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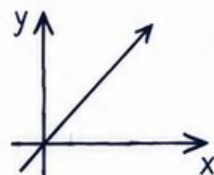
Alabama ACAP

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



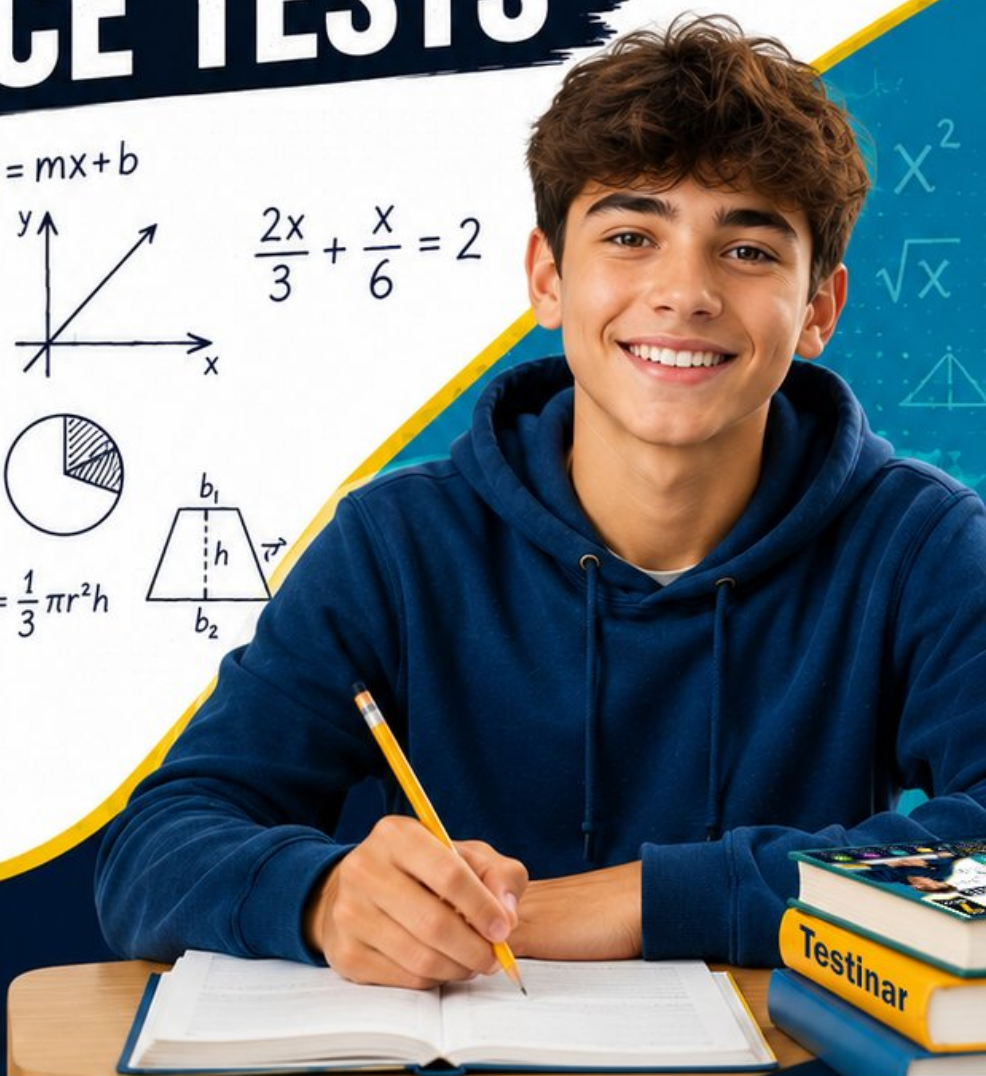
Strengthen
Math Skills



Detailed Answers
& Explanations



Improve Test
Performance



4 Alabama ACAP Grade 7 Math Practice Tests

Standards-Aligned Practice with Review, Answer Keys, and Explanations



Four complete 40-question Grade 7 ACAP 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, Alabama Grade 7 Problem Solver!

