

7 Arkansas ATLAS

Grade 7 Math Practice Tests



ONLINE

7 PRINTED TESTS + 2 ONLINE TESTS



**Standards Aligned Problem Solving
For Comprehensive Assessment Programs**



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.

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Welcome, Arkansas Grade 7 Problem Solver!

Eight focused rounds for sharper ATLAS math thinking

This book gives you seven 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, 280 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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1) Explain why division is NOT commutative: Why is $12 \div 3$ different from $3 \div 12$?

- ☐ A. Division order does not matter; both equal 4
- ☐ B. Division order matters; $12 \div 3 = 4$ but $3 \div 12 = 0.25$
- ☐ C. One is positive, the other is negative
- ☐ D. Division is always commutative

2) A proportional relationship has an equation $y = 2.2x$. What is the value of y when $x = 5$?

3) A freelance designer charges clients a 15% design fee on top of materials costs. If materials cost \$200, what is the total cost to the client?

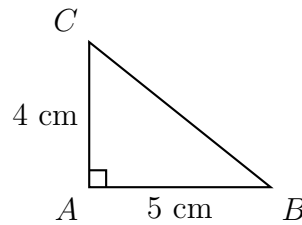
- ☐ A. \$215
- ☐ B. \$260
- ☐ C. \$245
- ☐ D. \$230

4) A student writes: $(-7) \times 5 = 35$. What error did the student make?

- ☐ A. Forgot to apply the negative sign
- ☐ B. Added instead of multiplied
- ☐ C. Multiplied the absolute values incorrectly
- ☐ D. Used the wrong order of operations

5) A ticket costs \$24. The price increases by 25%. What is the new ticket price?





6)

Triangle ABC with $AB = 5$ cm, $AC = 4$ cm, and a right angle at A satisfies which congruence condition?

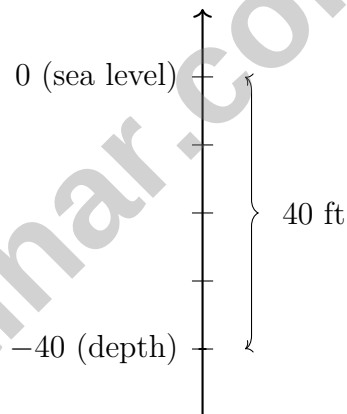
☐ A. SSS

☐ C. ASA

☐ B. SAS

☐ D. RHS

7) A scuba diver descends 40 feet below sea level. Which integer represents this depth?


☐ A. 40 (ignores direction/below sea level)

☐ C. 0 (at sea level, not below)

☐ B. -80 (double the depth)

☐ D. -40 (correct; below is negative)


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8) Which expression is equivalent to $-3(2x + 5)$?

☐ A. $-6x - 15$

☐ C. $6x - 15$

☐ B. $-6x + 15$

☐ D. $-6x + 5$

9) A rectangular prism has length 7 in, width 5 in, and height 4 in. If each dimension is increased by 1 inch, by how much does the surface area increase?

☐ A. 24 in^2

☐ C. 70 in^2

☐ B. 48 in^2

☐ D. 96 in^2

10) A coin is flipped twice to simulate a compound event. How many outcomes involve “at least one heads”?

☐ A. 1

☐ C. 3

☐ B. 2

☐ D. 4

11) A student computed $-7 + 4$ and got -11 . What error did the student make?



Correct: start at -7 , move 4 right to -3

- | | |
|---|---|
| ☐ A. Added the absolute values instead of subtracting them | ☐ C. Subtracted in the wrong order |
| ☐ B. Flipped the signs | ☐ D. Forgot to use a number line |

12) Which expression is simplified?

