

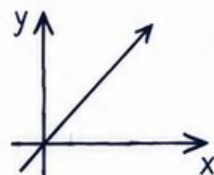
4

Arkansas
ATLASGRADE
7
MATH

PRACTICE TESTS

Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs

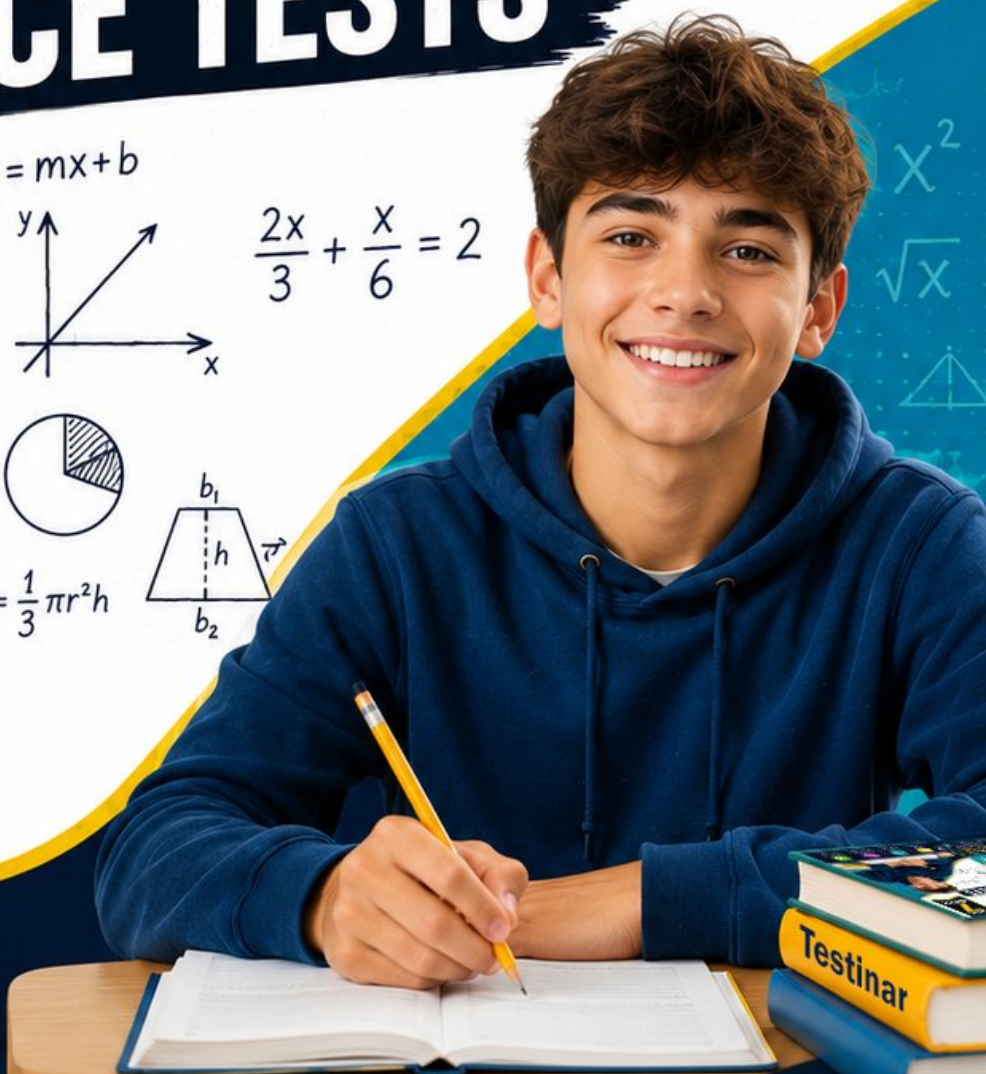
$$y = mx + b$$



$$\frac{2x}{3} + \frac{x}{6} = 2$$



$$V = \frac{1}{3} \pi r^2 h$$

4 PRINTED
TESTS2 ONLINE
TESTSUSE THESE TWO
ADDITIONAL ONLINE
PRACTICE TESTSFOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.Build
ConfidenceStrengthen
Math SkillsDetailed Answers
& ExplanationsImprove Test
Performance

4 Arkansas ATLAS Grade 7 Math Practice Tests

Four Standards-Aligned Rounds with Clear ATLAS Support



Four 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!