Four focused rounds for sharper ACAP math thinking

This book gives you four full Grade 7 ACAP 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 Alabama 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.

Alabama 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 ACAP 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.



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& answers

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1) If an investment of \$2,000 grows by 8% per year, what is the interest earned after one year?

☐ A. \$80☐ C. \$320☐ B. \$400☐ D. \$160

2) A circular garden has a diameter of 20 feet. About how many square feet is the garden? Use $\pi \approx 3.14$.

☐ A. 62.8 ft²☐ C. 314 ft²☐ B. 125.6 ft²☐ D. 1256 ft²

3) A cylindrical swimming pool has a radius of 5 feet and a depth (height) of 6 feet. How many cubic feet of water does the pool hold? Use $\pi \approx 3.14$.

☐ A. 157 ft³☐ C. 471 ft³☐ B. 314 ft³☐ D. 628 ft³

4) A manufacturing plant tracks defect rates for two product lines over 10 batches:

Line	Mean Defect Rate	IQR
Product X	2.5%	1.0%
Product Y	2.3%	2.5%

Which product line is better for consistent quality control?

☐ A. Product X (slightly higher defect rate is offset by consistency)☐ C. Both are identical☐ B. Product Y (lower mean defect rate)☐ D. Cannot determine without knowing minimum defect rates

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- 5) A histogram shows the ages of 60 people in a fitness class: 10–20 (6), 20–30 (18), 30–40 (24), 40–50 (12). A gym owner wants to market the class to “young adults.” If “young adults” means ages 20–40, what percentage of the class fits that description?
- ☐ A. 70% ☐ C. 30%
- ☐ B. 42% ☐ D. 90%
- 6) A die is rolled and a spinner with sections Red, Green, Blue is spun. What is the probability of rolling an even number and landing on Red?
- ☐ A. $\frac{1}{6}$ ☐ C. $\frac{1}{4}$
- ☐ B. $\frac{1}{9}$ ☐ D. $\frac{1}{3}$
- 7) A student is analyzing a histogram showing GPA distribution for two graduating classes. Class of 2023: concentrated at 3.2–3.8. Class of 2024: concentrated at 3.0–3.6. Which statement is a valid comparison?
- ☐ A. Class 2023 has a higher typical GPA than Class 2024
- ☐ B. Class 2024 performed better overall
- ☐ C. Both classes have identical GPAs
- ☐ D. GPA cannot be compared between classes
- 8) A bag has 10 marbles: 4 red, 3 blue, and 3 green. If you draw one marble, what is the probability of drawing red OR blue?
- ☐ A. $\frac{7}{10}$ ☐ C. $\frac{4}{10}$
- ☐ B. $\frac{3}{10}$ ☐ D. $\frac{12}{100}$
- 9) A quality control inspector checked 500 items and found 15 defective. Based on this experimental data, if 8000 items are produced, how many are expected to be defective?
- ☐ A. 15 ☐ C. 240
- ☐ B. 120 ☐ D. 485



10) The stem-and-leaf plot shows daily sales:

Stem	Leaves
1	4, 7
2	2, 5, 8
3	1, 5, 6, 9

How many days did sales fall below 25?

☐ A. 3

☐ C. 5

☐ B. 4

☐ D. 6

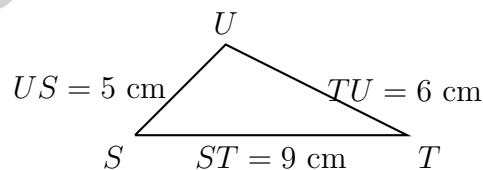
11) A rectangular piece of fabric (25 inches $\times$ 16 inches) has two identical right triangles (5 inches $\times$ 4 inches) removed from opposite corners. What is the remaining area?

