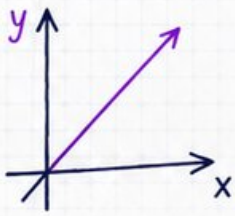
3 Arkansas ATLAS

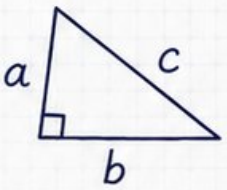
GRADE 7 MATH

PRACTICE TESTS

- Standards Aligned
- Problem Solving
- For Comprehensive Assessment Programs



$y = mx + b$



$\frac{2}{3}x - \frac{4}{5} = \frac{1}{2}$

$3(x-2) = 2x+5$

3 PRINTED TESTS

2 ONLINE TESTS

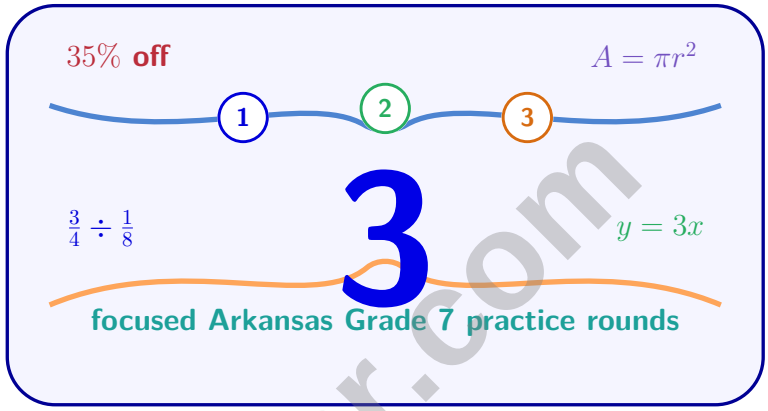
USE THESE TWO ADDITIONAL ONLINE PRACTICE TESTS

FOR EXTRA REVIEW AFTER THE PRINTED TESTS IN THIS BOOK.

- Build Confidence
- Strengthen Math Skills
- Detailed Answers & Explanations
- Improve Test Performance

3 Arkansas ATLAS Grade 7 Math Practice Tests

Arkansas Grade 7 Practice for Skills, Strategy, and Review



Three 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

Copyright ©

Testinar Inc

Published by Testinar Inc

Testinar.com

Welcome, Arkansas Grade 7 Problem Solver!

Three focused rounds for sharper ATLAS math thinking

This book gives you three 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.

How to Use This Book

A three-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?

Three ATLAS tests, 120 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.
Test 3	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.

Table of Contents

★ Practice Test 1 ____ 14
★ Practice Test 2 ____ 28
★ Practice Test 3 ____ 44
Practice Test Answer Keys ____ 58
Practice Test Answers and Explanations ____ 61

1) A circle has a radius of 5 meters. Approximately, what is its circumference? Use $\pi \approx 3.14$.

☐ A. 15.7 m
☐ B. 25 m
☐ C. 31.4 m
☐ D. 78.5 m

2) **Rainfall Estimate vs. Actual (Inches)**

Month	Estimated	Actual
January	2.0	2.5

What is the percent error for the January rainfall estimate?

☐ A. 25%
☐ B. 80%
☐ C. 5%
☐ D. 20%

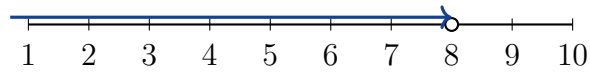
3) The diagram below shows the steps to expand $3(x+2)$. What should replace the question mark?

$$3(x+2)$$
$$\downarrow$$
$$3 \cdot x \quad + \quad 3 \cdot 2$$
$$\downarrow$$
$$3x \quad + \quad ?$$

☐ A. 2
☐ B. 3
☐ C. 5
☐ D. 6

4) A diver begins at sea level (0 meters) and descends 25 meters. Then she ascends 8 meters. What is her final depth below sea level? Write your answer as an integer.

5) On a number line for $8 > h$, which circle type is at the boundary and which direction does the arrow point?



☐ A. Closed circle at 8 pointing right
☐ B. Open circle at 8 pointing left
☐ C. Closed circle at 8 pointing left
☐ D. Open circle at 8 pointing right

6) A geometric figure has an area of 48 square inches. If the figure is enlarged by a scale factor of 3, what is the new area?

☐ A. 144 square inches
☐ B. 16 square inches
☐ C. 51 square inches
☐ D. 432 square inches

7) A family takes out a personal loan of \$8000 at 10% simple interest for 3 years. What is the total amount they will repay?