Four focused rounds for sharper ATLAS math thinking

This book gives you four 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 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.

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?

Four ATLAS 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.



Scan me!
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& answers

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- 1) If simple interest is earned, which of the following formulas would give the total amount?

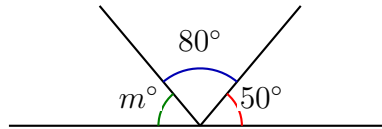
☐ A. $A = P \times r \times t$

☐ C. $A = P + r + t$

☐ B. $A = \frac{P \times r}{t}$

☐ D. $A = P(1 + rt)$

2)



Three angles are formed around a point on a line. Two angles are 50° and 80° . What is the measure of angle m ?

☐ A. 30°

☐ C. 80°

☐ B. 50°

☐ D. 130°

- 3) Two similar triangles have corresponding sides of 6 cm and 9 cm. The smaller triangle has a perimeter of 18 cm. What is the perimeter of the larger triangle?

☐ A. 24 cm

☐ C. 30 cm

☐ B. 27 cm

☐ D. 36 cm

- 4) 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 original

☐ B. The new volume is 3 times the original

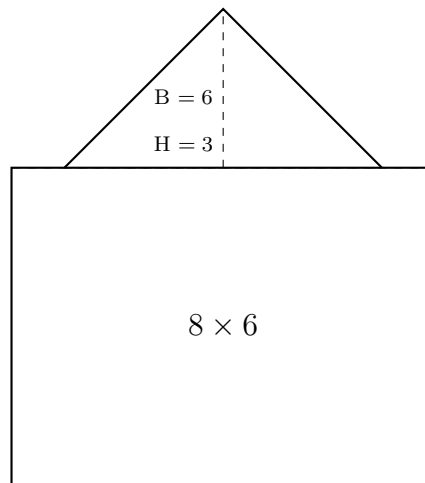
☐ D. The new volume is 27 times the original



- 5) Two datasets both have median 100 and IQR 20. Dataset P has mean 105. Dataset Q has mean 95. Without seeing the actual data, what can you infer?
- ☐ A. Both datasets are symmetric ☐ C. The two datasets are identical
- ☐ B. Dataset P has high outliers pulling the mean above the median; Dataset Q has low outliers ☐ D. Cannot infer anything about skewness
- 6) A fair die is rolled twice. What is the total number of outcomes in the sample space?
- ☐ A. 6 ☐ C. 24
- ☐ B. 12 ☐ D. 36
- 7) Looking at the soccer team box plots again, where do the distributions overlap?
- ☐ A. From 4 to 6 hours (overlap of both boxes) ☐ C. Overlap occurs only at the medians
- ☐ B. No overlap exists between teams ☐ D. Team B completely contains Team A's range
- 8) Two spinners are spun. Spinner A has 5 equal sections, and Spinner B has 3 equal sections. If each outcome on Spinner A has probability $\frac{1}{5}$ and each outcome on Spinner B has probability $\frac{1}{3}$, what is $P(\text{specific outcome on A AND specific outcome on B})$?
- ☐ A. $\frac{2}{8}$ ☐ C. $\frac{1}{8}$
- ☐ B. $\frac{1}{15}$ ☐ D. $\frac{1}{5} + \frac{1}{3} = \frac{8}{15}$
- 9) A factory tests light bulbs for quality. Out of 1000 bulbs tested, 980 passed inspection. Based on this experimental data, how many bulbs out of 5000 would be expected to pass?
- ☐ A. 980 ☐ C. 4800
- ☐ B. 3900 ☐ D. 4900



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10)

A roof cross-section shape consists of a rectangle (8 cm $\times$ 6 cm) and a triangle (6 cm base, 3 cm height). A contractor estimated the triangle height as 4 cm instead. How much area did the contractor overestimate?

