

6

ALABAMA ACAP

GRADE

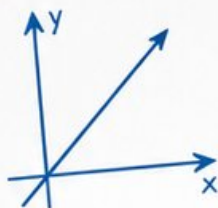
7

MATH

PRACTICE TESTS

Standards Aligned
Problem Solving For
Comprehensive
Assessment Programs

$$y = mx + b$$



$$2(x - 3) = 4x + 6$$



6 PRINTED TESTS



2 ONLINE TESTS



USE THESE TWO
**ADDITIONAL ONLINE
PRACTICE TESTS**
FOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.



Build
Confidence



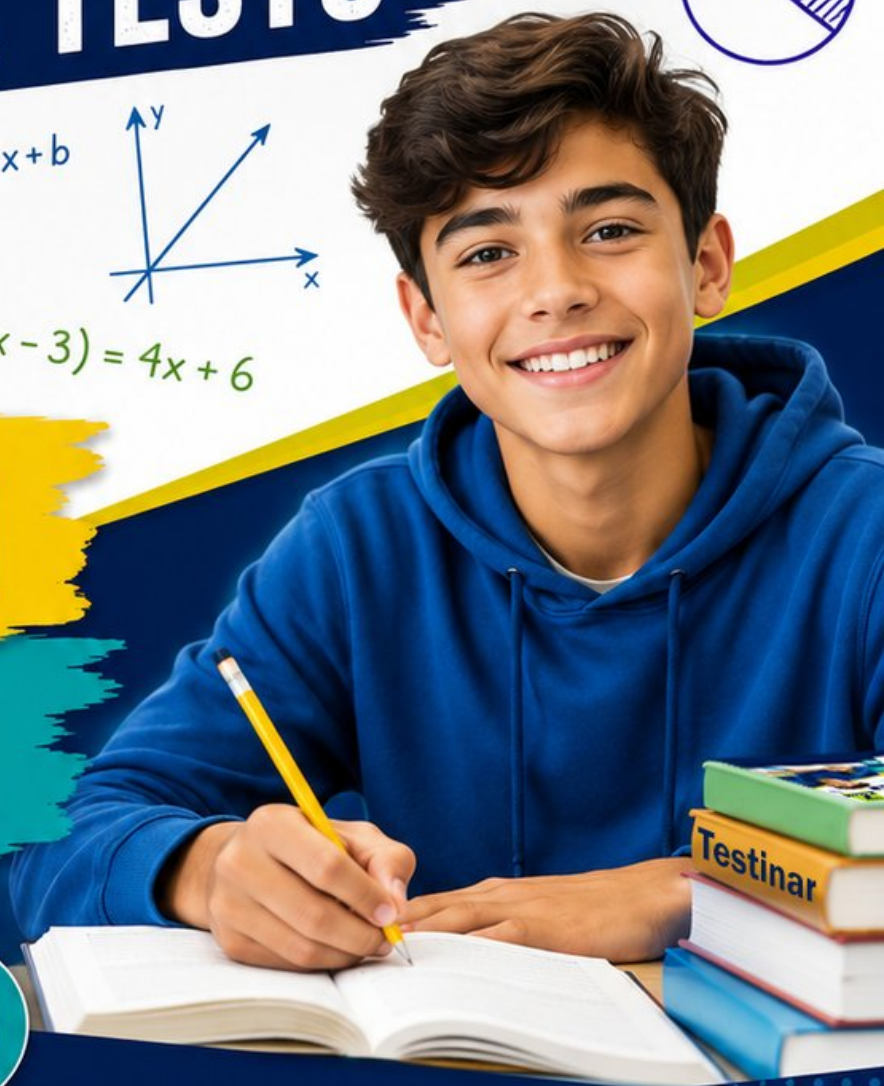
Strengthen
Math Skills



Detailed Answers
& Explanations



Improve Test
Performance



6 Alabama ACAP Grade 7 Math Practice Tests

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



Six 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!

Six focused rounds for sharper ACAP math thinking

This book gives you six 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 six-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?

Six ACAP tests, 240 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.
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

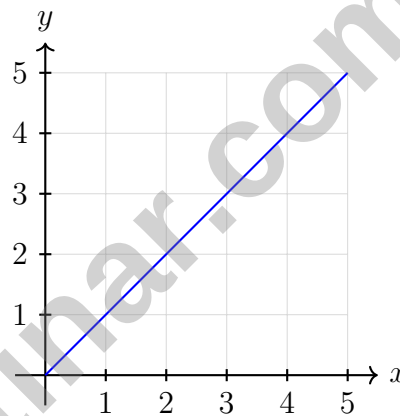
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1) Two dot plots show monthly snowfall (in inches) for Mountain Town A and B. Town A: 2, 4, 4, 6, 6, 6, 6, 8, 10. Town B: 0, 1, 5, 8, 12, 14. The town council needs predictable snow for budget planning. Which town's snowfall is more predictable?

