

9 Kansas KAP

GRADE 7

MATH

PRACTICE TESTS

Standards Aligned Problem Solving
For Comprehensive Assessment Programs

Program



**9 PRINTED
TESTS**



**2 ONLINE
TESTS**



Use these two additional online practice tests
for **extra review** after the printed tests in this book.



BUILT FOR ACAP
Standards-Aligned



**STRENGTHEN
SKILLS**



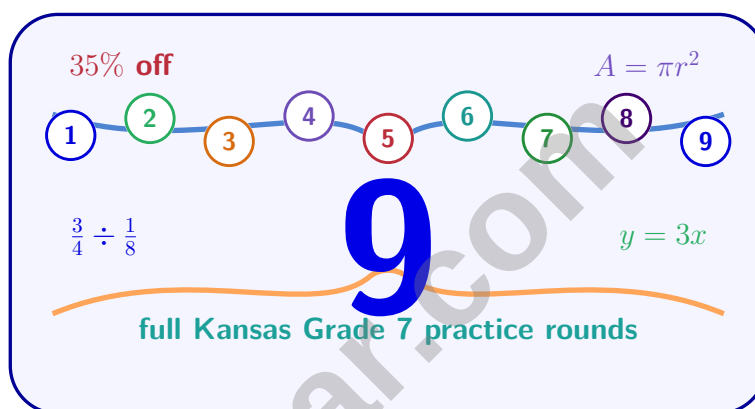
**SHARPEN
THINKING**



BE TEST-READY
Improve Performance

9 Kansas KAP Grade 7 Math Practice Tests

Standards-Aligned Kansas Practice for Proportional Reasoning, Expressions, Geometry, Statistics, and Probability



Nine complete 40-question Grade 7 KAP 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, Kansas Grade 7 Problem Solver!

Nine focused rounds for sharper KAP math thinking

This book gives you nine full Grade 7 KAP 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 Kansas 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 nine-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.

Kansas 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?

Nine KAP tests, 360 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 7–9	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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For more practice
& answers

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1) Solve for x : $-4(x + 6) = 8$

☐ A. $x = -8$

☐ C. $x = 2$

☐ B. $x = -4$

☐ D. $x = 4$

2) A line graph shows the cost of a movie ticket over 10 years (2014–2024): \$8, \$8.50, \$9, \$9.50, \$10, \$10.25, \$10.50, \$11, \$11.50, \$12. Which year shows the smallest increase from the previous year?

☐ A. 2015 (increase of \$0.50)

☐ C. 2019 (increase of \$0.25)

☐ B. 2018 (increase of \$0.50)

☐ D. 2020 (increase of \$0.50)

3) A dot plot shows the number of errors on practice tests for two students. Student M: 2, 2, 3, 3, 3, 3, 4, 4, 5; Student N: 1, 1, 4, 5, 6, 7. Which student has more consistent test performance?

☐ A. Student M (most tests have 3 errors, range 3)

☐ C. Both students perform identically

☐ B. Student N (fewer total errors on some tests)

☐ D. Student N (fewer errors overall)

4) A bag contains 6 blue marbles and 4 yellow marbles. Two marbles are drawn WITHOUT replacement. What is the probability the first is blue and the second is yellow?

☐ A. $\frac{24}{80}$

☐ C. $\frac{24}{100}$

☐ B. $\frac{6}{10} \cdot \frac{4}{8}$

☐ D. $\frac{4}{15}$



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- 5) A survey of 180 farms found 45 grow organic crops. The region has 3600 farms. About how many are expected to grow organic crops?

- 6) Two datasets are displayed in a back-to-back stem-and-leaf plot:

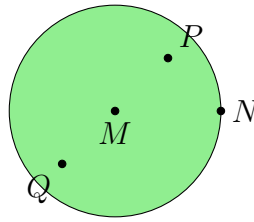
	Group A	Stem	Group B
Group A (left) vs. Group B (right)	8, 5, 2	5	3, 6, 9
	7, 4	6	1, 5, 8
		7	2, 4, 6

Which group has more data values?

- ☐ A. Group A
 ☐ C. Both equal
☐ B. Group B
 ☐ D. Cannot determine
- 7) An error analysis: A student calculated the experimental probability of an event as $\frac{\text{total trials}}{\text{favorable outcomes}}$ instead of $\frac{\text{favorable outcomes}}{\text{total trials}}$. If an event occurred 32 times in 200 trials, what error did the student make?
- ☐ A. Found 0.16 instead of 0.32.
 ☐ C. Found 0.32 instead of 0.16.
☐ B. Found 6.25 instead of 0.16.
 ☐ D. Made no error.



