

6 ARKANSAS ATLAS

GRADE

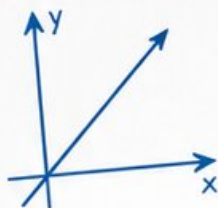
7

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



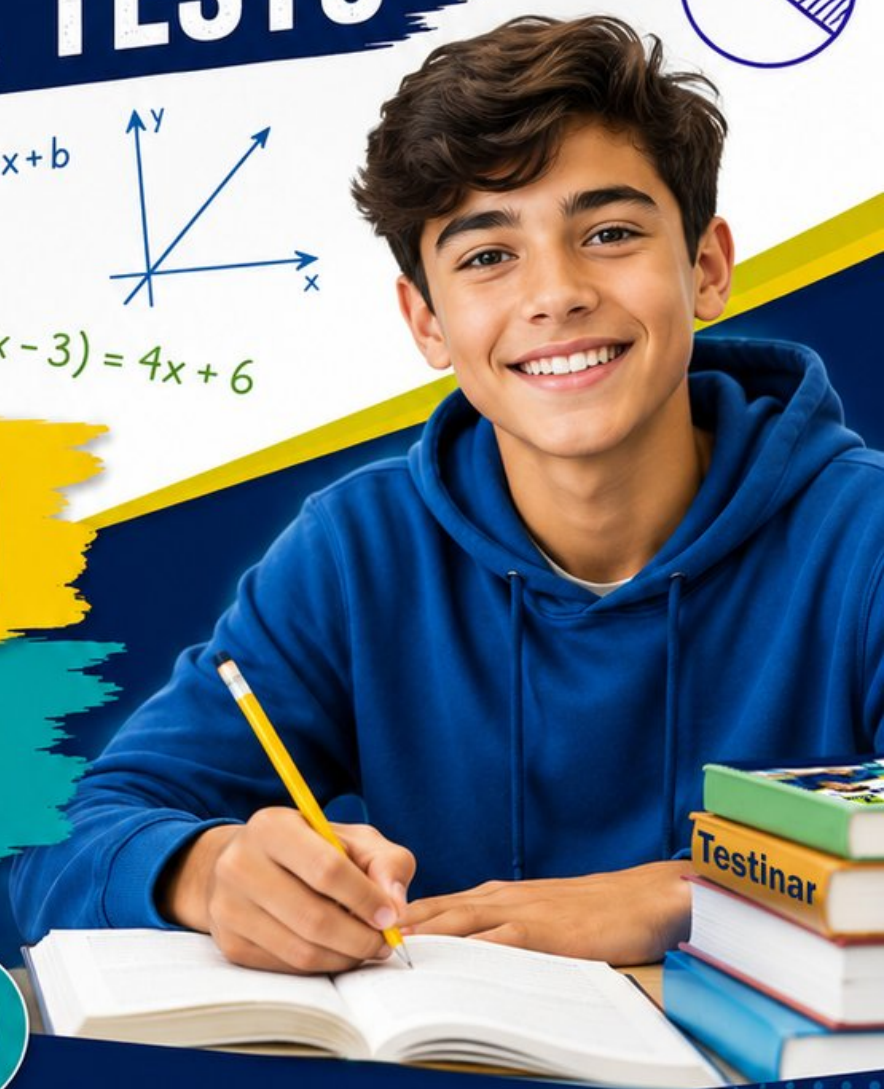
Strengthen
Math Skills



Detailed Answers
& Explanations



Improve Test
Performance



6 Arkansas ATLAS Grade 7 Math Practice Tests

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



Six 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!

Six focused rounds for sharper ATLAS math thinking

This book gives you six 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 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.

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?

Six ATLAS 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.



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& answers

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1) Express 24,000,000 in scientific notation.