☐ A. $3x + 2x - y$

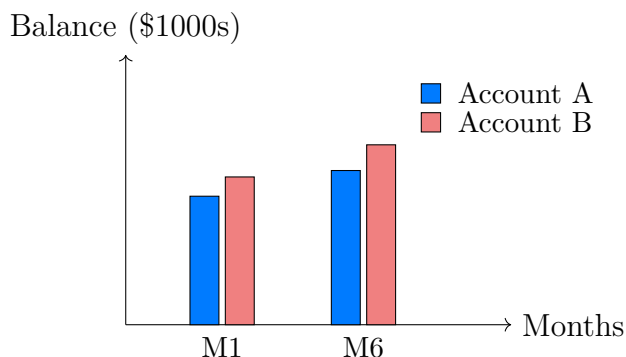
☐ C. $5x - y$

☐ B. $5x + 2x - y + y$

☐ D. $2x + 3x + 4y$



- 1) An investor compares two savings accounts over one year using the bar chart below.



If Account A earns 4% simple interest and Account B earns 6%, which account grew more after 6 months?

- ☐ A. Account A
 ☐ C. Both grew equally
☐ B. Cannot be determined
 ☐ D. Account B
- 2) What is $\sqrt{1}$?
- ☐ A. 0
 ☐ C. 2
☐ B. 1
 ☐ D. undefined
- 3) A student was asked to rewrite $0.3p + 0.3q$ in factored form. They wrote $0.3(p + q)$. Is their answer correct, and why?
- ☐ A. Yes; 0.3 is a common factor of both terms
 ☐ C. No; you cannot factor out decimals
☐ B. Yes; adding decimals always works this way
 ☐ D. No; 0.3 is not the GCF



- 4) A parking lot is shaped like a large rectangle ($20 \text{ yd} \times 15 \text{ yd}$) with two rectangular sections removed from opposite corners (each $4 \text{ yd} \times 3 \text{ yd}$). What is the remaining area?
- ☐ A. 276 yd^2 ☐ C. 300 yd^2
☐ B. 288 yd^2 ☐ D. 312 yd^2
- 5) A rectangular prism has length 15 cm and width 6 cm . If the height is tripled from 2 cm to 6 cm , how much does the volume increase?
- ☐ A. 180 cm^3 ☐ C. 540 cm^3
☐ B. 360 cm^3 ☐ D. 720 cm^3
- 6) In a circle with center O and radius 10 cm , a chord is drawn. What is the maximum possible length of the chord?
- ☐ A. 10 cm ☐ C. 20 cm
☐ B. 15 cm ☐ D. 30 cm
- 7) The stock price changes are shown in the table. What was the total change?

Day	Price Change
Monday	−\$2.50
Tuesday	+\$3.75



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1) A factory produced 500 items. If 18% were defective, how many defective items were there?

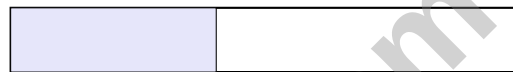
☐ A. 70

☐ C. 90

☐ B. 80

☐ D. 100

2) A car travels at a constant speed of 55 miles per hour. Which equation relates distance d (miles) to time t (hours)?

☐ A. $d = t + 55$
☐ C. $d = \frac{55}{t}$
☐ B. $d = \frac{t}{55}$
☐ D. $d = 55t$


3)

40%

Total = 125

If the shaded bar represents 40% of the whole and the whole is 125, how many does the shaded part represent?

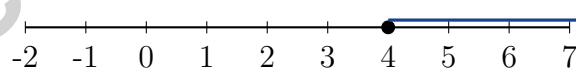
☐ A. 40

☐ C. 75

☐ B. 85

☐ D. 50

4) Which inequality is shown on this number line?


