

# 8

# Arkansas

# ATLAS

GRADE 7

# MATH

## PRACTICE TESTS



**Standards Aligned  
Problem Solving**

For Comprehensive  
Assessment Programs



**8 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 SKILLS



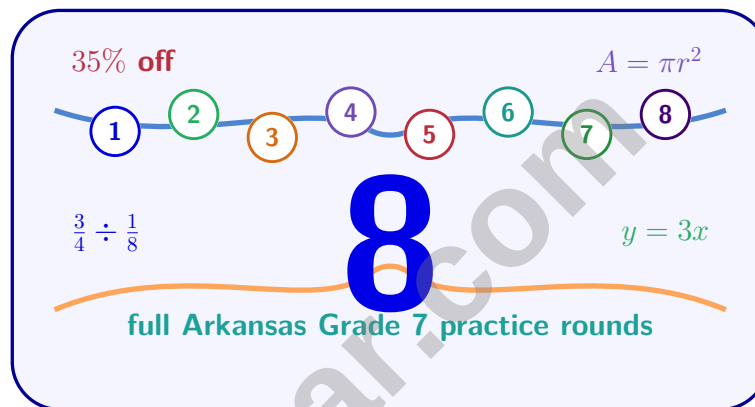
THINK SMARTER



BE TEST-READY

# 8 Arkansas ATLAS Grade 7 Math Practice Tests

*A clear path through Arkansas Grade 7 unit rates, percent change, equations, scale drawings, probability, and statistics*



Eight 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!

Eight focused rounds for sharper ATLAS math thinking

This book gives you eight 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

An eight-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?

Eight ATLAS tests, 320 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 7–8    | 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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& answers

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1) What is  $\sqrt{64}$ ?

☐ A. 6

☐ C. 9

☐ B. 8

☐ D. 7

2) Which inequality represents “a number is more than twice itself minus 5”?

☐ A.  $n > 2n - 5$

☐ C.  $2n > n - 5$

☐ B.  $n > 2n + 5$

☐ D.  $n + 5 > 2n$

3) Evaluate  $-2x + 5$  when  $x = -3$ .

☐ A. 11

☐ C. 1

☐ B. -1

☐ D. -6

4) Solve:  $-3x + 10 = 1$

☐ A.  $x = -3$

☐ C.  $x = 3$

☐ B.  $x = 1$

☐ D.  $x = 9$

5) Solve for  $x$ :  $-6(x - 3) = 12$

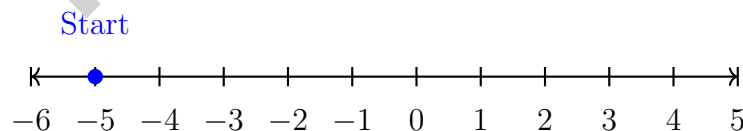
☐ A.  $x = 1$

☐ C.  $x = 3$

☐ B.  $x = 2$

☐ D.  $x = 5$

6) Use the number line. Start at  $-5$ , add 8, then subtract 3. Where do you end?



☐ A. -16

☐ C. 6

☐ B. 0

☐ D. 10



7) A runner's time improves by 2.4 seconds each month for 3 months. What is the total improvement?

☐ A. 2.4 seconds

☐ B. 7.2 seconds

☐ C. 5.4 seconds

☐ D. 7.8 seconds

8) Simplify:  $(9o - 5) - (4o - 7)$

☐ A.  $5o + 2$

☐ B.  $5o - 12$

☐ C.  $13o - 12$

☐ D.  $5o - 2$

9) An athlete's personal record was 12 seconds. After training, the record improved to 10.56 seconds. What is the percent decrease in time?

10) Simplify:  $k^8 \cdot k^0 \cdot k^2$

☐ A.  $k^{10}$

☐ B.  $k^1$

☐ C.  $k^{16}$

☐ D.  $k^0$

11) A baker makes cookies. She sells mini-cookies for \$0.50 each and bundles of 12 for \$5. Which expression shows the cost of 3 bundles and 8 individual cookies?

☐ A.  $3 + 8(5 + 0.50) = \$46.50$

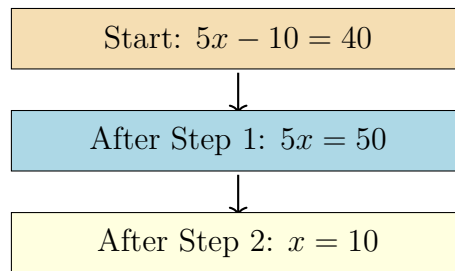
☐ B.  $(3 + 8)(5) = \$55$

☐ C.  $5(3) + 0.50 + 8 = \$23.50$

☐ D.  $3(5) + 8(0.50) = \$19$



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12)

What operation was used in Step 1?