☐ A. \$8800
☐ B. \$9200
☐ C. \$10400
☐ D. \$11200

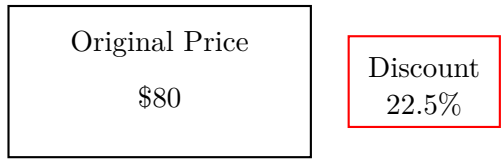
8) Factor: $-6x - 9$

☐ A. $-3(2x + 3)$
☐ B. $3(-2x - 3)$
☐ C. $-3(2x - 3)$
☐ D. $6(-x - 1.5)$

9) What percent of 60 is 48?

☐ A. 60%
☐ B. 75%
☐ C. 80%
☐ D. 90%

10)



A book store displays a book with original price \$80 and a discount tag showing 22.5% off. What is the sale price?

☐ A. \$57.50
☐ B. \$18
☐ C. \$61.00
☐ D. \$62

11) A plumber completes $\frac{1}{2}$ of a job in $\frac{2}{3}$ hour. At this rate, how many total hours does it take to complete the entire job?

12) What is $-11 + 14$?

☐ A. 25
☐ B. -25
☐ C. -3
☐ D. 3

13) Which of the following is NOT a like term with $6xy$?

☐ A. $-4xy$
☐ B. $9yx$
☐ C. $2xy^2$
☐ D. $10xy$

1) To simulate the probability of rolling a sum of 8 or higher with two dice, which initial step is necessary?

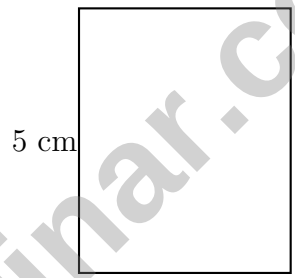
☐ A. Determine all possible outcomes that satisfy the condition
☐ B. Roll the dice only once
☐ C. Use only a spinner with 4 sectors
☐ D. Assume equal likelihood of all sums

2) A car travels 240 miles in 4 hours. What is the car's average speed? Estimate to check reasonableness.

☐ A. 50 mph
☐ B. 60 mph
☐ C. 80 mph
☐ D. 120 mph

3)

Scale: 1 cm : 5 cm



A student calculated the actual area by multiplying $4 \times 5 \times 5 = 100$ cm^2 instead of correctly squaring the scale factor. What is the correct actual area?

☐ A. 100 cm^2
☐ B. 200 cm^2
☐ C. 400 cm^2
☐ D. 500 cm^2

4) A scale model of a rectangular stage is 10 cm wide. The scale is 1 cm : 0.4 m. How many meters wide is the actual stage?

☐ A. 0.4 m
☐ B. 2.5 m
☐ C. 4 m
☐ D. 40 m

5) A video game costs $35. After a 20% price increase, what is the new cost?

6) A rectangular prism has dimensions 4 cm × 6 cm × 8 cm. If a vertical plane cuts through it perpendicular to the base, which shape MUST appear in the cross-section?

☐ A. Square
☐ B. Rectangle
☐ C. Trapezoid
☐ D. Triangle

7) If angle x and angle y are complementary, and $x = 37°$, what is y?

☐ A. 53°
☐ B. 43°
☐ C. 37°
☐ D. 143°

8) A street sign is enlarged from a scale drawing. On the drawing, the sign measures 3 inches wide by 2 inches tall. The actual sign is 12 feet wide. If the sign's measurements scale proportionally, how tall is the actual sign?