8) Which point is the center of the circle?


☐ A. N
☐ C. P
☐ B. M
☐ D. Q

9) A poster measures 24 inches by 36 inches. It is reduced to fit in a frame with a scale of 1 : 4. What are the new dimensions?

☐ A. 12 inches $\times$ 18 inches

☐ C. 6 inches $\times$ 9 inches

☐ B. 4 inches $\times$ 6 inches

☐ D. 20 inches $\times$ 32 inches

10)

Sport	Students	Percent
Basketball	36	45%
Soccer	20	25%
Other	24	30%

The table shows sports preferences. If 45% of 80 students play basketball, how many is that?

☐ A. 30

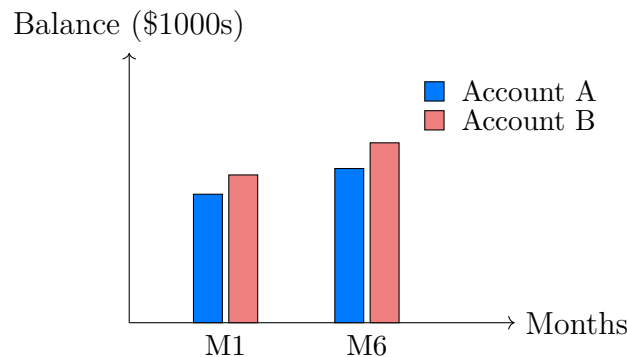
☐ C. 40

☐ B. 45

☐ D. 36


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- 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) A tile setter lays $\frac{5}{8}$ of a floor in $\frac{1}{2}$ hour. How many floors can be laid in 1 hour?
- ☐ A. $\frac{5}{16}$ floor
 ☐ C. $\frac{4}{5}$ floor
☐ B. 2 floors
 ☐ D. $\frac{5}{4}$ floors
- 3) A recipe uses 3 tablespoons of salt for 12 cups of water. If s is salt and w is water, what equation shows this proportional relationship?
- ☐ A. $s = 4w$
☐ C. $s = \frac{w}{4}$
☐ B. $s = w + 9$
☐ D. $s = \frac{1}{4}w$
- 4) Two tables show relationships between x and y . Table P has (1, 4), (2, 8), (3, 12). Table Q has (1, 5), (2, 9), (3, 13). Which is proportional?
- ☐ A. Neither table
 ☐ C. Both tables
☐ B. Table Q
 ☐ D. Table P



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5) A gym membership costs \$45 per month. If m is the number of months and c is the total cost, what is the constant of proportionality?

☐ A. \$22.50

☐ B. \$40

☐ C. \$90

☐ D. \$45

6) Simplify: $5x + 3y - 2x + 4y$

☐ A. $3x + 7y$

☐ B. $7x + 7y$

☐ C. $3x - y$

☐ D. $10xy$

7) To simulate the compound event of flipping a coin and rolling a die, how many equally likely outcomes should be in the sample space?

☐ A. 6

☐ B. 8

☐ C. 12

☐ D. 18

8) A teen has \$30 to spend on a new phone and games. If the phone costs \$12, write an inequality for how much g (in dollars) they can spend on games.

☐ A. $g \leq 18$

☐ B. $12 + g \leq 30$

☐ C. $g + 30 = 12$

☐ D. $g > 18$

9) A gift box in the shape of a rectangular prism measures 12 in long, 8 in wide, and 5 in tall. A student needs to wrap it with paper. How many square inches of wrapping paper are needed (ignoring overlap)?

☐ A. 50 in^2

☐ B. 100 in^2

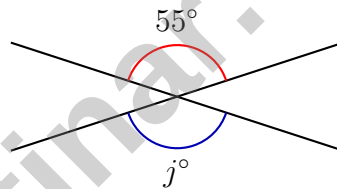
☐ C. 392 in^2

☐ D. 480 in^2



- 1) A cube has surface area 216 cm^2 . What is the edge length?
- ☐ A. 4 cm ☐ C. 36 cm
☐ B. 6 cm ☐ D. 1296 cm
- 2) 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
- 3) A scale drawing shows a rectangular plot 4 in by 7 in with scale 1 in : 15 ft. A new drawing uses scale 1 in : 30 ft. Which are the new dimensions?
- ☐ A. 2 in by 3.5 in ☐ C. 8 in by 14 in
☐ B. 4 in by 7 in ☐ D. 60 in by 105 in

4)



Two intersecting lines form vertical angles. One angle is marked as 55° . What is the measure of angle j vertically opposite to it?