☐ A. 2.4×10^6

☐ B. 2.4×10^7

☐ C. 24×10^7

☐ D. 2.4×10^8

2) Solve for x : $7(x + 1) = 49$

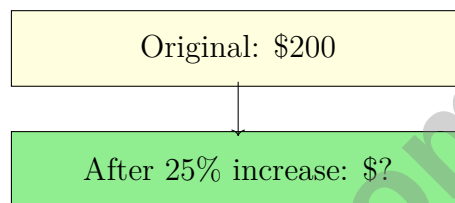
☐ A. $x = 5$

☐ B. $x = 6$

☐ C. $x = 7$

☐ D. $x = 8$

3)



If an item costs \$200 and increases by 25%, what is the new price?

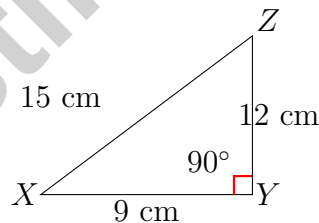
☐ A. \$225

☐ B. \$300

☐ C. \$275

☐ D. \$250

4)



A triangle has sides 9 cm, 12 cm, and 15 cm. Is this a right triangle?

☐ A. Yes

☐ B. No

☐ C. Cannot be determined

☐ D. Only if one angle is 90°



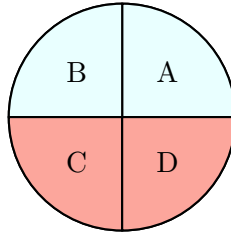
- 5) In a simulation of drawing colored balls from a bag, which change would improve the reliability of the probability estimate?
- ☐ A. Using a smaller bag ☐ C. Using fewer colors
- ☐ B. Performing more trials ☐ D. Replacing the bag after each trial
- 6) A television network wants to know what percentage of households in the United States watch sports. It surveys viewers who call into its sports hotline. Why is this a biased sample?
- ☐ A. It only includes people who already watch sports and made the effort to call ☐ C. It has no bias because hotline numbers are public
- ☐ B. It uses random sampling ☐ D. The sample size is too small
- 7) Two gyms track daily member visits. Gym X: visits = 45, 45, 46, 45, 44 (mean 45). Gym Y: visits = 30, 50, 40, 50, 35 (mean 41). Which gym has a lower MAD?
- ☐ A. Gym X (more consistent attendance) ☐ C. Both have equal MAD
- ☐ B. Gym Y (higher peak days) ☐ D. Cannot determine MAD from the means
- 8) A triangle has vertices at $A(1,0)$, $B(3,0)$, and $C(2,2)$. If the triangle is reflected over the x -axis, what are the new coordinates of vertex C ?



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- 9) A stem-and-leaf plot shows quiz scores for two students. Student A: Stem 6: Leaves 2, 8 | Stem 7: Leaves 1, 5, 9 | Stem 8: Leaves 3, 6. Student B: Stem 6: Leaves 4 | Stem 7: Leaves 2, 7 | Stem 8: Leaves 0, 4, 8. How many total scores are represented?

- ☐ A. 9 scores ☐ C. 12 scores
☐ B. 11 scores ☐ D. 13 scores



10)

A spinner has four equal sections labeled A, B, C, D , where sections A and B are blue and sections C and D are red. What is the probability of landing on a red section?

- ☐ A. $\frac{1}{4}$ ☐ C. $\frac{2}{3}$
☐ B. $\frac{1}{2}$ ☐ D. $\frac{3}{4}$

- 11) A coin is flipped and a number is chosen from a spinner with sections 1, 2, 3, 4. How many favorable outcomes result in a heads and an odd number?

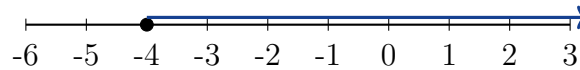
- ☐ A. 1 ☐ C. 3
☐ B. 2 ☐ D. 4

- 12) A student has a $\frac{2}{3}$ probability of passing math and a $\frac{3}{4}$ probability of passing history. Assuming independence, what is the probability of passing EXACTLY ONE of these two subjects?

- ☐ A. $\frac{1}{2}$ ☐ C. $\frac{7}{12}$
☐ B. $\frac{5}{12}$ ☐ D. $\frac{11}{12}$



1) Identify the inequality.



