

7 Rhode Island RICAS

Grade 7 Math Practice Tests



ONLINE

7 PRINTED TESTS + 2 ONLINE TESTS

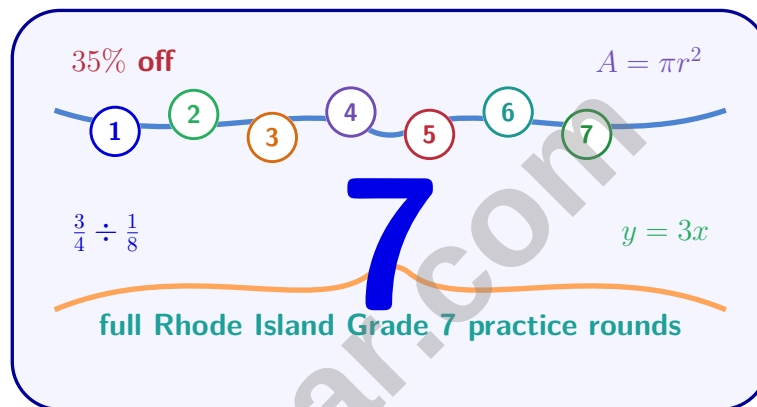


Standards Aligned Problem Solving
For Comprehensive Assessment Programs



8 Rhode Island RICAS Grade 7 Math Practice Tests

A standards-minded review of Rhode Island Grade 7 unit rates, percents, algebraic models, circles, samples, and compound events



Eight 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.

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Welcome, Rhode Island Grade 7 Problem Solver!

Eight focused rounds for sharper RICAS math thinking

This book gives you seven 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

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.

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?

Eight RICAS 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) A graphic designer charges a one-time project fee of \$300 plus a 5% usage fee on all client revenue from the design. If the client generates \$10,000 in revenue, what is the total amount owed?
- ☐ A. \$500 ☐ C. \$1,300
☐ B. \$800 ☐ D. \$10,300
- 2) A bank account has a debt of \$4 per item owed. If 5 items are removed from debt, the account change is represented as $(-4) \times (-5)$. What is the result?
- ☐ A. -20 dollars ☐ C. 20 dollars
☐ B. -9 dollars ☐ D. 9 dollars
- 3) If a square has a side length of 8 cm, what is its area?
- ☐ A. 16 cm² ☐ C. 64 cm²
☐ B. 32 cm² ☐ D. 128 cm²
- 4) A triangle has sides of length 5 m and 9 m. Which length CANNOT be the third side?
- ☐ A. 6 m ☐ C. 13 m
☐ B. 10 m ☐ D. 15 m
- 5) A stock loses 15 points. Express this as a signed number.
- ☐ A. -15 (correct; loss is negative) ☐ C. 15 (ignores the loss/negative direction)
☐ B. 0 (no change) ☐ D. -30 (double the loss)



- 6) A simulation of drawing cards with replacement produces 60 trials. If outcome A appears 15 times and outcome B appears 45 times, what is the experimental error compared to the theoretical probability if outcome A has theoretical probability 0.20?
- ☐ A. 0.05 ☐ C. 0.15
☐ B. 0.10 ☐ D. 0.25
- 7) A number line arrow starts at -6 and ends at 9 . What integer was added?
- ☐ A. -15 ☐ C. 3
☐ B. -3 ☐ D. 15
- 8) Simplify: $9x^2 + 3x^2 + 2x - 4x$
- ☐ A. $12x^2 - 2x$ ☐ C. $11x^2 - x$
☐ B. $12x^3 - 2x$ ☐ D. $12x^2 + 2x$
- 9) What is the GCF of $12xy$, $18y$, and 6 ?
- ☐ A. 6 ☐ C. 12
☐ B. $6y$ ☐ D. $18y$
- 10) A rectangular prism has length 11 cm, width 5 cm, and height 3 cm. What is its surface area?
- ☐ A. 166 cm^2 ☐ C. 222 cm^2
☐ B. 206 cm^2 ☐ D. 330 cm^2
- 11) Which of the following is a *parameter*?
- ☐ A. The median age of 80 randomly selected shoppers at the mall ☐ C. The percentage of 500 surveyed households that use streaming services
☐ B. The average height of all students in a school ☐ D. The standard deviation of a sample of test scores



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12) In a sign-rule table, the quotient $(-) \div (+)$ should be marked as:

Dividend	Divisor	Quotient
$(-)$	$(+)$	?