- ☐ A. 35° ☐ C. 125°
☐ B. 55° ☐ D. 235°



5) A point W is rotated 90° counterclockwise about the origin, and the image is $W'(2, -5)$. What are the original coordinates of W ?

☐ A. $(5, 2)$

☐ C. $(2, 5)$

☐ B. $(-5, -2)$

☐ D. $(-2, -5)$

6) Two similar isosceles triangles have areas in the ratio $4 : 25$. What is the ratio of their corresponding sides?

☐ A. $2 : 5$

☐ C. $2 : 25$

☐ B. $4 : 25$

☐ D. $16 : 625$

7) A researcher compares test-retest reliability of two assessments:

Assessment	Mean Difference	MAD of Differences
Test A	0.5	1.2
Test B	0.8	0.3

Which assessment is more reliable?

☐ A. Test A (larger MAD means more precision)

☐ C. Both are equally reliable

☐ D. Cannot determine from this data

☐ B. Test B (smaller MAD indicates consistent retest results)

8) The graph shows a proportional relationship between hours worked and dollars earned. It passes through the origin and the point $(2, 30)$. What is the unit rate (dollars per hour)?

☐ A. \$2 per hour

☐ C. \$28 per hour

☐ B. \$60 per hour

☐ D. \$15 per hour



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Kansas KAP 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 Kansas KAP practice test.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** (7.EE.4a) Distribute: $-4x - 24 = 8$. Add 24: $-4x = 32$. Divide by -4 : $x = -8$.
- 2) **Choice C is correct.** (7.SP.1-7.SP.4) Comparing year-to-year increases: 2015 (+\$0.50), 2016 (+\$0.50), 2017 (+\$0.50), 2018 (+\$0.50), 2019 (+\$0.25), 2020 (+\$0.25), 2021 (+\$0.50), 2022 (+\$0.50), 2023 (+\$0.50), 2024 (+\$0.50). The year 2019 shows the smallest single increase at \$0.25.
- 3) **Choice A is correct.** (7.SP.3) Student M's errors concentrate at 2–4 with peak at 3 and range 3 (2–5). Student N's errors vary widely from 1–7 (range 6), showing inconsistent performance.
- 4) **Choice D is correct.** (7.SP.5-7.SP.8) Without replacement: $P(\text{blue first}) = \frac{6}{10}$; after removing it, 9 remain. $P(\text{yellow second}) = \frac{4}{9}$. Product: $\frac{6}{10} \cdot \frac{4}{9} = \frac{24}{90} = \frac{4}{15}$.
- 5) **The correct answer is 900.** (7.SP.1-7.SP.4) $\frac{45}{180} = \frac{x}{3600}$. Reduce: $\frac{1}{4} = \frac{x}{3600} \Rightarrow x = 900$.
- 6) **Choice B is correct.** (7.SP.1-7.SP.4) Group A: $3 + 2 = 5$ values. Group B: $3 + 3 + 3 = 9$ values. Group B has more.
- 7) **Choice B is correct.** (7.SP.6) Correct probability: $\frac{32}{200} = 0.16$. Student's error: $\frac{200}{32} = 6.25$. The student inverted the fraction.
- 8) **Choice B is correct.** (7.G.4-7.G.6) The center is the point inside the circle equidistant from all points on the circle. M is at the center.
- 9) **Choice C is correct.** (7.RP.1-7.RP.3) Scale 1 : 4 means the new dimensions are $\frac{1}{4}$ of the original: $24 \div 4 = 6$ inches; $36 \div 4 = 9$ inches.
- 10) **Choice D is correct.** (7.RP.3) 45% of 80 is $0.45 \times 80 = 36$ students.
- 11) **Choice A is correct.** (7.NS.1b) Start at -3 and move 7 units to the right to reach 4. Options B, C, and D either move in the wrong direction or start at the wrong point.
- 12) **Choice D is correct.** (7.RP.1-7.RP.3) Unit rate: $\frac{2\frac{3}{4}}{1\frac{1}{4}} = \frac{2}{3} \times 4 = \frac{8}{3}$ reams/hour. In 3 hours: $\frac{8}{3} \times 3 = 8$ reams.
- 13) **Choice D is correct.** (7.RP.1-7.RP.3) The diagram shows 6 equal parts totaling 18 miles. The equation is $6m = 18$, giving $m = 3$ miles per part. This represents a proportional relationship where each part measures the same distance.