☐ A. 6 feet
☐ B. 8 feet
☐ C. 10 feet
☐ D. 16 feet

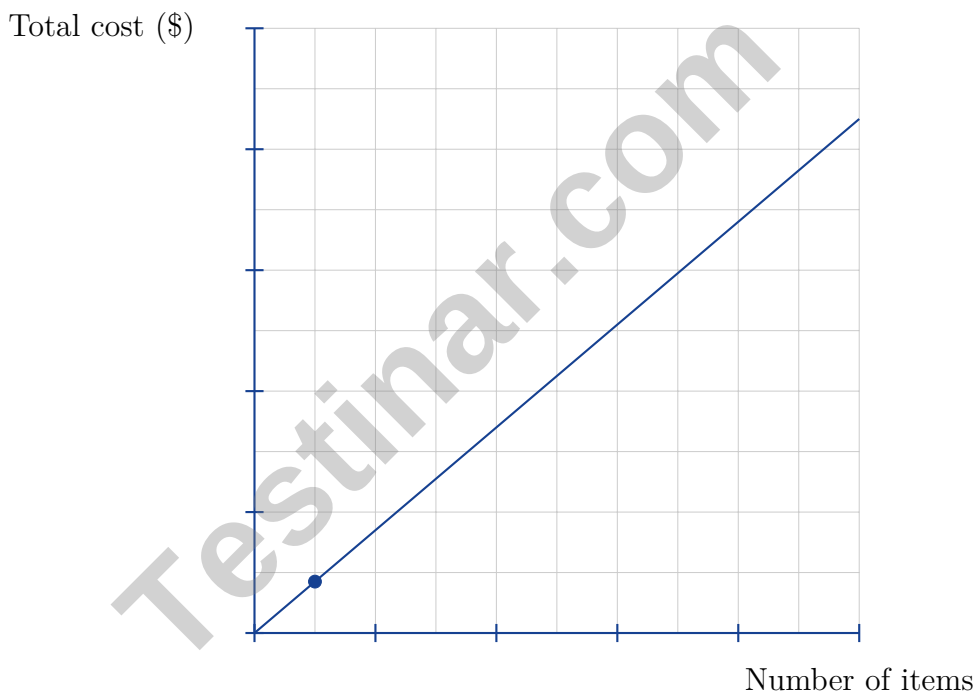
1) A rectangular prism has volume 240 cm^3 and base area 30 cm^2. What is the height of the prism?

☐ A. 8 cm
☐ B. 10 cm
☐ C. 15 cm
☐ D. 210 cm

2) A letter is chosen from the word PROBABILITY. Find P(letter B).

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

3)



From this proportional relationship graph, identify the unit-rate point and find the cost per item.

4) A movie theater applies a $1.50 processing fee to online ticket orders. If a customer buys 4 tickets at $12 each, what is the total cost?

☐ A. $48.00
☐ B. $52.50
☐ C. $50.00
☐ D. $49.50

5) A school had 360 students. If $\frac{1}{3}$ of them attend the science club, what percent is that?

6) Maya earns $200 a week. If she puts 12% of her earnings into a savings account each week, how much does she save weekly?

☐ A. $12
☐ B. $20
☐ C. $24
☐ D. $30

7) Which scenario shows the most total interest earned over 3 years with compound interest?

☐ A. $2,000 at 4%
☐ B. $1,000 at 8%
☐ C. $2,500 at 3%
☐ D. $1,500 at 6%

8) An online retailer increases prices by 10% one month, then by 5% the next month. A customer claims this is the same as a single 15% increase. Is the customer correct?

☐ A. Yes, successive percent increases add.
☐ B. No; the true increase is 14.5%.
☐ C. No; $1.10 \times 1.05 = 1.155$, so the increase is 15.5%.
☐ D. They are exactly the same.

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.

Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

1) **Choice C is correct.** 7.G.4-7.G.6 Circumference $= 2\pi r \approx 2 \times 3.14 \times 5 = 31.4$ m.

2) **Choice D is correct.** 7.RP.3 Percent error $= \frac{|2.0-2.5|}{2.5} \times 100\% = \frac{0.5}{2.5} \times 100\% = 20\%$.

3) **Choice D is correct.** 7.EE.1-7.EE.2 The diagram shows $3(x) + 3(2) = 3x + 6$. The missing value is 6.

4) **The correct answer is -17 .** 7.NS.1-7.NS.3 After descending: $0 - 25 = -25$. After ascending 8 meters: $-25 - (-8) = -25 + 8 = -17$. She is 17 meters below sea level.

5) **Choice B is correct.** 7.EE.4b Rewrite $8 > h$ as $h < 8$. The strict inequality $<$ uses an open circle at 8, and the arrow points left toward smaller values.

6) **Choice D is correct.** 7.RP.1-7.RP.3 Area scales by the square of the linear scale factor: $(3)^2 = 9$. New area $= 48 \times 9 = 432$ sq in.

7) **Choice C is correct.** 7.RP.3 $I = 8000 \times 0.10 \times 3 = \$2400$. $A = 8000 + 2400 = \$10400$.

8) **Choice A is correct.** 7.EE.1-7.EE.2 GCF is 3. Factor out the negative: $-6x - 9 = -3(2x + 3)$. Check: $-3(2x + 3) = -6x - 9$.

9) **Choice C is correct.** 7.RP.3 $\frac{48}{60} = \frac{4}{5} = 0.80 = 80\%$.

10) **Choice D is correct.** 7.RP.3 Discount $= 0.225 \times 80 = \$18$. Sale price $= 80 - 18 = \$62$.

11) **The correct answer is $\frac{4}{3}$.** 7.RP.1-7.RP.3 If $\frac{1}{2}$ job takes $\frac{2}{3}$ hour, then 1 full job takes $\frac{2}{3} \times 2 = \frac{4}{3}$ hours.