☐ A. $x < -4$

☐ C. $x \leq -4$

☐ B. $x > -4$

☐ D. $x \geq -4$

2) The population of a town was 5 000 and increased to 6 500. What is the percent increase?

☐ A. 15%

☐ C. 30%

☐ B. 25%

☐ D. 35%

3) A simulated compound event is created by spinning a spinner twice. The spinner has 3 equal sections (Red, Blue, Green). How many different outcomes are in the sample space?

☐ A. 3

☐ C. 9

☐ B. 6

☐ D. 12

4) A sandwich shop offers a choice of 2 breads, 3 proteins, and 4 vegetables. If you choose one of each, how many different sandwiches are possible?

☐ A. 9

☐ C. 24

☐ B. 18

☐ D. 36

5) Two number cubes are rolled. What is the probability of rolling doubles (both dice show the same number)?

☐ A. $\frac{1}{6}$

☐ C. $\frac{1}{12}$

☐ B. $\frac{7}{36}$

☐ D. $\frac{5}{36}$



- 6) A survey predicted 450 people would attend a concert. If the actual attendance was 500, what is the percent error?
- ☐ A. 11.1% ☐ C. 10%
- ☐ B. 50% ☐ D. 9%
- 7) Expand: $3(x + 5)$
- ☐ A. $3x + 5$ ☐ C. $3x + 15$
- ☐ B. $3x + 8$ ☐ D. $x + 15$
- 8) At what annual simple interest rate will \$2000 grow to \$2400 in 4 years?
- ☐ A. 2% ☐ C. 7%
- ☐ B. 10% ☐ D. 5%
- 9) Simplify: $6 - (-1)$
- ☐ A. 7 ☐ C. -5
- ☐ B. 5 ☐ D. -7
- 10) Which expression shows $2 \cdot 5 + 2 \cdot 3$ factored?
- ☐ A. $2(5 + 3)$ ☐ C. $2 \cdot 15$
- ☐ B. $(2 + 5)(2 + 3)$ ☐ D. $5 + 3$
- 11) A square pyramid has a square base with side length 6 in, and slant height 8 in. Find the surface area (include the base).
- ☐ A. 96 in^2 ☐ C. 168 in^2
- ☐ B. 132 in^2 ☐ D. 240 in^2

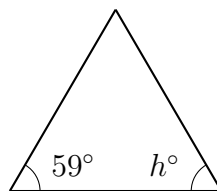


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- 1) An organized list shows all outcomes when drawing one tile from $\{M, A, T\}$ and one from $\{1, 2, 3, 4\}$. How many ordered pairs should the complete list have?

M1, M2, M3, M4, A1, A2, A3, A4, T1, T2, T3, T4

- ☐ A. 7 pairs ☐ C. 12 pairs
☐ B. 9 pairs ☐ D. 16 pairs
- 2) Solve: $2x + 8 = 24$
- ☐ A. $x = 6$ ☐ C. $x = 10$
☐ B. $x = 8$ ☐ D. $x = 12$
- 3) A rectangular swimming pool on a scale drawing is 6 cm by 8 cm. The scale is 1 cm : 2 m. What is the area of the actual pool in square meters?
- ☐ A. 48 m^2 ☐ C. 192 m^2
☐ B. 96 m^2 ☐ D. 384 m^2
- 4) A cone with height 20 cm and base radius 5 cm is sliced by a vertical plane passing through the apex at an angle (not through the axis). Which shape is the cross-section?
- ☐ A. Isosceles triangle ☐ C. Scalene triangle
☐ B. Right triangle ☐ D. Trapezoid



5)

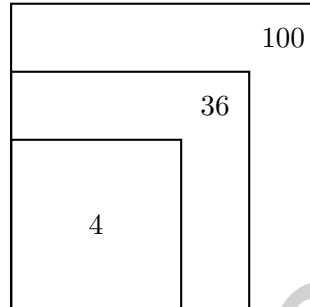
A triangle is formed with one angle of 59° at the bottom left and another angle h at the bottom right. The top angle is 62° . What is h ?