- 14) **Choice C is correct.** (7.RP.3) Returns: $\frac{1}{10} \times 500 = 50$. Kept: $500 - 50 = 450$. Note: $\frac{1}{10} = 0.1 = 10\%$.
- 15) **Choice A is correct.** (7.NS.1-7.NS.3) Total sugar for 2 batches = $2 \times \frac{2}{3} = \frac{4}{3}$ cups. Sugar used for second dessert = $\frac{1}{2} \times \frac{4}{3} = \frac{2}{3}$ cups. Remaining = $\frac{4}{3} - \frac{2}{3} = \frac{2}{3}$ cups.
- 16) **The correct answer is 0.** (7.G.1-7.G.5) Compute $169 - (25 + 144) = 0$. This indicates the triangle is a right triangle.
- 17) **Choice A is correct.** (7.EE.1-7.EE.2) Combine: $(-6j + 4j) + (12 - 8) = -2j + 4$.
- 18) **Choice C is correct.** (7.G.1-7.G.5) If $\frac{1}{4}$ inch represents 1 foot, then $\frac{3}{4}$ inch represents 3 feet: $\frac{3}{4} \div \frac{1}{4} = 3$.
- 19) **The correct answer is A,B.** (7.G.4-7.G.6) A is correct: volume $V = B \times h$ for any prism. B is correct: $V = 4^3 = 64 \text{ cm}^3$. C is false: doubling height doubles volume, not triples it. D is false: a triangular prism can have larger volume than a rectangular prism depending on dimensions.
- 20) **Choice B is correct.** (7.G.1-7.G.5) Scale factor = $\frac{18}{12} = 1.5$. Area scales by $(1.5)^2 = 2.25$. New area = $40 \times 2.25 = 90$ square cm.
- 21) **Choice D is correct.** (7.RP.1-7.RP.3) All y/x ratios equal 5 gallons per minute, confirming a proportional relationship.
- 22) **Choice D is correct.** (7.RP.3) Amount left = $(100\% - 25\%) \times \$600 = 75\% \times 600 = 0.75 \times 600 = \450 .
- 23) **Choice C is correct.** (7.NS.1-7.NS.3) $\sqrt{144} = 12$ inches since $12 \times 12 = 144$.
- 24) **Choice B is correct.** (7.NS.1-7.NS.3) In proper scientific notation, the coefficient must satisfy $1 \leq a < 10$. $0.0000625 = 6.25 \times 10^{-5}$.
- 25) **Choice A is correct.** (7.EE.1-7.EE.2) The diagram shows a discount reduces price from p to $0.9p$. This means $0.9p = p - 0.1p$, factoring as $p(1 - 0.1)$.
- 26) **Choice A is correct.** (7.NS.2) The associative property allows regrouping factors without changing the product. A shows this: $(-6) \times 4 = (-3) \times 8 = -24$. B is commutative; C is commutative; D is distributive.
- 27) **Choice A is correct.** (7.SP.5-7.SP.8) Red sector is 180° out of 360° : $P(\text{red}) = \frac{180}{360} = \frac{1}{2}$.



Hi, Confident Learner!

◇ This high-stamina book gave you nine substantial Grade 7 practice tests, so you had repeated chances to build accuracy, pacing, and confidence. Grade 7 math can feel big because it brings together rational numbers, expressions, equations, geometry, probability, and data. ◇

★ **Remember this:** But big topics become manageable when you practice one skill at a time. That is what you have been doing with every test in this book. ★

Confidence Builders

- **Know the Goal:** Identify what the question asks.
- **Use Vocabulary:** Math words point to math actions.
- **Show Work:** Give yourself something to check.
- **Celebrate Effort:** Practice is proof that you are moving.

Grade 7 test-day tip: When reviewing, do not only mark wrong answers. Write one sentence about what you learned from each one.

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

Jay Daie

Your Confidence Coach

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **9** 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:

9 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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