☐ A. Positive $(+)$

☐ C. Zero

☐ B. Negative $(-)$

☐ D. Undefined

13) What is $\frac{1}{2}$ as a decimal?

☐ A. 0.2

☐ C. 0.5

☐ B. 0.25

☐ D. 0.52

14) Evaluate $7 - 3x$ when $x = -2$.

☐ A. 1

☐ C. -6

☐ B. 13

☐ D. 10

15) A hotel charges \$85 per night and a \$20 resort fee. If a guest pays \$250 total, which equation finds n , the number of nights?

☐ A. $85n + 20 = 250$

☐ C. $85 + 20n = 250$

☐ B. $20n + 85 = 250$

☐ D. $20(n + 85) = 250$

16) Solve for x : $2x + 7 = 19$

☐ A. $x = 4$

☐ C. $x = 6$

☐ B. $x = 5$

☐ D. $x = 13$

17) A car travels at a constant speed passing through the origin and the point $(2, 140)$ on a distance-time graph (where x = hours and y = miles). What is the unit rate in miles per hour?



1) What is $\sqrt{81}$?

☐ A. 8

☐ C. 10

☐ B. 9

☐ D. 11

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

3) Two dot plots show the number of text messages sent during a study session by two groups. Group P: 5, 6, 6, 7, 7, 7, 8, 8, 9 (messages); Group Q: 1, 2, 9, 10, 11, 12 (messages). Which group was more focused (less distracted)?

☐ A. Group P (consistent messaging around 7)

☐ C. Both groups sent identical messages

☐ D. Group Q was more focused

☐ B. Group Q (sent very few messages)

4) A platform is designed as two congruent trapezoids joined at their parallel sides. Each trapezoid has parallel sides of 6 m and 4 m with height 3 m. What is the total platform area?

☐ A. 15 m^2

☐ C. 45 m^2

☐ B. 30 m^2

☐ D. 60 m^2



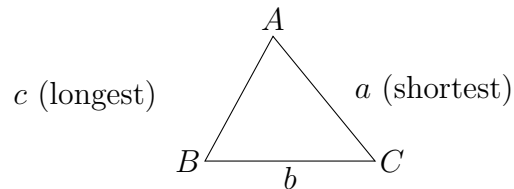
5) A cube has side length 5 inches. What is its volume?

☐ A. 125 in^3

☐ C. 25 in^3

☐ B. 75 in^3

☐ D. 15 in^3



6)

A scalene triangle has sides of length a , b , and c where $a < b < c$. Which inequality must be true?

☐ A. $a + b < c$

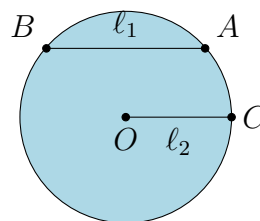
☐ C. $a + b > c$

☐ B. $a + b = c$

☐ D. $a - b > c$

7) Evaluate: $\frac{5}{12} + \frac{1}{3}$. Express your answer as a fraction in simplest form.

8) In the circle below, which line segment is a chord?



☐ A. ℓ_1 (segment AB)

☐ C. Segment OA

☐ B. ℓ_2 (segment OC)

☐ D. None of the above



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- 1) A school fund-raiser sold 800 items. The circle graph shows 27% were cookies. How many cookies were sold?

