

9 Arkansas ATLAS

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 Arkansas ATLAS Grade 7 Math Practice Tests

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



Nine complete 40-question Grade 7 ATLAS 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, Arkansas Grade 7 Problem Solver!

Nine focused rounds for sharper ATLAS math thinking

This book gives you nine full Grade 7 ATLAS 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 Arkansas 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.

Arkansas 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 ATLAS 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 marble bag contains 5 green, 3 purple, and 2 orange marbles. If drawing without replacement, which compound event is MOST likely?

☐ A. Green then purple

☐ C. Purple then purple

☐ B. Orange then green

☐ D. Green then green

2) A charity conducted a phone survey calling 500 households. 340 people answered and agreed to participate. Based on this experimental data, what is the probability that a randomly called household will answer and agree?

☐ A. $\frac{340}{500}$

☐ C. 0.32

☐ B. $\frac{17}{50}$

☐ D. $\frac{160}{500}$

3) A prism has a base area of 72 ft^2 and a volume of 576 ft^3 . What is its height?

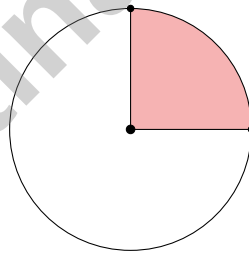
☐ A. 6 ft

☐ C. 12 ft

☐ B. 8 ft

☐ D. 504 ft

4) In the diagram, approximately what fraction of the circle is shaded?



☐ A. $\frac{1}{2}$

☐ C. $\frac{1}{4}$

☐ B. $\frac{1}{3}$

☐ D. $\frac{1}{8}$



- 5) A rectangular field has dimensions $200\text{ m} \times 150\text{ m}$. On a scale drawing where the scale is $1\text{ cm} : 10\text{ m}$, what is the perimeter of the field in the scale drawing?
- ☐ A. 700 cm ☐ C. 70 cm
☐ B. 35 cm ☐ D. 350 cm
- 6) A basketball player made 16 shots. This represents 80% of her attempts. How many shots did she attempt?
- ☐ A. 18 ☐ C. 22
☐ B. 24 ☐ D. 20
- 7) Compute $3 + (-11)$.
- ☐ A. 14 ☐ C. -8
☐ B. 8 ☐ D. -14
- 8) A factory produces $\frac{5}{8}$ ton of steel in $\frac{1}{12}$ day. How many tons does it produce in 2 days at this rate?
- ☐ A. $\frac{10}{96}$ tons ☐ C. 30 tons
☐ B. $\frac{5}{4}$ tons ☐ D. 15 tons
- 9) A phone plan costs \$75 per month. Over one year, a family budgets this expense. However, they receive a 12% annual discount for bundling with their internet. What is the annual cost after the discount?
- ☐ A. \$594 ☐ C. \$792
☐ B. \$660 ☐ D. \$900



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Game 1: -8
Game 2: $+15$
Game 3: -3
Game 4: $+12$
Goal: $+20$ total

10) Point Differentials

A team's point differential in four games is shown. The coach wants a total differential of $+20$ over five games. What must the differential be in game 5?

- ☐ A. $+4$ ☐ C. $+8$
☐ B. $+16$ ☐ D. -4

11) Convert the following to scientific notation and identify its exponent: 6,800,000,000.

- ☐ A. Exponent is 8 ☐ C. Exponent is 10
☐ B. Exponent is 9 ☐ D. Exponent is 11

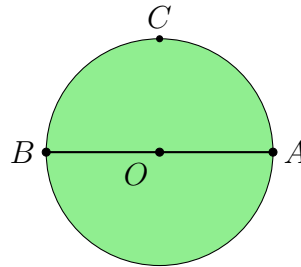
12) A spinner has 8 equal sections. If it is spun 240 times, approximately how many times would you expect one specific section to appear?

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

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



- 1) In the circle below, use the diagram to identify the segment.