☐ A. Add 10☐ B. Subtract 10☐ C. Multiply by 10☐ D. Divide by 1013) Simplify:  $3(2x - 5) + 2(x + 4)$ .☐ A.  $6x - 15 + 2x + 8 = 8x - 7$ ☐ B.  $8x - 7$ ☐ C.  $8x + 20$ ☐ D.  $5x - 1$ 

14) If you earn \$18 per hour and work 35 hours per week, what is your weekly gross pay before taxes?

15) A spinner has 12 equal sections colored: 4 green, 5 blue, 3 red. Find  $P(\text{blue or red})$ .

☐ A.  $\frac{3}{12}$ ☐ B.  $\frac{5}{12}$ ☐ C.  $\frac{2}{3}$ ☐ D.  $\frac{7}{12}$ 

1) A probability is 0.4. Which fraction is equivalent and simplified?

- ☐ A.  $\frac{1}{4}$   
☐ B.  $\frac{2}{5}$

- ☐ C.  $\frac{1}{3}$   
☐ D.  $\frac{3}{5}$

2) A scale drawing has a scale of 1 cm : 0.5 m. What is the scale factor?

- ☐ A. 0.5  
☐ B. 2

- ☐ C. 50  
☐ D. 500

3) The circumference of a circle is 50.24 meters. Using  $\pi \approx 3.14$ , find the diameter.

4) A square has a perimeter of 32 cm. What is its area?

- ☐ A. 32 cm<sup>2</sup>  
☐ B. 64 cm<sup>2</sup>

- ☐ C. 128 cm<sup>2</sup>  
☐ D. 256 cm<sup>2</sup>

5) Simplify:  $v^{12} \div v^8$

- ☐ A.  $v^4$   
☐ B.  $v^{20}$

- ☐ C.  $v^{96}$   
☐ D.  $v^0$



6) Which row correctly shows the sign rules for multiplication?

| Operation           | Example            | Result |
|---------------------|--------------------|--------|
| A. $(+) \times (+)$ | $5 \times 3$       | 8      |
| B. $(-) \times (-)$ | $(-4) \times (-2)$ | -8     |
| C. $(+) \times (-)$ | $6 \times (-2)$    | -12    |
| D. $(-) \times (+)$ | $(-7) \times 3$    | 21     |

☐ A. Row A

☐ C. Row C

☐ B. Row B

☐ D. Row D

7) Two datasets both have a range of 30. Which measure would help distinguish their variability further?

☐ A. Mode

☐ C. Minimum value

☐ B. Interquartile range or MAD

☐ D. Outlier count

8) A histogram shows the distribution of test scores for two classes with the same mean (80) but different shapes: Class A is symmetric (bell-shaped), Class B is right-skewed (tail on right). What does this tell you about variability?

☐ A. Class A has higher variability

☐ D. Both classes have the same variability

☐ B. Class B has higher variability

☐ C. You cannot determine variability from shape alone



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$\times \div$

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- 1) A rectangular field on a map is 9 cm by 12 cm at a scale of 1 cm : 0.75 km. If the scale is changed to 1 cm : 1.5 km, what will be the new length?

☐ A. 6 cm ☐ C. 18 cm  
☐ B. 12 cm ☐ D. 24 cm

- 2) A model railroad layout has a scale of 1 : 160. If a real railroad track is 50 meters long, how long should the model track be in centimeters?



- 3) A bar graph shows sales by quarter. The title says “Quarterly Sales Growth,” but the y-axis starts at \$90,000 (not \$0), and Q1–Q2 sales only rise from \$100,000 to \$101,000. Why is this graph potentially misleading?

☐ A. The bars are too tall ☐ C. The color scheme is confusing  
☐ B. The y-axis doesn’t start at zero, exaggerating the growth ☐ D. The labels are too small

- 4) Angle  $X$  is supplementary to an angle of  $47^\circ$ . What is the measure of angle  $X$ ?

☐ A.  $133^\circ$  ☐ C.  $43^\circ$   
☐ B.  $93^\circ$  ☐ D.  $227^\circ$



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5) The stem-and-leaf plot shows:

| Stem | Leaves     |
|------|------------|
| 2    | 3, 5, 9    |
| 3    | 1, 4, 4, 7 |
| 4    | 2, 6       |

How many data values fall between 30 and 40 (inclusive)?