☐ A. 1.5 cm²
☐ C. 6 cm²
☐ B. 3 cm²
☐ D. 12 cm²

11) An error in a dataset is corrected: 28 is removed and 82 is added. Comparing the old and new stem-and-leaf plots, which measure of central tendency is most likely to change?

☐ A. Mode

☐ C. Mean

☐ B. Median

☐ D. Range

12) A temperature changes from -8 degrees to 8 degrees. What is the total change in temperature?



- 1) A store sells apples at a constant unit price. A customer buys 6 apples for \$4.50. How much does one apple cost?

☐ A. \$0.50 ☐ C. \$1.50
☐ B. \$2.25 ☐ D. \$0.75

- 2) Which is the best estimate for $\sqrt{120}$?

☐ A. 10 ☐ C. 11
☐ B. 10.5 ☐ D. 12

- 3) Factor: $8a - 12b$.

☐ A. $4(2a - 3b)$ ☐ C. $8(a - 1.5b)$
☐ B. $2(4a - 6b)$ ☐ D. $4(2a + 3b)$

- 4) Each burger costs \$4.50. How much will 6 burgers cost?

☐ A. \$24.00 ☐ C. \$27.00
☐ B. \$25.50 ☐ D. \$30.00

- 5) A punch recipe calls for 3 cups orange juice, 2 cups pineapple juice, and 1 cup ginger ale. To make a batch 4 times as large, how many cups of pineapple juice are needed?

☐ A. 2 cups ☐ C. 6 cups
☐ B. 4 cups ☐ D. 8 cups



- 6) Which model correctly shows $5 + (-5) = 0$ using a chip diagram where red = positive and blue = negative?

Model A:



5 red + 2 blue

Model B:



5 red + 5 blue

- ☐ A. Model A
 ☐ C. Neither model
☐ B. Both models show the same thing
 ☐ D. Model B
- 7) If the area of a rectangle is $18x + 27$ square units and the width is 9 units, what is the length?

- ☐ A. $2x + 3$
☐ C. $18x$
☐ B. $2x + 27$
☐ D. $18x + 27$

8)

Spin Result	Heads	Tails	Total
Frequency	156	144	300

A coin is flipped 300 times. Based on the simulation, what is the estimated probability of getting tails?

- ☐ A. 0.44
 ☐ C. 0.50
☐ B. 0.48
 ☐ D. 0.52



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1) A painter uses 3 gallons of paint to cover 8 walls. At the same rate, how many gallons of paint are needed to cover 16 walls?

☐ A. 4 gallons

☐ C. 6 gallons

☐ B. 5 gallons

☐ D. 8 gallons

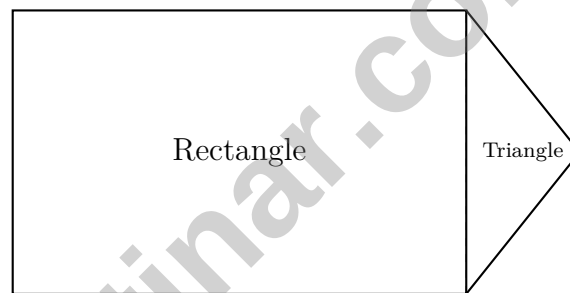
2) A box plot compares video game scores (in points) for two players. Player A: Median = 1500, $Q1 = 1200$, $Q3 = 1800$. Player B: Median = 1400, $Q1 = 1100$, $Q3 = 2000$. Which player has more consistent performance?

☐ A. Player A (smaller IQR: 600 vs. 900)

☐ C. Both players have identical consistency

☐ B. Player B (higher third quartile)

☐ D. Player B (higher maximum score)



3)

A composite figure consists of a rectangle (8 units $\times$ 5 units) joined with a triangle (base 2 units, height 5 units). What is the total area?