- ☐ A. Town A (data clusters at 4–8 inches)
- ☐ B. Town B (wider range allows better diversity)
- ☐ C. Town A's range (8 inches) is smaller, but Town B is more predictable due to higher peak values
- ☐ D. Town B (extreme values of 0 and 14 are more informative for planning)

2) Which graph represents a proportional relationship?



- ☐ A. Only if $x > 0$
- ☐ B. No, line does not go through origin
- ☐ C. Cannot determine from graph
- ☐ D. Yes, line goes through origin



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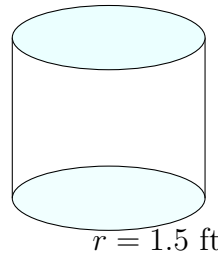
3) Solve: $\frac{2x}{3} + 4 = 10$

$$\begin{array}{rcl} \frac{2x}{3} + 4 & = & 10 \\ \downarrow & \text{Subtract 4} & \\ \frac{2x}{3} & = & 6 \\ \downarrow & \text{Multiply by } \frac{3}{2} & \\ x & = & 9 \end{array}$$

- ☐ A. $x = 6$ ☐ C. $x = 12$
☐ B. $x = 9$ ☐ D. $x = 15$
- 4) To estimate the probability of a biased coin landing on heads, which number of trials would give the most reliable estimate?
- ☐ A. 10 trials ☐ C. 500 trials
☐ B. 50 trials ☐ D. 1000 trials
- 5) A point (a, b) is rotated 180° about the origin, resulting in $(6, -3)$. Write (a, b) .



$$h = 11 \text{ ft}$$



6)

A cylindrical storage pipe has the dimensions shown. What is its volume? Use $\pi \approx 3.14$.

☐ A. 29.07 ft^3

☐ C. 77.715 ft^3

☐ B. 51.81 ft^3

☐ D. 103.62 ft^3

7) A company wants to estimate the average salary of all its employees. It randomly selects 50 employees and calculates the mean. The 50 employees are a _____ of all company employees.

☐ A. population☐ C. statistic☐ B. sample☐ D. parameter

8) A line plot shows the number of hours a student practices violin each week over 10 weeks: 1, 2, 2, 2, 3, 3, 3, 3, 4, 5. Which measure best describes the typical practice time?

☐ A. The mean (average)☐ C. The median☐ B. The mode☐ D. The range

9) A jar contains 10 marbles: 3 red, 2 blue, and 5 green. What is the probability of drawing a marble that is not blue?

☐ A. $\frac{3}{10}$

☐ C. $\frac{1}{5}$

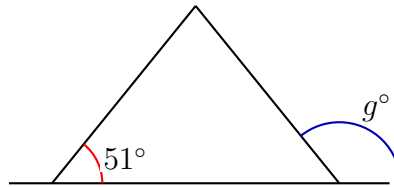
☐ B. $\frac{4}{5}$

☐ D. $\frac{3}{5}$

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& answers

- 1) A rectangular parking lot measures 18 inches by 24 inches on a drawing at scale 1 in : 8 yd. What is the width of the actual parking lot?

- ☐ A. 18 yd ☐ C. 144 yd
☐ B. 24 yd ☐ D. 192 yd



2)

Two rays extend upward from a horizontal line, forming angles of 51° and g° . These angles are supplementary. What is the measure of angle g ?

- ☐ A. 39° ☐ C. 129°
☐ B. 51° ☐ D. 139°



3)

60 out of 100

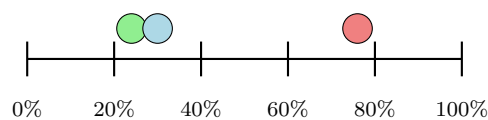
What percent is shown in the bar model above?

- ☐ A. 6% ☐ C. 60%
☐ B. 40% ☐ D. 100%



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Estimated Probabilities



4)

Three simulation estimates are plotted on the number line: 0.24 (green), 0.38 (blue), and 0.76 (red). If the true theoretical probability is 0.25, which estimate has the smallest error?

☐ A. Green at 0.24

☐ C. Red at 0.76

☐ B. Blue at 0.38

☐ D. All three have equal error

5) A spinner has 5 equal sections numbered 1 through 5. You spin twice. What is the probability of NOT spinning a 1 on either spin?

☐ A. $\frac{2}{5}$
☐ C. $\frac{16}{25}$
☐ B. $\frac{8}{25}$
☐ D. $\frac{1}{25}$

6) A scatter plot shows the relationship between study hours (x-axis) and test score (y-axis) for 10 students. The plot shows a general upward trend, but Student Z studied 4 hours and scored 95, while Student Y studied 4.5 hours and scored 88. Based on this scatter plot, can you conclude that studying exactly 4 hours guarantees a score of 95?