☐ A. $x < 4$
☐ C. $x \geq 4$
☐ B. $x > 4$
☐ D. $x \leq 4$


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- 5) A bag contains 3 red marbles, 2 blue marbles, and 5 green marbles. To simulate drawing one marble, which probability does rolling a standard die best represent?
- ☐ A. Probability of drawing red ☐ D. Probability of drawing blue or green
- ☐ B. Probability of drawing blue
- ☐ C. Probability of drawing green
- 6) A manufacturing plant tests the durability of light bulbs. It selects light bulbs from hour 1, hour 2, hour 3, and so on throughout the day. This is an example of:
- ☐ A. Stratified sampling ☐ C. Convenience sampling
- ☐ B. Systematic sampling ☐ D. Voluntary response sampling
- 7) A toy car is a scale model of a real car with a scale of 1 : 64. If the toy car is 8 cm long, what is the length of the real car in meters?
- ☐ A. 0.512 m ☐ C. 5.12 m
- ☐ B. 2.56 m ☐ D. 51.2 m



Arkansas Teaching extbackslash{}and Learning Assessment System 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 Teaching extbackslash{}and Learning Assessment System practice test.



Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** (7.NS.1-7.NS.3) $12 \div 3 = 4$ but $3 \div 12 = \frac{1}{4} = 0.25$. Division is **not commutative**: changing the order changes the result. This is different from addition and multiplication.
- 2) **The correct answer is 11.** (7.RP.1-7.RP.3) $y = 2.2 \times 5 = 11$.
- 3) **Choice D is correct.** (7.RP.3) Design fee = $0.15 \times 200 = \$30$. Total = $200 + 30 = \$230$.
- 4) **Choice A is correct.** (7.NS.2) $(-7) \times 5 = -35$, not 35. The student multiplied correctly but forgot that negative times positive is negative.
- 5) **The correct answer is \$30.** (7.RP.3) The increase is 25% of $\$24 = 0.25 \times 24 = 6$ dollars. New price: $24 + 6 = 30$ dollars.
- 6) **Choice B is correct.** (7.G.1-7.G.5) Two sides and the included right angle are given: $AC = 4$ cm, $AB = 5$ cm, and angle $A = 90^\circ$ is between them. This is SAS (Side-Angle-Side) congruence.
- 7) **Choice D is correct.** (7.NS.1-7.NS.3) Descending (going down) below sea level is represented by a negative number. A descent of 40 feet is -40 .
- 8) **Choice A is correct.** (7.EE.1-7.EE.2) Distribute: $-3(2x + 5) = -3(2x) + (-3)(5) = -6x - 15$.
- 9) **Choice C is correct.** (7.G.4-7.G.6) Original: $SA_1 = 2(7 \cdot 5 + 7 \cdot 4 + 5 \cdot 4) = 2(35 + 28 + 20) = 2(83) = 166 \text{ in}^2$. New dimensions $8 \times 6 \times 5$: $SA_2 = 2(8 \cdot 6 + 8 \cdot 5 + 6 \cdot 5) = 2(48 + 40 + 30) = 2(118) = 236 \text{ in}^2$. Increase: $236 - 166 = 70 \text{ in}^2$.
- 10) **Choice C is correct.** (7.SP.5-7.SP.8) Sample space: HH, HT, TH, TT (four equally likely outcomes). Outcomes with at least one heads: HH, HT, TH (three outcomes). So $P(\text{at least one heads}) = \frac{3}{4} = 0.75$.
- 11) **Choice A is correct.** (7.NS.1b) The student added $|-7| + |4| = 7 + 4 = 11$ and kept the negative sign. For opposite signs, subtract: $|-7| - |4| = 7 - 4 = 3$, so the correct answer is -3 .
- 12) **Choice C is correct.** (7.EE.1) A simplified expression has all like terms combined. Option C has no like terms remaining.
- 13) **Choice A is correct.** (7.EE.4b) Multiply by 3: $2x - 1 \leq 15$. Add 1: $2x \leq 16$. Divide by 2: $x \leq 8$.
- 14) **Choice B is correct.** (7.SP.1-7.SP.4) Phone directories only include people with listed landline numbers, which excludes people with unlisted numbers and younger voters who use only cell phones. This coverage bias makes the sample unrepresentative of all voters in the area.
