

9

Rhode Island

RICAS

GRADE 7

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

Program



9 PRINTED TESTS



2 ONLINE TESTS



Use these two additional online practice tests
for **extra review** after the printed tests in this book.



BUILT FOR ACAP
Standards-Aligned



**STRENGTHEN
SKILLS**



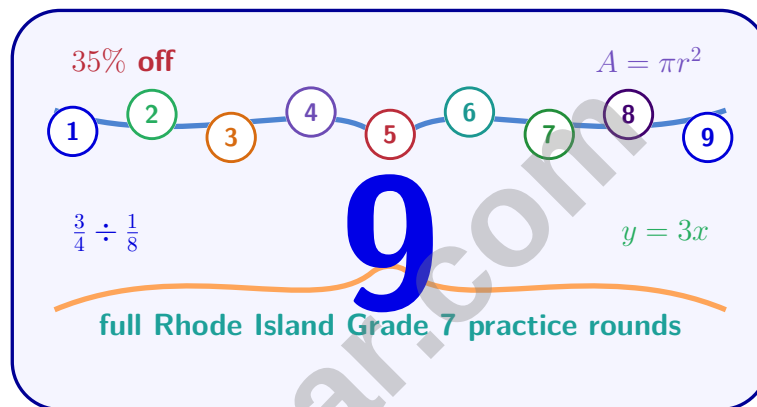
**SHARPEN
THINKING**



BE TEST-READY
Improve Performance

9 Rhode Island RICAS Grade 7 Math Practice Tests

Standards-Aligned Rhode Island Practice for Proportional Reasoning, Expressions, Geometry, Statistics, and Probability



Nine complete 40-question Grade 7 RICAS 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, Rhode Island Grade 7 Problem Solver!

Nine focused rounds for sharper RICAS math thinking

This book gives you nine full Grade 7 RICAS 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 Rhode Island 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 nine-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.

Rhode Island 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?

Nine RICAS tests, 360 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 7–9	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) A student simplified $(12x - 8) - (3x - 5)$ and got $9x - 13$. What mistake did the student make?
- ☐ A. Did not distribute the negative to the second expression
- ☐ B. Added instead of subtracting the constants
- ☐ C. Subtracted 8 and 5 incorrectly
- ☐ D. Forgot to combine x terms
- 2) A construction contractor charges a \$500 deposit plus \$75 per hour of labor. A job takes 20 hours. What is the total cost?
- ☐ A. \$1,200
- ☐ B. \$1,500
- ☐ C. \$1,800
- ☐ D. \$2,000
- 3) A dart was thrown at a target 400 times. It hit the bullseye 92 times. What is the experimental probability of hitting the bullseye?
- ☐ A. 0.20
- ☐ B. 0.23
- ☐ C. 0.25
- ☐ D. 0.30
- 4) A rectangular prism has length 15 cm and width 6 cm. If the height is tripled from 2 cm to 6 cm, how much does the volume increase?
- ☐ A. 180 cm^3
- ☐ B. 360 cm^3
- ☐ C. 540 cm^3
- ☐ D. 720 cm^3
- 5) In a circle with radius r , a chord has length r . What can you conclude about this chord?
- ☐ A. It must be a diameter
- ☐ B. It is shorter than the diameter
- ☐ C. It equals the radius
- ☐ D. It is impossible



- 6) A student draws a card from a standard deck. The probability of drawing a heart is $\frac{1}{4}$. What is this as a percent?

☐ A. 4% ☐ C. 25%
☐ B. 14% ☐ D. 40%

- 7) A simulation estimates the probability of an event using a spinner with 5 equal sections. After 500 spins, one section appears 96 times. What is the estimated probability for that section? (Express as a decimal rounded to the nearest hundredth.)

- 8) A blueprint scale is $\frac{1}{4}$ inch to 1 meter. Two points on the blueprint are 3 inches apart. How far apart are they in meters?

☐ A. 3 meters ☐ C. 12 meters
☐ B. 0.75 meters ☐ D. 1.33 meters

- 9) A dress is on sale for \$36 after a 40% markdown. What was the original selling price?