- ☐ A. 2                                      ☐ C. 4  
☐ B. 3                                      ☐ D. 5
- 6) A survey shows that the probability a student likes pizza is  $\frac{7}{8}$ . How many students out of 80 would you expect to NOT like pizza?
- ☐ A. 7                                      ☐ C. 70  
☐ B. 10                                      ☐ D. 73
- 7) A parent wants to save money for a child's education. If \$4500 is invested at 5.5% simple interest, what is the difference in total amount between 5 years and 3 years?
- ☐ A. \$247.50                              ☐ C. \$742.50  
☐ B. \$990                                      ☐ D. \$495
- 8) Simplify:  $-5 - 3$
- ☐ A. -8                                      ☐ C. 2  
☐ B. -2                                      ☐ D. 8



**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)**  $8 \times 8 = 64$ , therefore  $\sqrt{64} = 8$ .
- 2) **Choice A is correct.** **(7.EE.4b)** “A number” is  $n$ ; “is more than” is  $>$ ; “twice itself minus 5” is  $2n - 5$ . Direct translation:  $n > 2n - 5$ .
- 3) **Choice A is correct.** **(7.EE.1-7.EE.2)** Substitute:  $-2(-3) + 5 = 6 + 5 = 11$ .
- 4) **Choice C is correct.** **(7.EE.3-7.EE.4)** Subtract 10:  $-3x = -9$ . Divide by  $-3$ :  $x = 3$ .
- 5) **Choice A is correct.** **(7.EE.4a)** Distribute:  $-6x + 18 = 12$ . Subtract 18:  $-6x = -6$ . Divide by  $-6$ :  $x = 1$ .
- 6) **Choice B is correct.** **(7.NS.1-7.NS.3)**  $-5 + 8 = 3$ ; then  $3 - 3 = 0$ .
- 7) **Choice B is correct.** **(7.NS.1-7.NS.3)** Improvement of  $2.4 \text{ sec/month} \times 3 \text{ months} = 7.2 \text{ seconds total}$ .
- 8) **Choice A is correct.** **(7.EE.1-7.EE.2)** Distribute the negative:  $9o - 5 - 4o + 7 = (9o - 4o) + (-5 + 7) = 5o + 2$ .
- 9) **The correct answer is 12%.** **(7.RP.3)** Percent decrease =  $\frac{12-10.56}{12} \times 100\% = \frac{1.44}{12} \times 100\% = 12\%$ .
- 10) **Choice A is correct.** **(7.EE.1-7.EE.2)** Apply zero exponent rule ( $k^0 = 1$ ) and product rule:  $k^8 \cdot 1 \cdot k^2 = k^{8+2} = k^{10}$ .
- 11) **Choice D is correct.** **(7.EE.4a)** Three bundles at \$5 each:  $3(5) = \$15$ . Eight cookies at \$0.50 each:  $8(0.50) = \$4$ . Total:  $15 + 4 = \$19$ .
- 12) **Choice A is correct.** **(7.EE.3-7.EE.4)**  $5x - 10 + 10 = 40 + 10 \Rightarrow 5x = 50$ . Then divide by 5:  $x = 10$ .
- 13) **Choice B is correct.** **(7.EE.1-7.EE.2)** Distribute:  $6x - 15 + 2x + 8$ . Combine:  $(6x + 2x) + (-15 + 8) = 8x - 7$ .
- 14) **The correct answer is \$630.** **(7.RP.3)** Weekly pay:  $18 \times 35 = \$630$ .
- 15) **Choice C is correct.** **(7.SP.5-7.SP.8)** Blue: 5 sections, red: 3 sections. Total favorable:  $5 + 3 = 8$ .  $P(\text{blue or red}) = \frac{8}{12} = \frac{2}{3}$ .
- 16) **Choice D is correct.** **(7.RP.3)** Total lesson cost =  $35 \times 8 = \$280$ . Tip =  $0.15 \times 280 = \$42$ . Total paid =  $280 + 42 = \$322$ .
- 17) **The correct answer is 14.465.** **(7.NS.1-7.NS.3)** Average current temperature:  $\frac{12.5+13.2+12.8+14.1}{4} = \frac{52.6}{4} = 13.15^\circ\text{C}$ . Increase of 10%:  $0.10 \times 13.15 = 1.315^\circ\text{C}$ . New temperature:  $13.15 + 1.315 = 14.465^\circ\text{C}$ .
- 18) **The correct answer is B,D.** **(7.NS.1-7.NS.3)** B:  $-33 + 33 = 0$  (opposites sum to zero). D:  $-100 + 100 = 0$  (opposites sum to zero). A:  $20 + (-10) = 10$  (not zero). C:  $14 + (-7) = 7$  (not zero).
- 19) **Choice B is correct.** **(7.NS.2)**  $-\frac{1}{2} \times 10 = -\frac{10}{2} = -5$ . Negative times positive is negative.
- 20) **The correct answer is  $3.4 \times 10^9$ .** **(7.NS.1-7.NS.3)** Place decimal after first digit: 3.4. Count 9 places moved to the left.
