

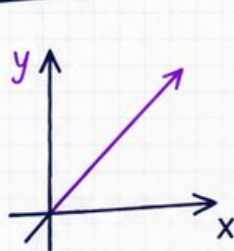
3

Rhode Island RICAS

GRADE
7
MATH

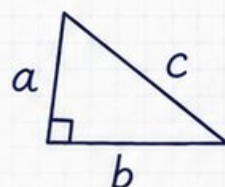
PRACTICE TESTS

- ✓ 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



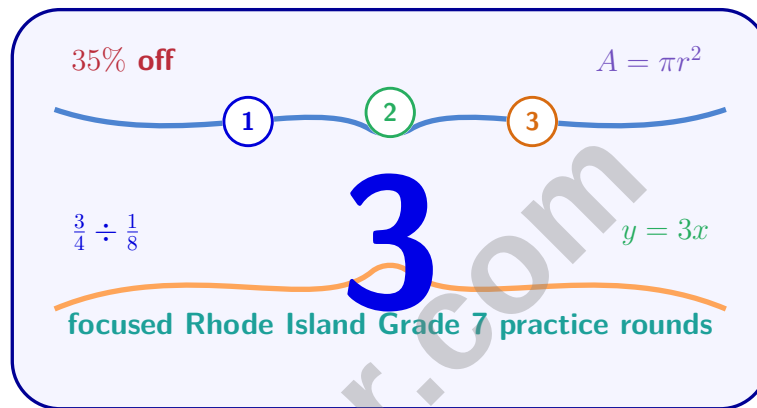
Detailed Answers
& Explanations



Improve Test
Performance

3 Rhode Island RICAS Grade 7 Math Practice Tests

Three-Test RICAS Prep with Review and Answer Support



Three 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!

Three focused rounds for sharper RICAS math thinking

This book gives you three 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 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.

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?

Three RICAS 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.

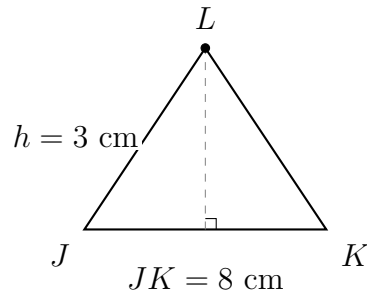
The tests are mixed on purpose. Grade 7 success means recognizing which idea is being tested even when the next question changes format.



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For more practice
& answers

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1)

Triangle JKL has base $JK = 8$ cm and perpendicular height $h = 3$ cm. How many distinct triangles satisfy these conditions?

- ☐ A. 1 (unique)
 ☐ C. Infinitely many
☐ B. 2 (two possible positions for L)
 ☐ D. 0 (impossible)

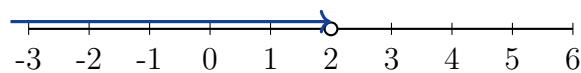
2) A clock was estimated to cost \$18 but actually cost \$24. What is the percent error?

- ☐ A. 25%
 ☐ C. 75%
☐ B. 33.3%
 ☐ D. 6%

3) Expand: $(4a + 6) \cdot \frac{1}{2}$

- ☐ A. $2a + 6$
☐ C. $4a + 3$
☐ B. $2a + 3$
☐ D. $a + 6$

4) If the solution to an inequality is all numbers less than 2, which circle and arrow are needed?



- ☐ A. Closed circle at 2 pointing right
 ☐ C. Open circle at 2 pointing left
☐ B. Open circle at 2 pointing right
 ☐ D. Closed circle at 2 pointing left