- 15) **Choice A is correct.** (7.NS.1-7.NS.3) $3.7 \times 10^{-6} = 0.0000037$. Move decimal 6 places left.
- 16) **Choice B is correct.** (7.EE.1-7.EE.2) Substitute: $7 - 3(-2) = 7 + 6 = 13$.
- 17) **Choice C is correct.** (7.EE.3-7.EE.4) Divide by 5: $x - 1 = 4$. Add 1: $x = 5$.
- 18) **The correct answer is \$48.83.** (7.RP.3) Tax = $0.085 \times 45 = \$3.825 \approx \3.83 . Final price = $45 + 3.83 = \$48.83$.
- 19) **Choice C is correct.** (7.G.1-7.G.5) Real length: $15 \text{ cm} \times 120 = 1800 \text{ cm} = 18 \text{ m}$.
- 20) **Choice B is correct.** (7.G.1-7.G.5) Reflection over the x -axis uses the rule $(x, y) \rightarrow (x, -y)$. The x -coordinate stays the same, and the y -coordinate changes sign: $(-4, 3) \rightarrow (-4, -3)$.
- 21) **The correct answer is A,B.** (7.RP.1-7.RP.3) A: $\frac{1/2}{1/6} = 3 \text{ mph}$ ✓. B: $\frac{3/4}{1/8} = 6 \text{ mph}$ ✓. C: $\frac{2/3}{1/4} = \frac{8}{3} \approx 2.67 \text{ mph}$, not 2 mph ✗. D: $\frac{5/8}{1/4} = \frac{5}{2} = 2.5 \text{ mph}$, not 2 mph ✗.
- 22) **Choice B is correct.** (7.G.1-7.G.5) Height of larger = $5 \times 1.5 = 7.5 \text{ in}$. Verify base: $6 \times 1.5 = 9 \text{ in}$ ✓
- 23) **Choice C is correct.** (7.G.4-7.G.6) Distance = circumference = $2\pi r = 2 \times 3.14 \times 0.5 = 3.14 \text{ m}$.
- 24) **Choice C is correct.** (7.G.4-7.G.6) $r = 10 \text{ ft}$. $A = 3.14 \times 10^2 = 3.14 \times 100 = 314 \text{ ft}^2$.
- 25) **Choice B is correct.** (7.G.4-7.G.6) Using $V = \pi r^2 h$: A: $3.14 \times (2)^2 \times 8 = 3.14 \times 4 \times 8 = 100.48 \text{ cm}^3$; B: $3.14 \times (3)^2 \times 6 = 3.14 \times 9 \times 6 = 169.56 \text{ cm}^3$; C: $3.14 \times (1)^2 \times 15 = 3.14 \times 1 \times 15 = 47.1 \text{ cm}^3$; D: $3.14 \times (2.5)^2 \times 4 = 3.14 \times 6.25 \times 4 = 78.5 \text{ cm}^3$. B is largest.
- 26) **Choice B is correct.** (7.SP.1-7.SP.4) Distribution A: whiskers from 0 to 10, box from 2 to 7 (IQR = 5), median 4.5. Distribution B: whiskers from 0 to 10, box from 1 to 6 (IQR = 5), median 3. Both have same range and IQR, but B's whiskers show more extreme spread. B has greater overall variability (wider range of individual values).



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Hi, Smart Reviewer!

◇ The best learning often happens after the test, when you look back and notice what worked and what needs attention. This broad and demanding book gave you seven strong Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. ◇

★ **Remember this:** You can use these practice tests as a map. The questions you solved quickly show strengths; the questions you missed show where to train next. ★

Review Routine

- **Sort:** Group mistakes by skill.
- **Reread:** Check whether the question was misunderstood.
- **Resolve:** Do the problem again without looking.
- **Record:** Write the lesson in one sentence.

Grade 7 test-day tip: Review in short focused sessions. Ten careful minutes can be more useful than an hour of rushing.

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

Jay Daie

Your Review Coach

Practice Today. Succeed Tomorrow!

This book includes **7** 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:

7 Full-Length Printed Tests

2 Online Practice Tests

 Detailed Answer 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



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.

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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