☐ A. 360 in²
☐ C. 400 in²
☐ B. 380 in²
☐ D. 420 in²

12) 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 cm³
☐ C. 540 cm³
☐ B. 360 cm³
☐ D. 720 cm³

13)



Triangle STU has sides $ST = 9$, $TU = 6$, $US = 5$ cm. Which type is it?

☐ A. Acute

☐ C. Obtuse

☐ B. Right

☐ D. Impossible


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- 1) A student writes $3^5 \cdot 3^2 = 3^{10}$ (multiplying exponents instead of adding). What error did they make?
- ☐ A. They multiplied the exponents instead of adding them.
- ☐ B. They multiplied the bases instead of keeping them the same.
- ☐ C. They ignored the product rule; the correct answer is 3^7 .
- ☐ D. They forgot to use the exponent of 1 on the base.
- 2) Between which two consecutive integers does $\sqrt{175}$ lie?
- ☐ A. between 11 and 12
- ☐ B. between 12 and 13
- ☐ C. between 13 and 14
- ☐ D. between 14 and 15
- 3) A student was asked to rewrite $0.3p + 0.3q$ in factored form. They wrote $0.3(p + q)$. Is their answer correct, and why?
- ☐ A. Yes; 0.3 is a common factor of both terms
- ☐ B. Yes; adding decimals always works this way
- ☐ C. No; you cannot factor out decimals
- ☐ D. No; 0.3 is not the GCF
- 4) Is $7 \times (-2)$ equal to $(-2) \times 7$?
- ☐ A. Yes, both equal -14
- ☐ B. Yes, both equal 14
- ☐ C. No, one is -14 and the other is 14
- ☐ D. No, one is -5 and the other is 5
- 5) A triangle has two angles of 45° and 65° . If one side is 10 cm, how many distinct triangles can be drawn?
- ☐ A. Infinitely many
- ☐ B. 0
- ☐ C. 1
- ☐ D. 2



6) Factor out the GCF from $30x - 18y + 6$:

☐ A. $6(5x - 3y + 1)$

☐ C. $3(10x - 6y + 2)$

☐ B. $6(5x - 3y)$

☐ D. $30(x - y + 0.2)$

7) Evaluate $6 - 2(x + 1)$ when $x = 2$.

☐ A. 8

☐ C. 4

☐ B. 0

☐ D. 2

Combining Terms: $5a + 2b - 3a + 4b$

Like terms with a :

$5a$ and $-3a \rightarrow (5 - 3)a = 2a$

Like terms with b :

$2b$ and $4b \rightarrow (2 + 4)b = 6b$

Answer: $2a + 6b$

8)

Using the strategy shown above, simplify $8x + 3y - 5x - 2y$.

☐ A. $13x + y$

☐ C. $3x + 5y$

☐ B. $3x + y$

☐ D. $11xy$

9) Which inequality represents “a number plus 8 is less than 15”?

☐ A. $x + 8 < 15$

☐ C. $x - 8 < 15$

☐ B. $x + 8 > 15$

☐ D. $8x < 15$



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& answers

1) A coin lands on Heads with probability $\frac{2}{3}$. Find $P(\text{Tails})$.

- ☐ A. $\frac{1}{2}$
☐ B. $\frac{3}{2}$

- ☐ C. $\frac{2}{3}$
☐ D. $\frac{1}{3}$

2) 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?

3) What decimal is equivalent to $\frac{3}{20}$?

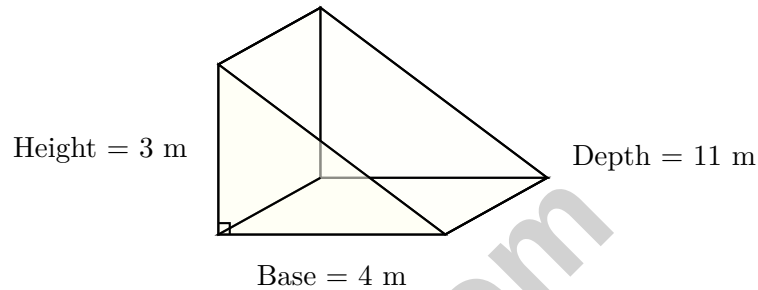
4) Two box plots compare monthly rainfall (in inches) for Region A and Region B. Region A: IQR (Interquartile Range) = 3 inches; Region B: IQR = 8 inches. What does this comparison reveal?