- 21) **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.
- 22) **Choice A is correct.** **(7.G.4-7.G.6)** True triangle area:  $\frac{1}{2} \times 10 \times 2 = 10 \text{ in}^2$ . Student's error:  $20 - 10 = 10 \text{ in}^2$  overestimate.
- 23) **Choice D is correct.** **(7.RP.1-7.RP.3)** The ratio of berries to yogurt is  $1 : 0.5$ , so yogurt is half the berries. When berries = 2.5,  $y = 1.25$ . When yogurt = 4,  $x = 8$ . Thus  $x + y = 8 + 1.25 = 9.25$ .
- 24) **Choice B is correct.** **(7.G.4-7.G.6)** Base area =  $\frac{1}{2} \times 6 \times 5 = 15 \text{ in}^2$ . Volume =  $15 \times 12 = 180 \text{ in}^3$ .
- 25) **Choice D is correct.** **(7.G.1-7.G.5)** With only angles known ( $32^\circ, 58^\circ, 90^\circ$ ), the shape is determined but not the size. Any scale of this triangle satisfies the angle conditions.
- 26) **Choice B is correct.** **(7.G.1-7.G.5)** We have angle  $\alpha$  at  $G$ , the side  $GH = 7 \text{ cm}$  between them, and angle  $\beta$  at  $H$ . This is Angle-Side-Angle (ASA): two angles and the included side are given.
- 27) **Choice B is correct.** **(7.G.4-7.G.6)** A sector is a pie-shaped region formed by two radii and the arc between them.
- 28) **Choice C is correct.** **(7.SP.5-7.SP.8)** The point is at the third tick mark from 0 to 1, which represents 0.3.
- 29) **Choice C is correct.** **(7.SP.1-7.SP.4)**  $\frac{42}{150} = \frac{x}{500}$ . Simplify:  $\frac{7}{25} = \frac{x}{500} \Rightarrow x = 140$ .
- 30) **Choice D is correct.** **(7.RP.1-7.RP.3)** Painter A:  $\frac{1/2}{1/3} = \frac{1}{2} \times 3 = \frac{3}{2}$  walls/day. Painter B:  $\frac{2/3}{1/2} = \frac{2}{3} \times 2 = \frac{4}{3}$  walls/day. A is faster:  $\frac{3}{2} = 1.5 > \frac{4}{3} \approx 1.33$ .
- 31) **Choice D is correct.** **(7.RP.1-7.RP.3)** Check constant  $y/x$ : A gives 4, 4, 4, 4 (constant — proportional). B gives 2, 2.5, 2.33, 2.5 (not constant).



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## Hi, Future Algebra Thinker!

◇ Grade 7 practice prepares you for the next math steps. Expressions, equations, proportional relationships, and graphs are all part of that bridge. This wide-ranging book gave you eight serious Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. ◇

★ **Remember this:** Every time you solved for an unknown or explained a relationship, you were building skills that future math will use again. ★

### Bridge Skills

- **Use Variables:** Let letters stand for unknown values.
- **Balance Equations:** Keep both sides fair.
- **Read Graphs:** Connect points to meaning.
- **Compare Rates:** Look for constant relationships.

**Grade 7 test-day tip:** When you see a variable, say what it represents. That keeps algebra connected to the problem.

If you want to share something or ask a question, please email me at [jay@testinar.com](mailto:jay@testinar.com).

**Jay Daie**

Your Algebra Bridge Coach

# PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **8** 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:

**8** Full-Length Printed Tests

**2** Online Practice Tests

 Detailed Answer Explanations



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Build a solid foundation through targeted practice and review.



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Develop logical thinking and effective solution strategies.



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### 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
- ✓ Geometry
- ✓ Percents & Decimals
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- ✓ Data Analysis
- ✓ Measurement & Conversions
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