lime, or Orange) and one temperature (Hot or Cold). A customer drinks 3 of the 6 possible combinations. How many combinations remain untasted?

- ☐ A. 2
☐ B. 3

- ☐ C. 4
☐ D. 5

7) What is the opposite of the opposite of -3 ?

8) A dot plot shows the number of errors on practice tests for two students. Student M: 2, 2, 3, 3, 3, 4, 4, 5; Student N: 1, 1, 4, 5, 6, 7. Which student has more consistent test performance?

- ☐ A. Student M (most tests have 3 errors, range 3)
☐ B. Student N (fewer total errors on some tests)
☐ C. Both students perform identically
☐ D. Student N (fewer errors overall)



9) A frequency table shows results from drawing cards with replacement 500 times:

Card Type	Hearts	Diamonds	Clubs	Spades
Frequency	140	125	128	107

Which suit has the lowest experimental probability?

- ☐ A. Hearts
 ☐ C. Clubs
☐ B. Diamonds
 ☐ D. Spades
- 10) A card is drawn from a standard deck. What is the probability of drawing a king OR a queen?
- ☐ A. $\frac{4}{52}$
☐ C. $\frac{2}{52}$
☐ B. $\frac{2}{13}$
☐ D. $\frac{1}{26}$
- 11) A dataset contains 24 values displayed in a stem-and-leaf plot. If the data is divided into lower and upper halves to find the interquartile range, how many values are in the upper half (excluding the median)?
- ☐ A. 10
 ☐ C. 12
☐ B. 11
 ☐ D. 13
- 12) What is $-\frac{3}{4} \times (-\frac{8}{9})$?



Scan me!
For more practice
& answers

- 1) A rectangle on a grid has a linear scale of 1 : 6. If the model rectangle has area 24 cm^2 , what is the actual area?
- ☐ A. 144 cm^2 ☐ C. 4 cm^2
☐ B. 216 cm^2 ☐ D. 864 cm^2
- 2) What is $\sqrt{4}$?
- ☐ A. 1 ☐ C. 3
☐ B. 2 ☐ D. 4
- 3) What is $(-2) \times (-3) + (-1)$?
- ☐ A. -7 ☐ C. 5
☐ B. -5 ☐ D. 7
- 4) A store buys a product for \$8 and marks it up by 50%. What is the selling price?
- ☐ A. \$10 ☐ C. \$14
☐ B. \$16 ☐ D. \$12
- 5) Two sides of a triangle are both 10 m. The third side is at least 2 m but at most 19 m. Which is a VALID third side?
- ☐ A. 1 m ☐ C. 15 m
☐ B. 20 m ☐ D. 21 m
- 6) A bank account has a balance of $-\$75$ (overdrawn). To bring it to zero, you must deposit:
- ☐ A. \$75 ☐ C. $-\$75$
☐ B. \$150 ☐ D. \$0



Step 1: $4x + 3y + 2x - y$



Group x terms Group y terms
Step 2: $(4 + 2)x + (3 - 1)y$



Step 3: $6x + 2y$

7)

Based on the steps shown, what is the error in this simplification?

- ☐ A. Step 3 has the wrong final answer. ☐ D. No error; the simplification is correct.
- ☐ B. Step 1 grouped terms incorrectly. ☐ C. Step 2 added the wrong coefficients.

8) Factor completely: $15x + 35$

- ☐ A. $5(3x + 7)$ ☐ C. $15(x + 2.33)$
- ☐ B. $7(2x + 5)$ ☐ D. $3(5x + 11.67)$

9) 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

10) An investment account earns 7% simple interest per year. If someone invests \$3,000, how much interest will they earn after 3 years?