The segment from B to A is:

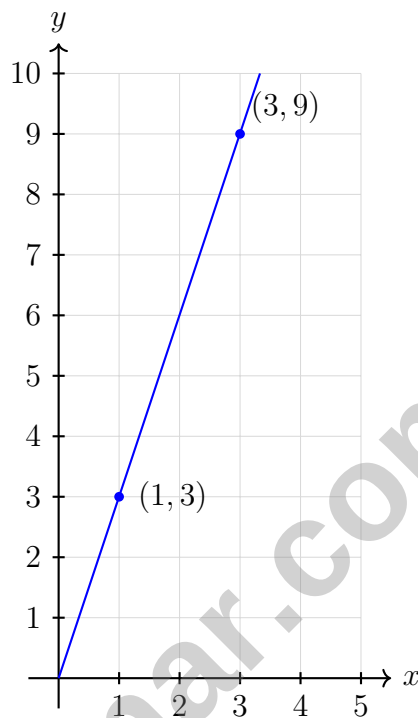
- | | |
|--|--------------------------------------|
| ☐ A. A radius | ☐ C. An arc |
| ☐ B. A diameter | ☐ D. A sector |
- 2) To find the unit price when $\frac{2}{5}$ pound costs \$4, which expression correctly computes the price per pound?

- | | |
|--|---|
| ☐ A. $4 \times \frac{2}{5}$ | ☐ C. $\frac{2}{5} \div 4$ |
| ☐ B. $\frac{2}{5} + 4$ | ☐ D. $4 \div \frac{2}{5} = 4 \times \frac{5}{2}$ |



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- 3) A coordinate plane shows a line passing through $(1, 3)$ and $(3, 9)$. Does this line represent a proportional relationship?



- ☐ A. Cannot tell without more points ☐ C. Yes; constant slope is 3
- ☐ B. No; points are not at origin ☐ D. Yes; line passes through origin
- 4) Water flows from a faucet at a rate of 6 liters per minute. Which equation gives the total volume V (liters) after t minutes?
- ☐ A. $V = \frac{6}{t}$ ☐ C. $t = 6V$
- ☐ B. $V = t + 6$ ☐ D. $V = 6t$



1) Simplify: $(6n + 4) - (3n - 2)$

☐ A. $3n + 6$

☐ C. $9n + 2$

☐ B. $3n + 2$

☐ D. $3n - 6$

2) Maria earns \$12 per hour. How many hours must she work to earn at least \$144?

☐ A. $h < 12$

☐ C. $h \leq 144$

☐ B. $h \geq 12$

☐ D. $h > 12$

3) A student is writing an equation for a word problem. The problem states: "A book club charges a \$10 membership and \$3 per book borrowed." The student writes $3 + 10b = \text{total}$. What is the error?

☐ A. The constant 10 should be multiplied by b .

☐ C. The variable b should be a different letter.

☐ B. The coefficient 3 should be the constant term.

☐ D. There is no error; the equation is correct.

4) If a scale drawing has a scale of 2 : 5, which of the following is true?

☐ A. The drawing is smaller than the actual object.

☐ C. The drawing and the object are the same size.

☐ B. The drawing is larger than the actual object.

☐ D. Cannot be determined without more information.

5) A rectangular patio measuring 18 m by 24 m is drawn at scale 1 cm : 2 m. The drawing is then enlarged so the new scale becomes 1 cm : 1 m. By what factor does the perimeter on the drawing increase?