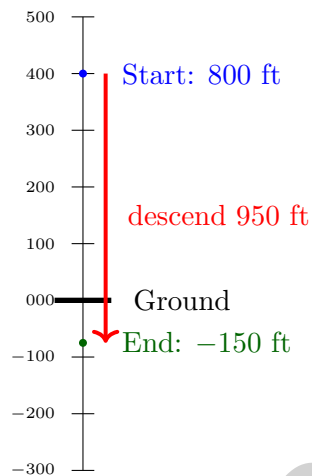


- 5) An investment of \$3000 earns \$270 in simple interest over 2 years. What is the annual interest rate?
- ☐ A. 3% ☐ C. 5%
- ☐ B. 9% ☐ D. 4.5%
- 6) A simulation consists of rolling a die and flipping a coin, recording both results. This is the compound event. How many equally likely outcomes are in the sample space?
- ☐ A. 6 ☐ C. 12
- ☐ B. 8 ☐ D. 36
- 7) On a map where 1 inch = 30 miles, two cities are 2.25 inches apart. What is the actual distance?
- ☐ A. 32.25 miles ☐ C. 90 miles
- ☐ B. 4.25 miles ☐ D. 67.5 miles
- 8) What is 5% of 200?
- ☐ A. 5 ☐ C. 15
- ☐ B. 20 ☐ D. 10
- 9) A customer compares two deals on headphones. Store A offers a \$95 item with 25% off. Store B offers a \$110 item with 35% off. Which is the better deal (lower final price)?
- ☐ A. They cost the same. ☐ C. Store A; \$95
- ☐ B. Store B; \$71.50 ☐ D. Store A; \$71.25



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- 10) A helicopter is hovering at 800 feet above ground. It descends 950 feet. Is it now above or below ground, and by how much?



- ☐ A. 150 feet above ground ☐ C. 150 feet below ground
☐ B. 1750 feet above ground ☐ D. 1750 feet below ground
- 11) Which of the following is NOT a like term with $6xy$?
- ☐ A. $-4xy$ ☐ C. $2xy^2$
☐ B. $9yx$ ☐ D. $10xy$
- 12) Factor: $5x + 25$
- ☐ A. $5(x + 5)$ ☐ C. $5(x + 25)$
☐ B. $5x(1 + 5)$ ☐ D. $25(x + 1)$



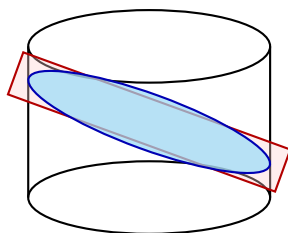
1) What is the area of a circle with radius $\frac{1}{2}$ meter? Use $\pi \approx 3.14$.

☐ A. 0.785 m^2

☐ C. 3.14 m^2

☐ B. 1.57 m^2

☐ D. 6.28 m^2



2)

A cylinder is sliced by an oblique plane, as shown. What is the shape of the resulting cross-section?

☐ A. Circle

☐ C. Ellipse

☐ B. Rectangle

☐ D. Parabola

3) An angle is 26° less than its supplement. What is the measure of the larger angle?

☐ A. 77°

☐ C. 154°

☐ B. 103°

☐ D. 206°

4) A rectangle with corners at $(0, 0)$, $(5, 0)$, $(5, 3)$, and $(0, 3)$ is translated by the vector $(-2, 4)$. What is one of the new corners?

☐ A. $(-2, 4)$

☐ C. $(5, 7)$

☐ B. $(3, 4)$

☐ D. $(2, -1)$



5) A scale drawing of a playground uses a scale of 1 inch = 20 feet. If the actual playground is 80 feet long, how long is the drawing?

☐ A. 2 inches

☐ C. 4 inches

☐ B. 3 inches

☐ D. 5 inches

6) A plate has diameter 10 inches. Using $\pi \approx \frac{22}{7}$, approximately what is its circumference?

☐ A. $\frac{220}{7}$ in

☐ C. $\frac{440}{7}$ in

☐ B. $\frac{110}{7}$ in

☐ D. $\frac{80}{7}$ in

7) A cylindrical container has a radius of 6 cm. If the height is tripled, what is the new volume compared to the original? Use $\pi \approx 3.14$.

☐ A. The new volume equals the original

☐ C. The new volume is 9 times the

☐ B. The new volume is 3 times the original

☐ D. The new volume is 27 times the original

8) A coach compared jump heights (in inches) of two volleyball teams:

Team	Mean	Median	MAD
Team A	28	28	2.5
Team B	26	26	4.8

Which team has both a higher center and more consistency?

☐ A. Team A

☐ C. Both are identical

☐ B. Team B

☐ D. The data is insufficient



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& answers

1) What is 0.4×0.5 ?