- ☐ A. Region A has more variable rainfall
☐ B. Region B has a wider middle 50% of data (more variability in the middle)
- ☐ C. Both regions have identical rainfall patterns
☐ D. Region A receives more total rain annually



- 5) A bakery display is shaped like a trapezoid on top of a rectangle. The rectangle is 5 inches wide and 4 inches tall. The trapezoid has parallel sides of 5 inches and 3 inches with height 2 inches. What is the total area?

- ☐ A. 12 in^2
☐ C. 32 in^2
☐ B. 28 in^2
☐ D. 36 in^2



6)

A right triangular prism has a right-triangular base with legs 4 m and 3 m and a depth of 11 m. What is the volume?

- ☐ A. 18 m^3
☐ C. 66 m^3
☐ B. 36 m^3
☐ D. 132 m^3

- 7) Two triangles have sides (3, 4, 5) and (5, 12, 13), respectively. Which statement is correct?

- ☐ A. Both are right triangles and congruent
☐ B. Both are right triangles but not congruent
☐ C. Only the first is a right triangle
☐ D. Neither is a right triangle



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Alabama ACAP 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 Alabama ACAP practice test.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice D is correct.** (7.RP.3) Interest = $8\% \times \$2,000 = 0.08 \times 2000 = \160 .
- 2) **Choice C is correct.** (7.G.4-7.G.6) $r = 10$ ft. $A = 3.14 \times 10^2 = 3.14 \times 100 = 314$ ft².
- 3) **Choice C is correct.** (7.G.4-7.G.6) $V = \pi r^2 h \approx 3.14 \times 25 \times 6 = 471$ ft³.
- 4) **Choice A is correct.** (7.SP.1-7.SP.4) Product X: mean 2.5%, IQR 1.0% (tight middle spread, consistent control). Product Y: mean 2.3%, IQR 2.5% (wider spread, less predictable). For quality control, consistency (smaller IQR) matters more than a 0.2% mean advantage.
- 5) **Choice A is correct.** (7.SP.1-7.SP.4) Ages 20–40 include: $18 + 24 = 42$ people out of 60. Percentage = $\frac{42}{60} = 0.70 = 70\%$.
- 6) **Choice A is correct.** (7.SP.5-7.SP.8) Total outcomes: $6 \times 3 = 18$. Favorable (even and Red): 2R, 4R, 6R = 3 outcomes. Probability: $\frac{3}{18} = \frac{1}{6}$.
- 7) **Choice A is correct.** (7.SP.3) Histogram centers show typical values. Class 2023 (3.2–3.8) is shifted right of Class 2024 (3.0–3.6), indicating higher typical GPA despite overlap.
- 8) **Choice A is correct.** (7.SP.5-7.SP.8) Mutually exclusive: $P(\text{red}) + P(\text{blue}) = \frac{4}{10} + \frac{3}{10} = \frac{7}{10}$.
- 9) **Choice C is correct.** (7.SP.6) Experimental probability of defect = $\frac{15}{500} = 0.03$. Expected defects in 8000: $0.03 \times 8000 = 240$.
- 10) **Choice A is correct.** (7.SP.1-7.SP.4) Values less than 25: 14, 17, 22 from stems 1 and 2. Total: 3 values.
- 11) **Choice B is correct.** (7.G.4-7.G.6) Rectangle: $25 \times 16 = 400$ in². Two triangles: $2 \times \frac{1}{2} \times 5 \times 4 = 20$ in². Remaining: $400 - 20 = 380$ in².
- 12) **Choice B is correct.** (7.G.4-7.G.6) Original: $V_1 = 15 \times 6 \times 2 = 180$ cm³. New: $V_2 = 15 \times 6 \times 6 = 540$ cm³. Increase = $540 - 180 = 360$ cm³.
- 13) **Choice C is correct.** (7.G.1-7.G.5) Check the longest side: $9^2 = 81$ vs. $6^2 + 5^2 = 36 + 25 = 61$. Since $81 > 61$, the square of the longest side exceeds the sum of squares of the other two. The angle opposite the longest side is obtuse.