☐ A. \$56.40 ☐ C. \$50
☐ B. \$86.40 ☐ D. \$60

10)

Item	Original Price	Percent Increase
Video game	\$40	20%

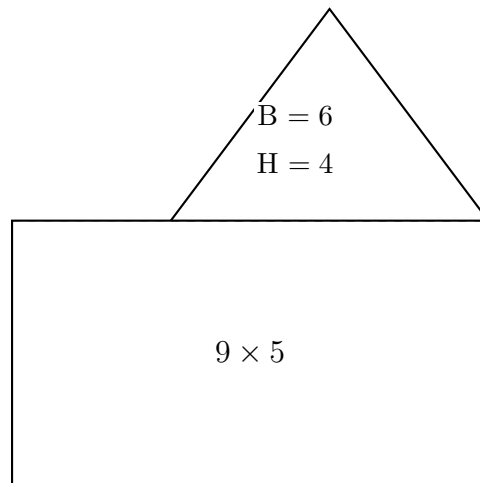
By how much did the video game price increase?

☐ A. \$4 ☐ C. \$12
☐ B. \$20 ☐ D. \$8



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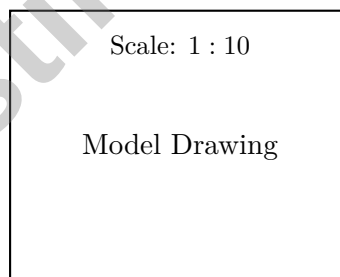
- 11) A stock started the day at \$50. It fell \$12 and then rose \$8. What was its closing price?
- ☐ A. \$30 ☐ C. \$54
☐ B. \$70 ☐ D. \$46
- 12) A smoothie recipe uses 2 cups of berries for every 3 cups of yogurt. If you use 8 cups of berries, how many cups of yogurt do you need?
- ☐ A. 10 cups ☐ C. 14 cups
☐ B. 16 cups ☐ D. 12 cups
- 13) A basketball player made 18 out of 24 free throws. Use a proportion to find the percent made, then identify which step comes next.
- ☐ A. Multiply 18×24 and divide by 100 ☐ D. Set up $\frac{18}{24} = \frac{p}{100}$ and solve using
☐ B. Set up $\frac{24}{18} = \frac{100}{p}$ and cross-multiply $p = \frac{18 \times 100}{24}$
☐ C. Calculate $18 + 24 = 42$ and divide by 2
- 14) A student compares two savings strategies over one year: Strategy X saves \$50 per month (no interest); Strategy Y saves \$30 per month and earns 5% interest yearly on the balance. Strategy X saves $\$50 \times 12 = \600 total. Strategy Y saves $\$30 \times 12 = \360 principal. Which strategy provides more total value?
- ☐ A. Strategy X (larger amount saved) ☐ C. Both provide equal value
☐ B. Strategy Y (interest helps close the gap) ☐ D. Cannot determine without knowing the interest



1)

A student saw this composite figure (rectangle 9 m $\times$ 5 m with triangle on top, base 6 m, height 4 m) and calculated the total as $45 + 12 = 57 \text{ m}^2$. Is this correct? If not, what is the error?

- ☐ A. Yes, 57 m^2 is correct.
 ☐ C. No; should be $45 + 18 = 63 \text{ m}^2$.
- ☐ B. No; forgot the $\frac{1}{2}$ in triangle formula; true area is $45 + 24 = 69 \text{ m}^2$.
 ☐ D. No; the dimensions don't match the shape shown.

5 units $\times$ 4 units

2)

If this model has a scale of 1 : 10, which statement about the actual object is true?

- ☐ A. It is 15 units $\times$ 14 units.
 ☐ C. The scale factor is 5.
- ☐ B. It is 1.67 units $\times$ 1.33 units.
 ☐ D. It is 50 units $\times$ 40 units.



- 3) A restaurant bill comes to \$72. The customer leaves a 20% tip. How much is the tip?

- 4) A student claims: $\frac{-4}{5} \div \frac{2}{3} = \frac{-8}{15}$ because “you multiply the numerators and denominators.” What is the correct quotient?

- 5) A rental car costs \$25 per day. Which table represents the cost for different numbers of days?

Days	1	2	3
Option A: Cost	25	50	75
Option B: Cost	26	50	74

- ☐ A. Option A
☐ B. Option B

- ☐ C. Neither
☐ D. Both



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1) A student earns \$15 per hour working part-time. After working 30 hours, they earn \$450. The student's employer withholds 20% for taxes. What is the net pay?