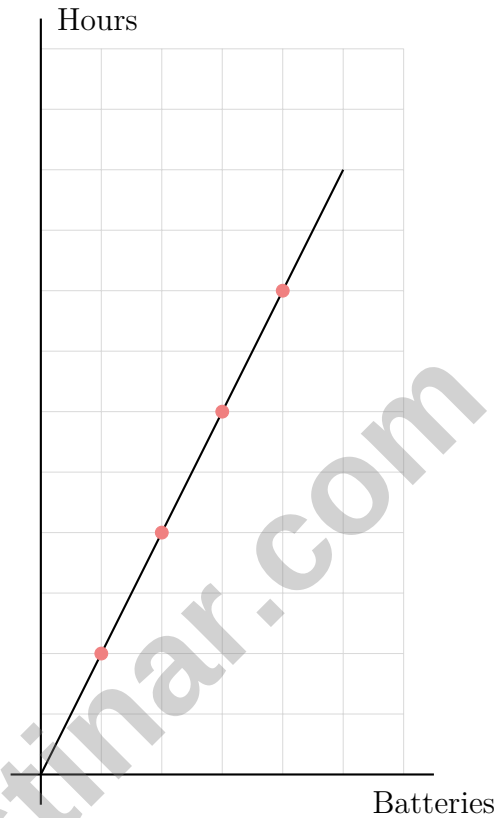
☐ A. 27☐ C. 216☐ B. 108☐ D. 400

- 2) 60 out of 100

What percent is shown in the bar model above?

☐ A. 6%☐ C. 60%☐ B. 40%☐ D. 100%

- 3) A graph shows the proportional relationship between video game controller batteries (units) and playtime (hours).



What is the constant of proportionality (hours per battery)?