12) **Choice D is correct.** 7.NS.1b Subtract absolute values: $|14| - |-11| = 14 - 11 = 3$. Since $14 > |-11|$ and 14 is positive, the answer is 3.

13) **Choice C is correct.** 7.EE.1 Like terms must have the same variables with the same exponents. $2xy^2$ has x^1y^2, while $6xy$ has x^1y^1. The exponents on y differ, so they are not like terms. Options A and D are clearly like $6xy$. Option B, $9yx$, equals $9xy$ by commutativity, so it is also a like term with $6xy$.

14) **Choice C is correct.** 7.G.4-7.G.6 Base: $12^2 = 144$ cm^2. Four triangles: $4 \times \frac{1}{2}(12)(10) = 4 \times 60 = 240$ cm^2. Total: $144 + 240 = 384$ cm^2.

15) **Choice C is correct.** 7.SP.1-7.SP.4 A sample of 300 from 12,000 is approximately 2.5% of the population and is large enough to provide reliable results. Samples of 20 and 50 are too small and may not represent the full diversity of students. A sample of 2000 would give similar reliability but is unnecessary.

16) **Choice B is correct.** 7.SP.5-7.SP.8 Relative frequency from the simulation is $\frac{48}{100} = 0.48$, which estimates the probability.

17) **Choice A is correct.** 7.EE.1-7.EE.2 Substitute: $\frac{3(3)-1}{2} = \frac{9-1}{2} = \frac{8}{2} = 4$.

18) **The correct answer is C,D.** 7.SP.1-7.SP.4 The total amounts are not given, so A and B cannot be determined from the percentages alone. Region Y has 50% indoor and 50% outdoor use, so C is correct. Region Y's outdoor percentage (50%) is higher than Region X's outdoor percentage (40%), so D is correct.

19) **Choice C is correct.** 7.EE.3-7.EE.4 Subtract 3: $\frac{x}{2} = 4$. Multiply by 2: $x = 8$.

20) **Choice B is correct.** 7.EE.4a Distribute: $6x + 12 = 30$. Subtract 12: $6x = 18$. Divide by 6: $x = 3$.

21) **Choice B is correct.** 7.EE.4b Multiply both sides by -3 and flip the sign: $x \geq -12$.

22) **Choice A is correct.** 7.G.1-7.G.5 A 180° rotation maps $(1, 1) \to (-1, -1)$, $(3, 2) \to (-3, -2)$, and $(2, 4) \to (-2, -4)$, matching Triangle B.

23) **Choice B is correct.** 7.G.4-7.G.6 From $314 = 3.14 \times r^2$, we get $r^2 = 100$, so $r = 10$ meters.

24) **The correct answer is 15 .** 7.RP.1-7.RP.3 Ratio: $30/2 = 15, 60/4 = 15, 90/6 = 15$. Hourly wage is \$15; constant of proportionality is $k = 15$.

25) **Choice C is correct.** 7.SP.1-7.SP.4 The mode is in the interval with the highest frequency. The 30–40 lbs interval has a frequency of 20, which is the highest among all intervals.

26) **Choice B is correct.** 7.SP.5-7.SP.8 Favorable outcomes: 5, 6 (two outcomes). Total outcomes: 6. $P(>4) = \frac{2}{6} = \frac{1}{3}$.

27) **Choice D is correct.** 7.RP.1-7.RP.3 The constant k in $C = kn$ represents the cost per student. In the first, $k = 15$ (dollars per student); in the second, $k = 20$ (dollars per student). Different constants mean different unit prices.

Hi, Strategy Solver!

◇ Grade 7 math rewards students who think before they calculate. You practiced choosing strategies, not just hunting for answers. This short, concentrated book gave you three focused Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. ◇

⋆ **Remember this:** That matters because stronger math students do not use one method for every question. They notice the structure and choose the tool that fits. ⋆

Strategy Moves

- **Estimate:** Know the neighborhood of the answer.
- **Simplify:** Rewrite numbers in friendlier forms.
- **Model:** Draw what the words describe.
- **Verify:** Put the answer back into the problem.

Grade 7 test-day tip: Pause for ten seconds before hard questions. A short plan can save several minutes.

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

Jay Daie

Your Strategy Guide

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **3** 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:

- **3** 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.

Detailed Answers & Explanations
Learn from clear explanations and step-by-step solutions.

Improve Test 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!

VISIT TESTINAR.COM/MATH7

FOR MORE PRACTICE TESTS AND LEARNING RESOURCES.

PRACTICE REGULARLY | STAY FOCUSED | SOLVE CONFIDENTLY | SUCCEED BRIGHTLY