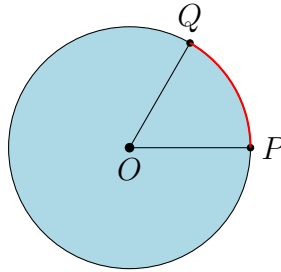
Scan me!
For more practice
& answers

- 1) A photograph is scaled down by a factor of $\frac{1}{4}$. If the original photograph is 8 inches wide, what is the width of the scaled version?
- ☐ A. 1 inch ☐ C. 4 inches
☐ B. 2 inches ☐ D. 6 inches
- 2) A student compared two dot plots and made this claim: "Distribution A has a median of 50 and Distribution B has a median of 55, so B is always greater." Identify the error.
- ☐ A. Median is typical value, not a guarantee; distributions can overlap ☐ C. Distribution A must be higher
☐ B. Medians are always accurate ☐ D. Comparison requires ranges, not medians
- 3) A student creates a stem-and-leaf plot with stems 6, 7, 8 and counts 3 leaves under each stem. What is the total number of data points?
- ☐ A. 3 ☐ C. 9
☐ B. 6 ☐ D. 10
- 4) A construction worker needs to find the area of a lot shaped like a rectangle (16 yd $\times$ 12 yd) minus a triangular section (12 yd base, 4 yd height) cut from one corner. What is the usable area?
- ☐ A. 168 yd² ☐ C. 192 yd²
☐ B. 176 yd² ☐ D. 216 yd²
- 5) A rectangular prism has a volume of 720 in³. The base is a square with side length 12 inches. What is the height?
- ☐ A. 5 in ☐ C. 12 in
☐ B. 6 in ☐ D. 60 in



Scan me!
For more practice
& answers

- 6) In the circle below, which shaded region represents a sector?



The red shaded region is:

- | | |
|--------------------------------------|--------------------------------------|
| ☐ A. A chord | ☐ C. An arc |
| ☐ B. A sector | ☐ D. A radius |
- 7) Simplify: $3xy + 5xy - 2xy$
- | | |
|------------------------------------|-----------------------------------|
| ☐ A. $6xy$ | ☐ C. $8xy$ |
| ☐ B. $10xy$ | ☐ D. 0 |
- 8) A rope of length $8x + 12$ feet is cut into two pieces. If one piece has length $4x + 6$ feet, what is the length of the other piece?
- | | |
|--------------------------------------|--|
| ☐ A. $4x + 6$ | ☐ C. $12x + 18$ |
| ☐ B. $4x - 6$ | ☐ D. $4x$ |
- 9) A triangular prism has two triangular bases, each with base 12 cm and height 9 cm (isosceles triangle). The prism extends 10 cm. Assuming the two equal sides of the triangle are each 10.8 cm, what is the approximate surface area?
- | | |
|--|--|
| ☐ A. 108 cm^2 | ☐ C. 444 cm^2 |
| ☐ B. 216 cm^2 | ☐ D. 540 cm^2 |



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.