☐ A. 1

☐ C. 0.5

☐ B. 3

☐ D. 2



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Rhode Island Comprehensive Assessment System 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 Comprehensive Assessment System practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice C is correct.** (7.RP.3) Usage fee = $0.05 \times 10000 = \$500$. Total = $300 + 500 = \$1,300$.
- 2) **Choice C is correct.** (7.NS.2) $(-4) \times (-5) = 20$ dollars. Negative debt times negative removal (reduction) yields a positive gain. Negative times negative is positive.
- 3) **Choice C is correct.** (7.NS.1-7.NS.3) Area of a square = $s^2 = 8^2 = 64 \text{ cm}^2$.
- 4) **Choice D is correct.** (7.G.1-7.G.5) The Triangle Inequality requires the sum of any two sides to exceed the third. With sides 5 and 9: we need $5 + 9 > c$, so $c < 14$ m. Also $5 + c > 9$, so $c > 4$ m. Thus $4 < c < 14$. The value 15 exceeds this range.
- 5) **Choice A is correct.** (7.NS.1-7.NS.3) A loss is represented by a negative number. A loss of 15 points is -15 .
- 6) **Choice A is correct.** (7.SP.5-7.SP.8) Estimated probability for A: $\frac{15}{60} = 0.25$. Theoretical: 0.20. Error = $|0.25 - 0.20| = 0.05$.
- 7) **Choice D is correct.** (7.NS.1b) If -6 plus an unknown value equals 9, then the unknown is 15 because $-6 + 15 = 9$. The distance from -6 to 9 is 15 units.
- 8) **Choice A is correct.** (7.EE.1) Combine x^2 terms and x terms: $(9 + 3)x^2 + (2 - 4)x = 12x^2 - 2x$.
- 9) **Choice A is correct.** (7.EE.1-7.EE.2) GCF of 12, 18, 6 is 6. Not all terms share a common variable factor.
- 10) **Choice B is correct.** (7.G.4-7.G.6) $SA = 2(11 \cdot 5 + 11 \cdot 3 + 5 \cdot 3) = 2(55 + 33 + 15) = 2(103) = 206 \text{ cm}^2$.
- 11) **Choice B is correct.** (7.SP.1-7.SP.4) A parameter describes a characteristic of an entire population. Average height of ALL students is a population parameter; the others are statistics from samples.
- 12) **Choice B is correct.** (7.NS.1-7.NS.3) Sign rule: negative divided by positive always gives negative.
- 13) **Choice C is correct.** (7.NS.2d) Divide $1 \div 2 = 0.5$. This is a terminating decimal since the denominator has only factors of 2 and 5.
- 14) **Choice B is correct.** (7.EE.1-7.EE.2) Substitute: $7 - 3(-2) = 7 + 6 = 13$.
- 15) **Choice A is correct.** (7.EE.4a) Per night is \$85 and resort fee is \$20. Equation: $85n + 20 = 250$.
- 16) **Choice C is correct.** (7.EE.3-7.EE.4) Subtract 7: $2x = 12$. Divide by 2: $x = 6$.
- 17) **The correct answer is 70.** (7.RP.1-7.RP.3) The unit rate is $140 \div 2 = 70$ miles per hour. This is the car's constant speed.
- 18) **The correct answer is A,D.** (7.RP.1-7.RP.3) True: A ($2 \times 40 = 80 \text{ cm}$) and D (area scales by $(40)^2 = 1600$, so $3 \times 1600 = 4800 \text{ cm}^2$). False: B (should be cm, not m); C (area scales quadratically); E (area scales by 1600, not 40).
- 19) **Choice A is correct.** (7.EE.4b) Multiply both sides by -4 and flip the sign: $x < -12$.
- 20) **Choice C is correct.** (7.G.1-7.G.5) Set up ratio: $\frac{2 \text{ cm}}{1 \text{ km}} = \frac{5 \text{ cm}}{x}$. Cross-multiply: $2x = 5$, so $x = 2.5 \text{ km}$.
- 21) **Choice A is correct.** (7.G.1-7.G.5) Doubling the real scale (2.5 ft to 5 ft) halves the drawing: $3.2 \div 2 = 1.6 \text{ in}$.
- 22) **Choice B is correct.** (7.G.4-7.G.6) $C = \pi d \Rightarrow 31.4 = 3.14d \Rightarrow d = 31.4 \div 3.14 = 10 \text{ m}$.
- 23) **The correct answer is 15%.** (7.RP.3) The discount amount is $60 - 51 = 9$ dollars. Percent discount: $\frac{9}{60} = 0.15 = 15\%$.
- 24) **The correct answer is \$960.** (7.RP.3) Discount: $\frac{20}{100} \times 1200 = 240$. New price: $1200 - 240 = \$960$.
- 25) **Choice B is correct.** (7.G.4-7.G.6) The area formula requires squaring the radius: $A = \pi r^2 = 3.14 \times (1.5)^2$. Option A skips squaring. Option D is the circumference formula. Option C is incorrect.
- 26) **Choice C is correct.** (7.G.4-7.G.6) $SA = 2\pi r^2 + 2\pi rh \approx 2(3.14)(16) + 2(3.14)(4)(12) = 100.48 + 301.44 = 401.92 \text{ cm}^2$.
- 27) **Choice B is correct.** (7.SP.5-7.SP.8) "Win" sections: 2 out of 8. $P(\text{Win}) = \frac{2}{8} = \frac{1}{4}$.
- 28) **Choice B is correct.** (7.SP.5-7.SP.8) Numbers greater than 2: $\{3, 4\} = 2$ outcomes. Heads: 1 outcome. Favorable: 3H, 4H = 2 outcomes.
- 29) **Choice C is correct.** (7.NS.1-7.NS.3) $-75 + 120 = 45$ dollars.
- 30) **Choice C is correct.** (7.NS.1-7.NS.3) Start 500 m, climb 320 m: $500 + 320 = 820 \text{ m}$. Descend 150 m: $820 - 150 = 670 \text{ meters}$.
- 31) **Choice B is correct.** (7.NS.1-7.NS.3) $2.5 \times 10^{-3} = 2.5 \times 0.001 = 0.0025$. Move decimal 3 places left.
- 32) **Choice A is correct.** (7.EE.1-7.EE.2) $85(1.15) = 85 + 0.15(85) = 85 + 12.75 = 97.75$.



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.

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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



2 ONLINE TESTS

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