☐ A. 2 times

☐ C. $\sqrt{2}$ times

☐ B. 4 times

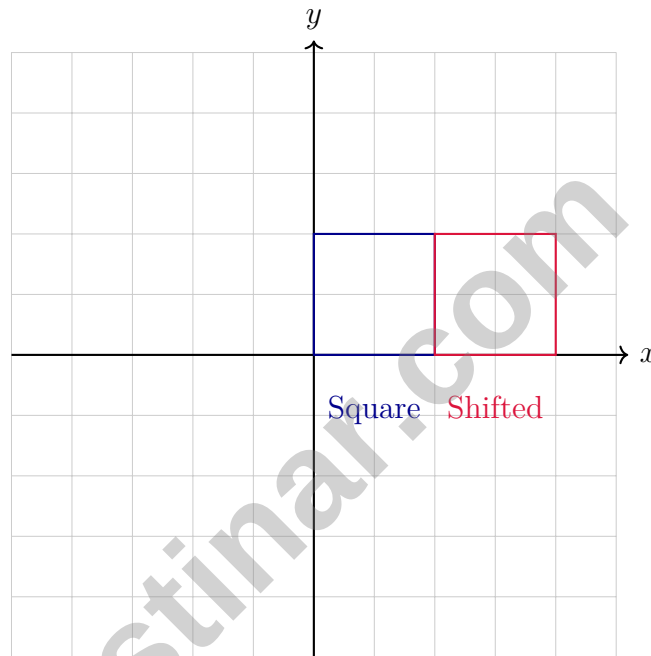
☐ D. $1/2$ times



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6) A triangular pyramid has an equilateral triangular base. A plane parallel to the base cuts the pyramid. What is always true about the cross-section?

- ☐ A. It is an equilateral triangle ☐ D. Its shape depends on the height of the cut
- ☐ B. It is an isosceles triangle
- ☐ C. It is a rectangle



7)

If the original square is translated to the shifted position, what is the translation vector?