1) A doll house is 2 feet tall with a scale of 1 : 12. How tall is the actual house it models?

☐ A. 12 feet

☐ B. 6 feet

☐ C. 12 inches

☐ D. 24 feet

2) Simplify: $(-5w - 4) - (2w - 9)$

☐ A. $-7w + 5$

☐ B. $-7w - 13$

☐ C. $-3w + 5$

☐ D. $-3w - 13$

3) Which value of x satisfies $\frac{x}{4} + 2 = 5$? Use mental math to verify.

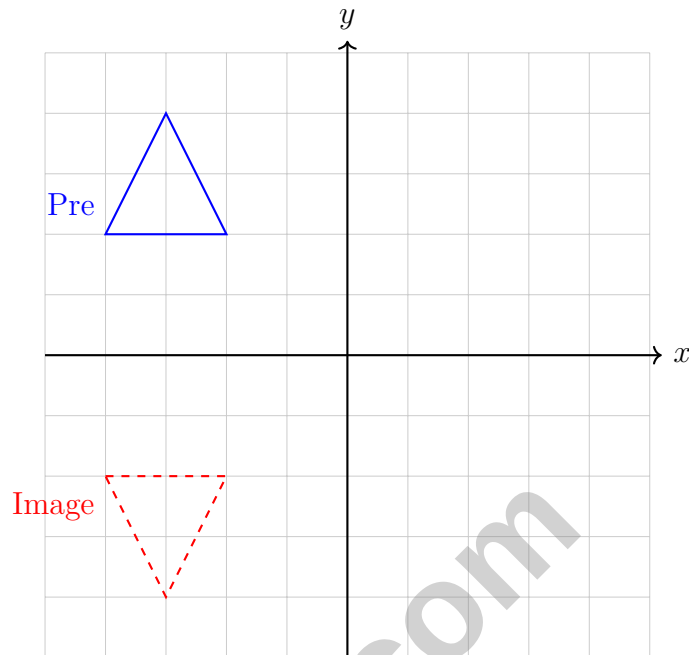
☐ A. $x = 6$

☐ B. $x = 12$

☐ C. $x = 20$

☐ D. $x = 28$





4)

The blue triangle (pre-image) is transformed to the red triangle (image). Which error was made if the student reflected over the y -axis instead of the x -axis?

- ☐ A. They negated the x -coordinate only ☐ C. They should negate the y -coordinate only
☐ B. They negated both coordinates ☐ D. They added instead of subtracting

5) A circle has a diameter of 12 cm. What is the circumference? Use $\pi \approx \frac{22}{7}$.

- ☐ A. $\frac{264}{7}$ cm ☐ C. $\frac{528}{7}$ cm
☐ B. $\frac{132}{7}$ cm ☐ D. 113 cm