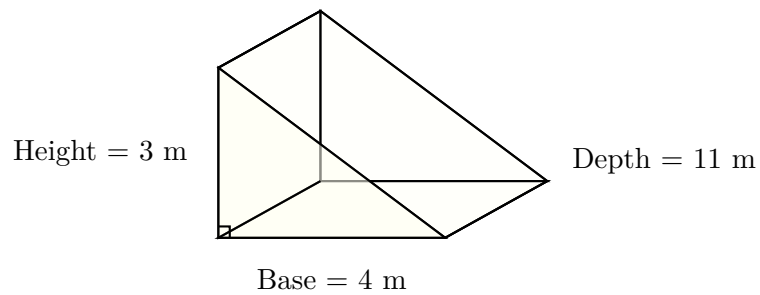
☐ A. 40 sq units

☐ C. 50 sq units

☐ B. 45 sq units

☐ D. 55 sq units





4)

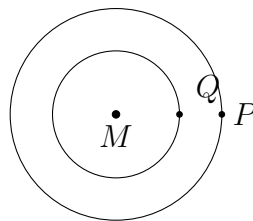
A right triangular prism has a right-triangular base with legs 4 m and 3 m and a depth of 11 m. What is the volume?

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

5) Two sides of a triangle measure 7 cm and 10 cm. The angle between them is 60° . How many distinct triangles can be drawn?

☐ A. 0☐ C. 2☐ B. 1☐ D. Infinitely many

6) Two concentric circles (circles with the same center) are drawn. Which point is the center of both circles?