Scan me!
For more practice
& answers

Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** (7.SP.5-7.SP.8) Probability $\frac{1}{4}$ means 1 favorable outcome out of 4 equally likely ones.
- 2) **Choice B is correct.** (7.G.4-7.G.6) Must divide diameter by 2 to get radius, then square: $A = \pi r^2$.
- 3) **Choice B is correct.** (7.G.4-7.G.6) $78.5 = 3.14 \times 6.25 \times h \Rightarrow 78.5 = 19.625h \Rightarrow h = 4$ m.
- 4) **Choice B is correct.** (7.SP.1-7.SP.4) When the y-axis does not start at zero, small changes appear visually much larger than they actually are. Here, a 1% increase is exaggerated into what looks like significant growth.
- 5) **Choice B is correct.** (7.SP.5-7.SP.8) Red sections: 2 out of 4. $P(\text{red}) = \frac{2}{4} = \frac{1}{2}$.
- 6) **Choice B is correct.** (7.SP.5-7.SP.8) Total combinations: $3 \times 2 = 6$. Tasted: 3. Remaining: $6 - 3 = 3$ combinations.
- 7) **The correct answer is -3.** (7.NS.1-7.NS.3) The opposite of -3 is 3, and the opposite of 3 is -3.
- 8) **Choice A is correct.** (7.SP.3) Student M's errors concentrate at 2-4 with peak at 3 and range 3 (2-5). Student N's errors vary widely from 1-7 (range 6), showing inconsistent performance.
- 9) **Choice D is correct.** (7.SP.6) Compare relative frequencies: Hearts $\frac{140}{500} = 0.28$, Diamonds $\frac{125}{500} = 0.25$, Clubs $\frac{128}{500} = 0.256$, Spades $\frac{107}{500} = 0.214$. Spades has the lowest.
- 10) **Choice B is correct.** (7.SP.5-7.SP.8) King OR Queen: $P(\text{King}) + P(\text{Queen}) = \frac{4}{52} + \frac{4}{52} = \frac{8}{52} = \frac{2}{13}$ (mutually exclusive).
- 11) **Choice C is correct.** (7.SP.1-7.SP.4) With 24 values (even), the upper half contains positions 13-24, which is 12 values.
- 12) **The correct answer is $\frac{2}{3}$.** (7.NS.2) $-\frac{3}{4} \times (-\frac{8}{9}) = \frac{3 \times 8}{4 \times 9} = \frac{24}{36} = \frac{2}{3}$. Negative times negative is positive.
- 13) **Choice A is correct.** (7.G.4-7.G.6) Add the two rectangles, but subtract the overlap once (since it was counted twice). Vertical rectangle: $4 \times 10 = 40$ m². Horizontal rectangle: $6 \times 4 = 24$ m². Overlap region: $4 \times 4 = 16$ m². Total: $40 + 24 - 16 = 48$ m².
- 14) **Choice C is correct.** (7.G.4-7.G.6) $h = \frac{V}{B} = \frac{360}{40} = 9$ m.
- 15) **Choice B is correct.** (7.G.4-7.G.6) A sector is a pie-shaped region formed by two radii and the arc between them.
- 16) **Choice C is correct.** (7.G.1-7.G.5) The vertex L may lie anywhere on a line parallel to JK at distance 3 cm above it. Each position yields a different triangle with the same base and height but different side lengths and angles.
- 17) **Choice B is correct.** (7.SP.5-7.SP.8) $0.4 = \frac{4}{10} = \frac{2}{5}$ (simplified form).
- 18) **Choice B is correct.** (7.SP.1-7.SP.4) Sample proportion: 60% or 0.60. Apply to population: $0.60 \times 10000 = 6000$ customers.
- 19) **Choice B is correct.** (7.NS.1-7.NS.3) The error is choice B. The student forgot to flip the sign of -6 to +6. The correct process: $-4 - (-6) = -4 + 6 = 2$. The student mistakenly added $-4 + (-6) = -10$ instead.
- 20) **Choice D is correct.** (7.RP.1-7.RP.3) Multiply model length by scale factor: $9 \times 18 = 162$ cm.
- 21) **The correct answer is B,C.** (7.RP.1-7.RP.3) Option B: cost = $1.50 \times$ pounds (proportional, of form $y = kx$). Option C: distance = speed $\times$ time (proportional). Option A is a general trend but not a strict proportional relationship. Option D: height does not scale proportionally with age (growth rates vary).
- 22) **Choice D is correct.** (7.RP.3) Selling price = cost $\times (1 + 0.10)$. So $110 = \text{cost} \times 1.10$, giving cost = $110 \div 1.10 = \$100$.
- 23) **The correct answer is 11.** (7.NS.1-7.NS.3) $\sqrt{25} = 5$ and $\sqrt{36} = 6$, so $5 + 6 = 11$.
- 24) **Choice A is correct.** (7.SP.1-7.SP.4) $204 \div 1200 \times 100 = 0.17 \times 100 = 17\%$.
- 25) **Choice D is correct.** (7.RP.1-7.RP.3) With no bulk discount or fixed fees, cost = $0.75 \times$ quantity, where the cost per pencil is constant. This is proportional with $k = 0.75$.
- 26) **Choice D is correct.** (7.RP.1-7.RP.3) Unit rate = $\frac{4/5}{2/5} = \frac{4}{5} \times \frac{5}{2} = \frac{20}{10} = 2$ documents per minute.
- 27) **Choice D is correct.** (7.RP.1-7.RP.3) Volume equals rate times time. At 6 liters per minute, $V = 6t$.
- 28) **Choice D is correct.** (7.RP.1-7.RP.3) From unit rate (1, 0.8), at $x = 5$, $y = 5 \times 0.8 = 4$ cookies.
- 29) **Choice C is correct.** (7.RP.3) Using the proportion $\frac{120}{100} = \frac{d}{1}$ where d is the decimal, divide: $\frac{120}{100} = 1.2$.



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 4 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 **4** 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:

4 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!



VISIT [TESTINAR.COM/MATH7](https://www.testinar.com/math7)

FOR MORE PRACTICE TESTS AND LEARNING RESOURCES.



PRACTICE
REGULARLY



STAY
FOCUSED



SOLVE
CONFIDENTLY



SUCCEED
BRIGHTLY