☐ A. \$300☐ C. \$360☐ B. \$330☐ D. \$390

2) Solve for x : $8(x + 1) = 72$

☐ A. $x = 8$ ☐ C. $x = 10$ ☐ B. $x = 9$ ☐ D. $x = 11$

3) A savings account has a balance of $-\$15$ (overdraft). After depositing \$50, what is the new balance? Write and solve an equation.

☐ A. \$25☐ C. \$50☐ B. \$35☐ D. \$65

4) Expand $\frac{1}{2}(6y - 8)$, then evaluate when $y = 4$.

5) Which pair of scales would produce drawings of the same size from the same actual object?

☐ A. 1 cm : 4 m and 2 cm : 6 m☐ C. 3 mm : 1 m and 6 mm : 3 m☐ B. 1 in : 12 ft and 1 in : 24 ft☐ D. $\frac{1}{4}$ in : 1 ft and $\frac{1}{2}$ in : 2 ft

- 6) A scale model of a car is drawn at a scale of 1 in : 5 ft. If the model is 8 inches long, what is the length of the actual car?
- ☐ A. 13 ft ☐ C. 45 ft
☐ B. 40 ft ☐ D. 64 ft
- 7) A cone with base radius r and height h is cut horizontally at height $\frac{h}{3}$ from the base. The radius of the circular cross-section is:
- ☐ A. $\frac{r}{3}$ ☐ C. $\frac{r}{2}$
☐ B. $\frac{2r}{3}$ ☐ D. r
- 8) If a point $(3, 2)$ is translated by $(-3, -2)$, where does it land?
- ☐ A. $(0, 0)$ ☐ C. $(-3, -2)$
☐ B. $(6, 4)$ ☐ D. $(0, 4)$
- 9) If a circle has radius r , which expression represents its area?
- ☐ A. $2\pi r$ ☐ C. $4\pi r$
☐ B. πd^2 ☐ D. πr^2
- 10) A business loses \$45.75 per week. Over 6 weeks, what is the total loss?
- ☐ A. $-\$274.50$ ☐ C. $+\$275$
☐ B. $-\$250$ ☐ D. $-\$39.75$