☐ A. 0.2

☐ C. 1.8

☐ B. 0.9

☐ D. 2

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 movie theater applies a \$1.50 processing fee to online ticket orders. If a customer buys 4 tickets at \$12 each, what is the total cost?

☐ A. \$48.00

☐ C. \$50.00

☐ B. \$52.50

☐ D. \$49.50

4) A principal of P dollars earns 8% annual compound interest. After 4 years, the balance is approximately \$2,720.98. Solve for P .

☐ A. \$1,500

☐ C. \$2,000

☐ B. \$1,800

☐ D. \$2,500

5) A baker makes 18 loaves of bread in 3 hours. At this constant rate, how many loaves are made per hour?



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6) A job pays \$16 per hour. If you work 40 hours per week, what is your weekly gross income before taxes?

☐ A. \$500

☐ C. \$640

☐ B. \$600

☐ D. \$700

7) A product's value increased from \$200 to \$275. What is the percent increase?

☐ A. 27.3%

☐ C. 75%

☐ B. 275%

☐ D. 37.5%

8) A model railroad layout has a scale of 1 : 160. If a real railroad track is 50 meters long, how long should the model track be in centimeters?

9) A sweater is priced at \$80. A customer uses a coupon for 15% off. What is the sale price?

☐ A. \$65

☐ C. \$64

☐ B. \$76

☐ D. \$68

10) Marcus had \$ - 12 (overdraft) in his account. He deposited \$45. What is his new balance?