- ☐ A. $(2, 0)$ ☐ C. $(2, 2)$
- ☐ B. $(0, 2)$ ☐ D. $(-2, 0)$



Arkansas ATLAS 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 Arkansas ATLAS practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice D is correct.** (7.SP.5-7.SP.8) $P(\text{GG}) = \frac{5}{10} \cdot \frac{4}{9} = \frac{20}{90}$. $P(\text{GP}) = \frac{5}{10} \cdot \frac{3}{9} = \frac{15}{90}$. $P(\text{OG}) = \frac{2}{10} \cdot \frac{5}{9} = \frac{10}{90}$. $P(\text{PP}) = \frac{3}{10} \cdot \frac{2}{9} = \frac{6}{90}$. Green-green is largest.
- 2) **Choice A is correct.** (7.SP.6) Experimental probability = $\frac{340}{500}$. This simplifies to $\frac{17}{25} = 0.68$. Option A gives the most direct form from the observed data.
- 3) **Choice B is correct.** (7.G.4-7.G.6) $h = \frac{V}{B} = \frac{576}{72} = 8$ ft.
- 4) **Choice C is correct.** (7.G.4-7.G.6) A 90° sector represents $\frac{90^\circ}{360^\circ} = \frac{1}{4}$ of the circle.
- 5) **Choice C is correct.** (7.RP.1-7.RP.3) Drawing dimensions: $200 \div 10 = 20$ cm; $150 \div 10 = 15$ cm. Perimeter = $2(20 + 15) = 70$ cm.
- 6) **Choice D is correct.** (7.RP.3) If $16 = 0.80 \times a$, then $a = \frac{16}{0.80} = 20$ attempts.
- 7) **Choice C is correct.** (7.NS.1b) The absolute value of -11 is larger than 3, so subtract: $|-11| - |3| = 11 - 3 = 8$. Since the larger absolute value is negative, the answer is -8 .
- 8) **Choice D is correct.** (7.RP.1-7.RP.3) Unit rate: $\frac{5/8}{1/12} = \frac{5}{8} \times 12 = \frac{60}{8} = \frac{15}{2} = 7.5$ tons/day. In 2 days: $\frac{15}{2} \times 2 = 15$ tons.
- 9) **Choice C is correct.** (7.RP.3) Annual cost without discount = $\$75 \times 12 = \900 . With 12% discount: $\$900 - (12\% \times \$900) = \$900 - \$108 = \$792$.
- 10) **Choice A is correct.** (7.NS.1-7.NS.3) Current differential: $-8 + 15 - 3 + 12 = 16$. Needed for game 5: $20 - 16 = 4$.
- 11) **Choice B is correct.** (7.NS.1-7.NS.3) $6,800,000,000 = 6.8 \times 10^9$. Decimal moves 9 places left.
- 12) **The correct answer is 30.** (7.SP.5-7.SP.8) Each section has theoretical probability $\frac{1}{8}$. Expected frequency: $\frac{1}{8} \times 240 = 30$ times.
- 13) **Choice A is correct.** (7.EE.4a) Distribute: $8x + 8 = 72$. Subtract 8: $8x = 64$. Divide by 8: $x = 8$.
- 14) **Choice B is correct.** (7.G.1-7.G.5) Actual dimensions: 10 m $\times$ 6 m. Perimeter: $2(10 + 6) = 32$ m.
- 15) **Choice C is correct.** (7.G.1-7.G.5) Scale factor = $\frac{4.5}{3} = 1.5$. Base of Trapezoid 2 = $8 \times 1.5 = 12$ ft.
- 16) **Choice B is correct.** (7.SP.1-7.SP.4) In a box plot, the box spans from Q1 to Q3, representing the middle 50% of the data. Scores between 70 and 88 represent this middle half.
- 17) **Choice D is correct.** (7.RP.1-7.RP.3) Expected ratio: $3/1 = 3$. For sugar 4: flour should be $3 \times 4 = 12$, not 13.
- 18) **Choice B is correct.** (7.RP.1-7.RP.3) Table B has constant ratio: $\frac{6}{2} = 3$, $\frac{12}{4} = 3$, $\frac{18}{6} = 3$. Table A is not proportional ($\frac{3}{1} = 3$ but $\frac{7}{3} \neq 3$).
- 19) **Choice C is correct.** (7.RP.3) The shaded portion represents 60 out of 100 units. Set up the proportion: $\frac{60}{100} = \frac{p}{100}$, so $p = 60\%$.
- 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.NS.1-7.NS.3) $5^2 = 25$ and $6^2 = 36$. Since 32 is much closer to 36 than to 25, $\sqrt{32}$ is closer to 6 (approximately 5.66).
- 22) **Choice A is correct.** (7.EE.1-7.EE.2) Power rule: $(l^2)^n = l^{2n}$. Set equal to l^{14} : $2n = 14$, so $n = 7$.
- 23) **Choice A is correct.** (7.G.1-7.G.5) Let angles be $7x$ and $8x$. Then $7x + 8x = 180^\circ$, so $15x = 180^\circ$ and $x = 12^\circ$. Smaller angle is $7(12) = 84^\circ$.
- 24) **Choice A is correct.** (7.EE.1-7.EE.2) The percent bar shows $100\% + 8\% = 108\%$ total. This is $p + 0.08p = 1.08p$.
- 25) **The correct answer is 35.** (7.RP.1-7.RP.3) Ratio 2 : 5: if juice = 14, then $\frac{2}{5} = \frac{14}{x}$. Cross multiply: $2x = 70$, so $x = 35$ cups water.
- 26) **The correct answer is 1050.** (7.SP.1-7.SP.4) $\frac{35}{140} = \frac{x}{4200}$. Reduce: $\frac{1}{4} = \frac{x}{4200} \Rightarrow x = 1050$.
- 27) **Choice A is correct.** (7.NS.2) $\frac{1}{3} \times \frac{1}{2} = \frac{1 \times 1}{3 \times 2} = \frac{1}{6}$.



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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



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Give your child the tools to build strong math skills, confidence, and a positive attitude toward learning.

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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.

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- ✓ The Number System
- ✓ Expressions & Equations
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- ✓ 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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