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Rhode Island RICAS 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 Rhode Island RICAS 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) The student forgot to distribute the negative: should be $12x - 8 - 3x + 5 = 9x - 3$, not $9x - 13$. The error was not distributing the negative to both terms in the second expression.
- 2) **Choice D is correct.** (7.RP.3) Total cost = $500 + (75 \times 20) = 500 + 1500 = \$2,000$.
- 3) **Choice B is correct.** (7.SP.6) Experimental probability = $\frac{92}{400} = 0.23$. Distractors represent nearby decimal values that students might compute incorrectly.
- 4) **Choice B is correct.** (7.G.4-7.G.6) Original: $V_1 = 15 \times 6 \times 2 = 180 \text{ cm}^3$. New: $V_2 = 15 \times 6 \times 6 = 540 \text{ cm}^3$. Increase = $540 - 180 = 360 \text{ cm}^3$.
- 5) **Choice B is correct.** (7.G.4-7.G.6) A chord of length r is shorter than the diameter $d = 2r$. Such a chord exists and is a valid chord in the circle.
- 6) **Choice C is correct.** (7.SP.5-7.SP.8) $\frac{1}{4} = 0.25 = 25\%$.
- 7) **The correct answer is 0.19.** (7.SP.5-7.SP.8) Relative frequency: $\frac{96}{500} = 0.192 \approx 0.19$.
- 8) **Choice C is correct.** (7.RP.1-7.RP.3) If $\frac{1}{4}$ inch = 1 meter, then 1 inch = 4 meters. So $3 \times 4 = 12$ meters.
- 9) **Choice D is correct.** (7.RP.3) Sale price = original $\times 0.60$. So $36 = \text{original} \times 0.60$, giving original = $36 \div 0.60 = \$60$.
- 10) **Choice D is correct.** (7.RP.3) A 20% increase of \$40 is $0.20 \times 40 = 8$ dollars.
- 11) **Choice D is correct.** (7.NS.1b) Model as $50 + (-12) + 8 = 50 - 12 + 8 = 46$. The stock fell \$12 then rose \$8 for a net change of $-\$4$.
- 12) **Choice D is correct.** (7.RP.1-7.RP.3) Set up proportion: $\frac{2}{3} = \frac{8}{y}$. Cross multiply: $2y = 24$, so $y = 12$.
- 13) **Choice D is correct.** (7.RP.3) The correct proportion is part over whole equals percent over 100: $\frac{18}{24} = \frac{p}{100}$. Cross-multiply: $p = 75\%$.
- 14) **Choice A is correct.** (7.RP.3) Strategy X: \$600 (no interest). Strategy Y: $\$360 + (5\% \times \$360) \approx \$360 + \$18 = \$378$ total. Strategy X provides more total value ($\$600 > \378), showing that saving more per month outweighs the benefit of interest—a key Grade-7 investment trade-off: higher savings frequency can beat lower savings with interest.
- 15) **The correct answer is 1050.** (7.SP.1-7.SP.4) $\frac{35}{140} = \frac{x}{4200}$. Reduce: $\frac{1}{4} = \frac{x}{4200} \Rightarrow x = 1050$.
- 16) **Choice A is correct.** (7.NS.1-7.NS.3) Average = $\frac{9.2+8.8+9.5+9.1+8.9}{5} = \frac{45.5}{5} = 9.1$ seconds.
- 17) **Choice A is correct.** (7.NS.1-7.NS.3) $21,000 > 3,500$, so 2.1×10^4 is larger.
- 18) **Choice D is correct.** (7.EE.1-7.EE.2) By distributive property: $2(x + 3) = 2x + 2(3) = 2x + 6$.
- 19) **Choice C is correct.** (7.EE.4b) Verify by testing a value in the solution set (here $x = 3$) and a value not in it (here $x = 1$). Since $4(3) - 3 = 9 > 5$ is true, the solution $x > 2$ is verified.
- 20) **The correct answer is A,C.** (7.G.4-7.G.6) Large square: $20 \times 20 = 400 \text{ m}^2$ (A). Small square: $5 \times 5 = 25 \text{ m}^2$. Remaining: $400 - 25 = 375 \text{ m}^2$ (C). The cutout is $\frac{25}{400} = \frac{1}{16}$ of the original area, not $\frac{1}{20}$.
- 21) **Choice B is correct.** (7.G.4-7.G.6) To cover the ground, the gardener needs the area. The circumference is for the fence.
- 22) **Choice D is correct.** (7.RP.1-7.RP.3) Store A: $\frac{2}{1/2} = 2 \times 2 = 4$ dollars/lb. Store B: $\frac{3}{2/3} = 3 \times \frac{3}{2} = 4.5$ dollars/lb. Store A is cheaper.
- 23) **Choice D is correct.** (7.RP.1-7.RP.3) The rate is $\frac{120 \text{ pages}}{2 \text{ minutes}} = 60$ pages per minute, so $k = 60$.
- 24) **Choice A is correct.** (7.EE.1-7.EE.2) The GCF of the coefficients 6 and 9 is 3. Factoring: $6x + 9y = 3(2x + 3y)$. This equivalent form uses the greatest common factor to show the structure: three groups of $(2x + 3y)$.
- 25) **Choice C is correct.** (7.G.1-7.G.5) Let the complement be x . Then the angle is $x + 18$. So $x + (x + 18) = 90^\circ$, giving $2x = 72^\circ$ and $x = 36^\circ$. Angle is $36 + 18 = 54^\circ$.
- 26) **Choice A is correct.** (7.G.1-7.G.5) Scale factor = $\frac{19.5}{13} = 1.5$. Corresponding leg = $5 \times 1.5 = 7.5 \text{ cm}$.
- 27) **Choice D is correct.** (7.SP.5-7.SP.8) Rainy has probability $0.15 \neq 0$. It is the least likely, but not impossible. The others are correct.
- 28) **Choice B is correct.** (7.NS.2) A: $5 \times 2 = 10$. B: $(-5) \times 3 = -15$. C: $5 \times (-2) = -10$. D: $(-5) \times (-2) = 10$. The smallest is -15 (only B).



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Hi, Confident Learner!

◇ This high-stamina book gave you nine substantial 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 **9** 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:

9 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!

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