☐ A. \$ - 57

☐ C. \$33

☐ B. \$ - 33

☐ D. \$57



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 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.
- 2) **Choice A is correct.** (7.RP.3) Percent error = $\frac{|18-24|}{24} \times 100\% = \frac{6}{24} \times 100\% = 25\%$.
- 3) **Choice B is correct.** (7.EE.1-7.EE.2) Distribute $\frac{1}{2}$: $(4a) \cdot \frac{1}{2} + (6) \cdot \frac{1}{2} = 2a + 3$.
- 4) **Choice C is correct.** (7.EE.4b) "Less than 2" means < 2 (strict), so use an open circle at 2. The arrow points left toward smaller numbers.
- 5) **Choice D is correct.** (7.RP.3) $270 = 3000 \times r \times 2 \Rightarrow 270 = 6000r \Rightarrow r = 0.045 = 4.5\%$.
- 6) **Choice C is correct.** (7.SP.5-7.SP.8) Die outcomes: 6 (rolling 1, 2, 3, 4, 5, 6). Coin outcomes: 2 (heads or tails). Total compound outcomes: $6 \times 2 = 12$ distinct pairs (e.g., H1, H2, H3, ..., H6, T1, T2, ..., T6).
- 7) **Choice D is correct.** (7.RP.1-7.RP.3) Multiply map distance by scale factor: $2.25 \times 30 = 67.5$ miles.
- 8) **Choice D is correct.** (7.RP.3) 5% of 200 is $0.05 \times 200 = 10$.
- 9) **Choice D is correct.** (7.RP.3) Store A: $95 \times 0.75 = \$71.25$. Store B: $110 \times 0.65 = \$71.50$. Store A is cheaper.
- 10) **Choice C is correct.** (7.NS.1b) Model descent as $800 + (-950) = -150$. The negative result means 150 feet below ground level.
- 11) **Choice C is correct.** (7.EE.1) Like terms must have the same variables with the same exponents. $2xy^2$ has x^1y^2 , while $6xy$ has x^1y^1 . The exponents on y differ, so they are not like terms. Options A and D are clearly like $6xy$. Option B, $9yx$, equals $9xy$ by commutativity, so it is also a like term with $6xy$.
- 12) **Choice A is correct.** (7.EE.1-7.EE.2) The GCF of $5x$ and 25 is 5. Divide both terms by 5 to get $5(x + 5)$.
- 13) **Choice B is correct.** (7.G.4-7.G.6) Base area: $6^2 = 36 \text{ in}^2$. Four triangular sides: $4 \times \frac{1}{2}(6)(8) = 4 \times 24 = 96 \text{ in}^2$. Total: $36 + 96 = 132 \text{ in}^2$.
- 14) **Choice B is correct.** (7.SP.1-7.SP.4) By surveying only lunch-buyers that day, she misses students who bring lunch from home. This creates a non-response bias and an unrepresentative sample.
- 15) **Choice D is correct.** (7.RP.1-7.RP.3) Calculate the unit rate from each data point: $\$450 \div 3 = \150 per month and $\$1200 \div 8 = \150 per month. Since both unit rates are \$150 per month, the relationship is proportional.
- 16) **Choice D is correct.** (7.RP.3) Using the proportion $\frac{40}{100} = \frac{x}{125}$, cross-multiply: $x = 50$.
- 17) **Choice C is correct.** (7.NS.1-7.NS.3) $\frac{4}{7} \div \frac{2}{7} = \frac{4}{7} \times \frac{7}{2} = \frac{4}{2} = 2$.
- 18) **The correct answer is 15.** (7.NS.1-7.NS.3) The temperature drop is $3 - (-12) = 3 + 12 = 15$ degrees.
- 19) **Choice A is correct.** (7.NS.1-7.NS.3) Net change = $-\$2.50 + \$1.75 - \$0.85 = -\1.60 .
- 20) **Choice D is correct.** (7.EE.1-7.EE.2) Substitute: $5(2) + 3(-1) - 2 = 10 - 3 - 2 = 5$.
- 21) **The correct answer is A,C.** (7.SP.1-7.SP.4) City A dark roast (42%) > City B dark roast (38%), so A is correct. City B light roast (40%) > City A light roast (35%), so C is correct. B is wrong (survey size not given). D is wrong (A: 23%, B: 22%).
- 22) **Choice A is correct.** (7.EE.4a) Session fee is \$50 plus \$8 per photo. Equation: $50 + 8p = 186$.
- 23) **Choice C is correct.** (7.EE.4b) $x \leq 2$ includes 2 (filled circle) and all values less than 2 (arrow left).
- 24) **Choice A is correct.** (7.G.1-7.G.5) A scale of 2 : 5 means the drawing is 2 units for every 5 units of the actual object, so the drawing is smaller.
- 25) **Choice B is correct.** (7.G.1-7.G.5) Original scale 1:2 means 1 cm = 2 m. New scale 1:4 means 1 cm = 4 m. Real-world distance per cm doubled (2 to 4), so drawing shrinks. Scale factor ratio: $4 \div 2 = 2$, so drawing shrinks by $1 \div 2 = 0.5$. New length: $8 \times 0.5 = 4$ cm (or $8 \div 2 = 4$ cm).
- 26) **The correct answer is $\frac{9}{2}$.** (7.RP.1-7.RP.3) 3 dozen is 6 times $\frac{1}{2}$ dozen, so flour is $\frac{3}{4} \times 6 = \frac{18}{4} = \frac{9}{2} = 4\frac{1}{2}$ cups.
- 27) **Choice D is correct.** (7.SP.5-7.SP.8) Spinner: 6 outcomes; die: 6 outcomes. Total: $6 \times 6 = 36$ outcomes.
- 28) **Choice D is correct.** (7.RP.1-7.RP.3) For $y = 3x$, the slope is 3. The red line passes through (1, 3), which satisfies $y = 3(1) = 3$.



One Last Encouragement

Hi, Determined Student!

◇ You did meaningful Grade 7 practice. That matters because confidence is built through action, not waiting until everything feels easy. This short, concentrated book gave you three focused Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. ◇

★ **Remember this:** Carry this with you: you can learn hard things by breaking them into steps, asking good questions, and reviewing with honesty. ★

Take This With You

- **You Can Start:** Even when the problem looks big.
- **You Can Adjust:** When the first method is not enough.
- **You Can Learn:** From every corrected mistake.
- **You Can Improve:** One practice session at a time.

Grade 7 test-day tip: Walk into test day ready to think, not ready to be perfect. Thinking clearly is the goal.

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

Jay Daie

Your Grade 7 Math Friend

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.



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 Detailed Answers & Explanations



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Develop key math concepts and problem solving abilities.



Detailed Answers & Explanations

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Apply your knowledge and achieve your best score!

TOPICS COVERED

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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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