- ☐ A. 28° ☐ C. 62°
☐ B. 59° ☐ D. 121°



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- 6) For side lengths 9, 12, and 15, compute $9^2 + 12^2 - 15^2$.



7)

Based on the areas shown, what are the side lengths?

- ☐ A. 2, 6, 10 ☐ C. 2, 8, 10
☐ B. 2, 6, 12 ☐ D. 4, 6, 10
- 8) Factor out the GCF: $10y + 15$.
- ☐ A. $5(2y + 3)$ ☐ C. $10(y + 5)$
☐ B. $5(10y + 15)$ ☐ D. $2(5y + 7.5)$
- 9) Two box plots compare the number of online orders per day for two e-commerce sites. Site X: $Q1 = 50$, Median = 75, $Q3 = 100$. Site Y: $Q1 = 40$, Median = 75, $Q3 = 110$. Which site has more consistent order volume?
- ☐ A. Site X (lower IQR: 50 vs. 70) ☐ C. Both sites are identical
☐ B. Site Y (higher $Q3$ means more orders) ☐ D. Site Y (lower $Q1$ means better baseline)



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 B is correct.** (7.NS.1-7.NS.3) Place the decimal after the first digit: 2.4. Count places moved: 7 places left, so exponent is 7. Proper scientific notation requires $1 \leq a < 10$.
- 2) **Choice B is correct.** (7.EE.4a) Distribute: $7x + 7 = 49$. Subtract 7: $7x = 42$. Divide by 7: $x = 6$.
- 3) **Choice D is correct.** (7.RP.3) Using the proportion $\frac{25}{100} = \frac{x}{200}$: increase is $x = 50$. New price: $200 + 50 = \$250$.
- 4) **Choice A is correct.** (7.G.1-7.G.5) Check: $9^2 + 12^2 = 81 + 144 = 225 = 15^2$ ✓. This is the 9-12-15 triple (a multiple of 3-4-5), so it is a right triangle.
- 5) **Choice B is correct.** (7.SP.5-7.SP.8) More trials reduce the effect of random variation and produce a more stable relative frequency.
- 6) **Choice A is correct.** (7.SP.1-7.SP.4) This sample only reaches people who (1) already watch sports, and (2) are motivated enough to call in. This excludes the majority of households and creates severe self-selection bias and voluntary response bias.
- 7) **Choice A is correct.** (7.SP.1-7.SP.4) Gym X: deviations = 0, 0, 1, 0, 1 (MAD ≈ 0.4). Gym Y: deviations = 11, 9, 1, 9, 6 (MAD ≈ 7.2). Gym X's tight cluster (44–46) vs. Gym Y's spread (30–50) shows Gym X is more consistent.
- 8) **The correct answer is (2, -2).** (7.G.1-7.G.5) Reflection over the x -axis uses the rule $(x, y) \rightarrow (x, -y)$. Applying this to $C(2, 2)$: $C' = (2, -2)$.
- 9) **Choice D is correct.** (7.SP.1-7.SP.4) Student A: Stem 6 (2 leaves) + Stem 7 (3 leaves) + Stem 8 (2 leaves) = 7 scores. Student B: Stem 6 (1 leaf) + Stem 7 (2 leaves) + Stem 8 (3 leaves) = 6 scores. Total = $7 + 6 = 13$ scores.
- 10) **Choice B is correct.** (7.SP.5-7.SP.8) Red sections: C and D (2 out of 4). $P(\text{red}) = \frac{2}{4} = \frac{1}{2}$.
- 11) **Choice B is correct.** (7.SP.5-7.SP.8) Total outcomes: $2 \times 4 = 8$. Favorable (Heads and odd): $H1, H3$. That is 2 favorable outcomes.