☐ A. P ☐ C. M ☐ B. Q ☐ D. Cannot be determined

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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.RP.3) The formula $I = Prt$ gives interest only. The total amount equals principal plus interest: $A = P + I = P + Prt = P(1 + rt)$.
- 2) **Choice B is correct.** (7.G.1-7.G.5) Angles on a straight line sum to 180° : $50 + 80 + m = 180^\circ$, so $m = 50^\circ$.
- 3) **Choice B is correct.** (7.G.1-7.G.5) Scale factor = $\frac{9}{6} = 1.5$. Perimeter of larger = $18 \times 1.5 = 27$ cm.
- 4) **Choice B is correct.** (7.G.4-7.G.6) Original: $V_1 = \pi r^2 h$. New: $V_2 = \pi r^2 (3h) = 3\pi r^2 h = 3V_1$. Volume is directly proportional to height.
- 5) **Choice B is correct.** (7.SP.1-7.SP.4) Same median (100) and IQR, but different means. Mean > Median indicates high outliers (right skew). Mean < Median indicates low outliers (left skew). Dataset P is right-skewed; Dataset Q is left-skewed.
- 6) **Choice D is correct.** (7.SP.5-7.SP.8) First roll has 6 outcomes; second roll has 6 outcomes. Total: $6 \times 6 = 36$ outcomes.
- 7) **Choice A is correct.** (7.SP.3) Team A's box spans 2–6 hours; Team B's box spans 4–9 hours. The overlap region is where both boxes exist: from 4 to 6 hours. This means both teams have students who practice in this shared range.
- 8) **Choice B is correct.** (7.SP.5-7.SP.8) Independent events: $P(A \text{ and } B) = \frac{1}{5} \cdot \frac{1}{3} = \frac{1}{15}$.
- 9) **Choice D is correct.** (7.SP.6) Experimental probability of passing = $\frac{980}{1000} = 0.98$. We use this rate to predict outcomes in a larger sample: $0.98 \times 5000 = 4900$ expected passing bulbs.
- 10) **Choice B is correct.** (7.G.4-7.G.6) True triangle area: $\frac{1}{2} \times 6 \times 3 = 9 \text{ cm}^2$. Contractor's estimate: $\frac{1}{2} \times 6 \times 4 = 12 \text{ cm}^2$. Overestimate: $12 - 9 = 3 \text{ cm}^2$.
- 11) **Choice C is correct.** (7.SP.1-7.SP.4) Removing 28 and adding 82 (a larger value) changes the sum significantly, affecting the mean. Median and mode may not change if the dataset is large enough.
- 12) **The correct answer is 16.** (7.NS.1-7.NS.3) The change is final minus initial: $8 - (-8) = 8 + 8 = 16$ degrees.
- 13) **Choice C is correct.** (7.G.1-7.G.5) The angles in a quadrilateral sum to 360° . Since $28 + 76 + 108 = 212$, the missing angle is $360 - 212 = 148^\circ$.
- 14) **Choice A is correct.** (7.G.4-7.G.6) $\pi \approx 3.14159 \dots$. The common approximations are 3.14 and $\frac{22}{7} \approx 3.142857$.
- 15) **Choice B is correct.** (7.G.1-7.G.5) For (3, 4, 5): $3^2 + 4^2 = 9 + 16 = 25 = 5^2$ ✓. For (5, 12, 13): $5^2 + 12^2 = 25 + 144 = 169 = 13^2$ ✓. Both are right triangles. Since they have different side lengths, they are not congruent.
- 16) **Choice D is correct.** (7.SP.5-7.SP.8) Probability must be between 0 and 1 (inclusive). $1.01 > 1$, so it is invalid.
- 17) **Choice B is correct.** (7.SP.1-7.SP.4) $\frac{5}{50} = \frac{x}{10000}$. Reduce: $\frac{1}{10} = \frac{x}{10000} \Rightarrow x = 1000$.
- 18) **Choice A is correct.** (7.NS.1-7.NS.3) $10 - 15 = 10 + (-15) = -5$.
- 19) **Choice C is correct.** (7.SP.1-7.SP.4) $216^\circ \div 360^\circ \times 100 = 60\%$.
- 20) **Choice D is correct.** (7.RP.3) $33\frac{1}{3}\% = \frac{1}{3}$; $\frac{1}{3} \times 120 = 40$.
- 21) **Choice D is correct.** (7.RP.3) Markup = $0.35 \times 600 = \$210$. Selling price = $600 + 210 = \$810$.
- 22) **The correct answer is B, C.** (7.RP.1-7.RP.3) Option B: cost = $1.50 \times$ pounds (proportional, of form $y = kx$). Option C: distance = speed $\times$ time (proportional). Option A is a general trend but not a strict proportional relationship. Option D: height does not scale proportionally with age (growth rates vary).
- 23) **Choice D is correct.** (7.RP.1-7.RP.3) Unit rate: $\frac{2/3}{1/4} = \frac{2}{3} \times 4 = \frac{8}{3}$ reams/hour. In 3 hours: $\frac{8}{3} \times 3 = 8$ reams.
- 24) **Choice D is correct.** (7.RP.1-7.RP.3) Each row: $6/2 = 3$, $12/4 = 3$, $18/6 = 3$, $24/8 = 3$. Constant ratio of 3 dollars per notebook.
- 25) **Choice D is correct.** (7.RP.1-7.RP.3) For $C = 3b$, the line must pass through the origin. Graph A passes through (0, 0), (1, 3), and (2, 6). Graph B does not pass through the origin.
- 26) **Choice D is correct.** (7.RP.1-7.RP.3) Unit rate = $240 \div 8 = 30$ widgets per hour.
- 27) **Choice D is correct.** (7.RP.3) Using the proportion $\frac{60}{100} = \frac{x}{50}$, cross-multiply: $x = 30$ items.
- 28) **Choice A is correct.** (7.SP.5-7.SP.8) Each sector is $\frac{120}{360} = \frac{1}{3}$ of the whole circle, so $P(\text{Blue}) = \frac{1}{3}$. Distractors: B is $\frac{1}{4}$ (too small), C is $\frac{2}{3}$ (counts two sectors), D is $\frac{2}{5}$ (incorrect ratio).



Hi, Number Sense Builder!

◇ Grade 7 numbers do more than sit on a page. They describe rates, changes, comparisons, distances, chances, and patterns. ◇

★ **Remember this:** You practiced listening to that story. When the answer makes sense in the situation, your math becomes much stronger. This version gave you 4 opportunities to rehearse test-day habits. ★

Number Sense Checks

- **Too Big?:** Compare with an estimate.
- **Too Small?:** Use the context to judge.
- **Right Sign?:** Positive and negative values matter.
- **Right Unit?:** A number needs meaning.

Grade 7 test-day tip: Before choosing an answer, ask whether it fits the story of the problem.

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

Jay Daie

Your Number-Sense Friend

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!

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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.



2 EXTRA ONLINE TEST ACCESS CODE IS INSIDE THE BOOK!

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