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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 A is correct.** (7.SP.3) Predictability requires tight clustering. Town A concentrates at 4–8 inches (range 8). Town B spreads 0–14 inches (range 14), making individual snowfall unpredictable.
- 2) **Choice D is correct.** (7.RP.1-7.RP.3) The line passes through (0, 0) and (5, 5), making it proportional with $k = 1$ or $y = x$.
- 3) **Choice B is correct.** (7.EE.3-7.EE.4) Subtract 4: $\frac{2x}{3} = 6$. Multiply by $\frac{3}{2}$: $2x = 18 \Rightarrow x = 9$.
- 4) **Choice D is correct.** (7.SP.5-7.SP.8) A larger number of trials produces a more stable relative frequency, reducing random variation.
- 5) **The correct answer is $(-6, 3)$.** (7.G.1-7.G.5) A 180° rotation about the origin uses the rule $(a, b) \rightarrow (-a, -b)$. If the image is $(6, -3)$, then $(-a, -b) = (6, -3)$, so $a = -6$ and $b = 3$. Thus the original point is $(a, b) = (-6, 3)$.
- 6) **Choice C is correct.** (7.G.4-7.G.6) $V = \pi r^2 h \approx 3.14 \times 2.25 \times 11 \approx 77.715 \text{ ft}^3$.
- 7) **Choice B is correct.** (7.SP.1-7.SP.4) A sample is a subset of the population selected for study. The 50 employees are part of the entire employee population, so they form the sample.
- 8) **Choice B is correct.** (7.SP.1-7.SP.4) The mode is 3 hours (appears 4 times), which best represents the typical week's practice. The mode is most useful for identifying the most common value.
- 9) **Choice B is correct.** (7.SP.5-7.SP.8) Non-blue marbles = $3 + 5 = 8$. $P(\text{not blue}) = \frac{8}{10} = \frac{4}{5}$.
- 10) **Choice B is correct.** (7.SP.1-7.SP.4) Range only tells the difference between max and min. IQR and MAD show how data is distributed within that range, distinguishing clustered from spread-out data with the same range.
- 11) **Choice D is correct.** (7.SP.5-7.SP.8) The table has 2 rows (H, T) and 3 columns (1, 2, 3). Total: $2 \times 3 = 6$ outcomes.
- 12) **Choice A is correct.** (7.SP.5-7.SP.8) $P(5) \cdot P(\text{heads}) = \frac{1}{6} \cdot \frac{1}{2} = \frac{1}{12}$.
- 13) **Choice B is correct.** (7.SP.6) Correct probability: $\frac{32}{200} = 0.16$. Student's error: $\frac{200}{32} = 6.25$. The student inverted the fraction.
- 14) **Choice C is correct.** (7.SP.1-7.SP.4) Total data points = $3 + 3 + 3 = 9$.
- 15) **The correct answer is 12.** (7.G.1-7.G.5) Area ratio 4 : 9 gives linear scale factor $\sqrt{4} : \sqrt{9} = 2 : 3$. Larger base = $8 \times \frac{3}{2} = 12 \text{ cm}$.
- 16) **The correct answer is 16.** (7.G.4-7.G.6) Circumference = $\pi d = 3.14 \times 0.6 = 1.884 \text{ m}$. Rotations = $30 \div 1.884 \approx 16$.
- 17) **Choice C is correct.** (7.RP.3) Percent error = $\frac{|66-72|}{72} \times 100\% = \frac{6}{72} \times 100\% = 8.3\%$.
- 18) **The correct answer is B, C.** (7.G.1-7.G.5) B and C are both correct. When two lines intersect, they form two pairs of vertical angles (congruent pairs) and four pairs of supplementary adjacent angles. One angle is 73° ; its vertical angle is also 73° (C). The adjacent angles are each $180 - 73 = 107^\circ$. So the four angles are: $73^\circ, 107^\circ, 73^\circ, 107^\circ$ (B). A is false (not all 73°). D is technically true but already covered in B.
- 19) **Choice A is correct.** (7.EE.1-7.EE.2) Distribute 6: $6(m) - 6(1) = 6m - 6$.
- 20) **Choice C is correct.** (7.NS.1-7.NS.3) $-7 - 4 = -7 + (-4) = -11$.
- 21) **Choice D is correct.** (7.RP.3) $450 = 3000 \times r \times 3 \Rightarrow 450 = 9000r \Rightarrow r = 0.05 = 5\%$.
- 22) **Choice A is correct.** (7.EE.1-7.EE.2) Distribute: $3(2y + 7) = 3(2y) + 3(7) = 6y + 21$. Check: factor back to verify.
- 23) **Choice B is correct.** (7.SP.1-7.SP.4) 20% of 500 = $0.20 \times 500 = 100$ people.
- 24) **Choice D is correct.** (7.RP.1-7.RP.3) Scale factor: $3 \text{ ft}/1.5 \text{ in} = 2 \text{ ft per inch}$. Height: $4 \div 2 = 2$ inches.
- 25) **Choice D is correct.** (7.RP.3) $\frac{20}{80} = \frac{1}{4} = 0.25 = 25\%$.
- 26) **The correct answer is 10.** (7.G.4-7.G.6) From $A = \pi r^2$: $314 = 3.14 \times r^2 \Rightarrow r^2 = 100 \Rightarrow r = 10 \text{ m}$.
- 27) **Choice D is correct.** (7.RP.3) Discount amount = $60 - 36 = \$24$. Percent = $(24/60) \times 100 = 40\%$.
- 28) **Choice A is correct.** (7.NS.1b) For $-2 + (-3)$, we combine 2 negative chips with 3 negative chips for a total of 5 negative chips, representing -5 . Option A shows this correctly.
- 29) **Choice A is correct.** (7.EE.1-7.EE.2) Twice a number t is $2t$. Sum of 6 and $2t$ is $6 + 2t$.
- 30) **Choice A is correct.** (7.EE.1) x terms: $3x + 5x - 2x = (3 + 5 - 2)x = 6x$. y terms: $4y + y - 3y = (4 + 1 - 3)y = 2y$. Result: $6x + 2y$.



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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 6 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

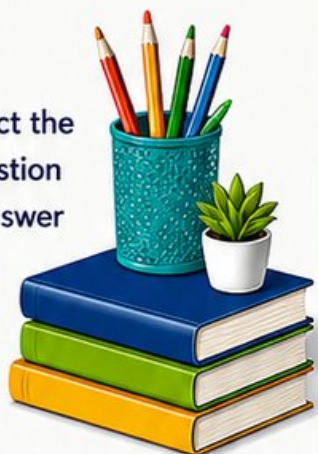
Your Persistence Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **6** 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:

6 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!



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