- 14) **Choice A is correct.** (7.G.4-7.G.6) $r = \frac{d}{2} = \frac{13.4}{2} = 6.7$ mm.
- 15) **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.
- 16) **Choice C is correct.** (7.SP.1-7.SP.4) $\frac{84}{200} = \frac{x}{50000}$. Reduce: $\frac{21}{50} = \frac{x}{50000} \Rightarrow x = 21000$.
- 17) **Choice A is correct.** (7.NS.1-7.NS.3) $10 - 15 = 10 + (-15) = -5$.
- 18) **The correct answer is A,D.** (7.NS.1-7.NS.3) Statement A is true: the opposite of -5 is 5 (positive). Statement D is true: -5 and 5 are each 5 units from zero. Statement B is false because opposites have the same absolute value. Statement C is false: $5 + (-5) = 0$, not 10.
- 19) **The correct answer is -1 .** (7.NS.2) Total change: $(-1.2) \times 5 = -6$ degrees. Final temperature: $5 + (-6) = -1^\circ\text{C}$.
- 20) **Choice C is correct.** (7.SP.1-7.SP.4) 18% of 200 = $0.18 \times 200 = 36$ people.
- 21) **Choice C is correct.** (7.RP.1-7.RP.3) Correct answer: $2 \times 5 = 10$ miles. Student divided ($2 \div 5 = 0.4$) instead of multiplied.
- 22) **The correct answer is 100.** (7.NS.1-7.NS.3) Perimeter = $4s = 40$, so $s = 10$ cm. Area = $s^2 = 10^2 = 100$ cm².
- 23) **Choice D is correct.** (7.RP.3) The increase is 25% of \$60 = \$15. New price: $60 + 15 = 75$ dollars.
- 24) **Choice D is correct.** (7.RP.1-7.RP.3) Unit rate = $\frac{3/4}{5} = \frac{3}{4} \times \frac{1}{5} = \frac{3}{20} = 0.15$ dollars per eraser.
- 25) **The correct answer is \$24.** (7.EE.1-7.EE.2) A 50% markup adds 50% to the cost: selling price = $c + 0.5c = 1.5c$. With $c = 16$: $1.5(16) = 24$. The selling price is \$24.
- 26) **Choice D is correct.** (7.RP.1-7.RP.3) At constant rate with no warm-up: pages = $40 \times$ minutes. Proportional with $k = 40$.
- 27) **Choice D is correct.** (7.RP.1-7.RP.3) For $y = 4x$: when $x = 1$, $y = 4 \times 1 = 4$. So (1, 4) lies on the line. This is the unit-rate point where the constant of proportionality $k = 4$ is visually represented. The other points do not satisfy $y = 4x$.



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Hi, Persistent Problem Solver!

◇ Some Grade 7 questions ask you to hold several ideas in your mind at once. That can feel hard, and that is exactly why practice matters. ◇

★ **Remember this:** You showed persistence by continuing through the set. That habit is powerful because difficult problems often open after one more good attempt. You practiced across 4 full Grade 7 practice tests, and that repeated effort matters. ★

Persistence Tools

- **Try a Smaller Case:** Use an easier number to see the pattern.
- **Draw It:** Make the situation visible.
- **Restate It:** Say the question in your own words.
- **Check One Step:** Fix the first unclear place.

Grade 7 test-day tip: When stuck, do not restart everything. Find the first step you trust, then rebuild from there.

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

Jay Daie

Your Persistence 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!

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