- 12) **Choice B is correct.** (7.SP.5-7.SP.8) Pass math AND fail history: $\frac{2}{3} \cdot \frac{1}{4} = \frac{2}{12}$. Fail math AND pass history: $\frac{1}{3} \cdot \frac{3}{4} = \frac{3}{12}$. Total: $\frac{2}{12} + \frac{3}{12} = \frac{5}{12}$.
- 13) **Choice A is correct.** (7.SP.6) Experimental probability = $\frac{87}{180} \approx 0.483$, which rounds to approximately 0.48.
- 14) **The correct answer is 125.6.** (7.G.4-7.G.6) Circumference = $2\pi r = 2 \times 3.14 \times 5 = 31.4$ m. Distance = $4 \times 31.4 = 125.6$ m.
- 15) **Choice B is correct.** (7.SP.1-7.SP.4) Total: $2 + 3 + 4 + 2 + 4 = 15$ people. In 40s: 4 people. Percent: $4/15 \approx 0.267 \approx 25\%$ (closest).
- 16) **Choice B is correct.** (7.SP.5-7.SP.8) Every number from 1 to 10 is less than 11, so this event is certain (probability = 1).
- 17) **Choice C is correct.** (7.RP.3) Percent error = $\frac{|36-45|}{45} \times 100\% = \frac{9}{45} \times 100\% = 20\%$.
- 18) **Choice A is correct.** (7.EE.1-7.EE.2) Expand: $2(3) + 2(4y) - 5 = 6 + 8y - 5 = 8y + 1$.
- 19) **The correct answer is A,C.** (7.G.1-7.G.5) A: Two triangles with the same three side lengths are congruent by SSS. C: Two triangles with two equal sides and an equal included angle are congruent by SAS. B is incorrect because AAA determines similarity, not congruence (triangles can be different sizes). D is incorrect because two angles and two separate sides (not necessarily properly positioned) do not guarantee congruence.
- 20) **Choice D is correct.** (7.RP.3) Check D: First gives $I = 5000(0.03)(2) = \$300$. Second gives $I = 2500(0.06)(2) = \$300$. Both equal \$300.
- 21) **Choice D is correct.** (7.NS.1-7.NS.3) $9 - (-4) = 9 + 4 = 13$.
- 22) **Choice A is correct.** (7.EE.1-7.EE.2) GCF of $24ab$ and $36b$ is $12b$. Factor: $24ab + 36b = 12b(2a + 3)$.
- 23) **Choice C is correct.** (7.SP.1-7.SP.4) 44% of 24 = $0.44 \times 24 = 10.56$ hours.
- 24) **The correct answer is 10.** (7.G.4-7.G.6) From $A = \pi r^2$: $314 = 3.14 \times r^2 \Rightarrow r^2 = 100 \Rightarrow r = 10$ m.
- 25) **Choice C is correct.** (7.RP.3) 75% of 20 is $0.75 \times 20 = 15$ games.
- 26) **Choice D is correct.** (7.RP.3) Markup amount = $0.50 \times 60 = \$30$. Selling price = $60 + 30 = \$90$.
- 27) **Choice D is correct.** (7.NS.1b) Start at -8 on a number line and move 5 units right: $-8 + 5 = -3$.
- 28) **The correct answer is 157.** (7.G.4-7.G.6) $V = \pi r^2 h \approx 3.14 \times (2.5)^2 \times 8 = 3.14 \times 6.25 \times 8 = 157 \text{ m}^3$.



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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

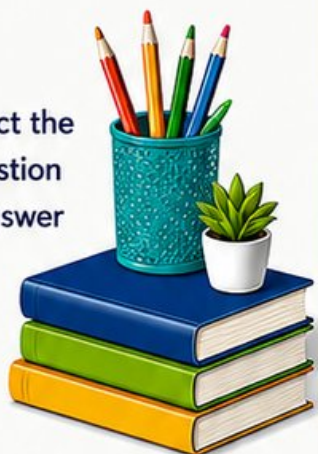
Your Persistence Coach

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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