

7 Kansas KAP

Grade 7 Math Practice Tests



ONLINE

7 PRINTED TESTS + 2 ONLINE TESTS

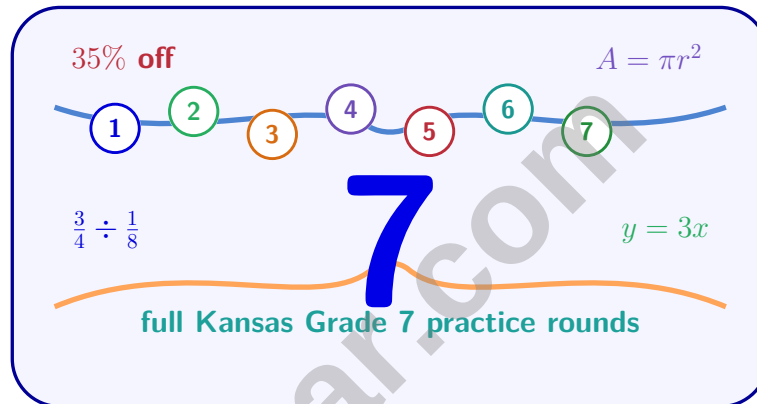


**Standards Aligned Problem Solving
For Comprehensive Assessment Programs**



8 Kansas KAP Grade 7 Math Practice Tests

Prepared practice for Kansas Grade 7 percents, algebraic expressions, two-step equations, geometry, and probability



Eight 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!

Eight focused rounds for sharper KAP math thinking

This book gives you seven 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

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.

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?

Eight KAP 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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& answers

Table of Contents

★ Practice Test 1	_____	15
★ Practice Test 2	_____	29
★ Practice Test 3	_____	43
★ Practice Test 4	_____	56
★ Practice Test 5	_____	70
★ Practice Test 6	_____	84
★ Practice Test 7	_____	99
Practice Test Answer Keys	_____	113
Practice Test Answers and Explanations	_____	118

- 1) Two dot plots show the number of iced beverages sold daily at two coffee shops. Shop X: 40, 42, 42, 44, 44, 44, 46, 48 beverages. Shop Y: 20, 30, 40, 50, 60, 70 beverages. Which shop's daily sales are easier for inventory planning?

- ☐ A. Shop X (clusters tightly; easier to predict daily demand) ☐ C. Both shops are identical for planning
☐ B. Shop Y (wider range allows flexibility) ☐ D. Shop Y (higher maximum sales)

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

- 3) What is $\frac{3}{4} \times 8$?

- ☐ A. 6 ☐ C. 10
☐ B. 8 ☐ D. 12

- 4) A stock broker earns a 0.5% commission on all stock trades. A client makes a trade worth \$8,000. What is the broker's commission?

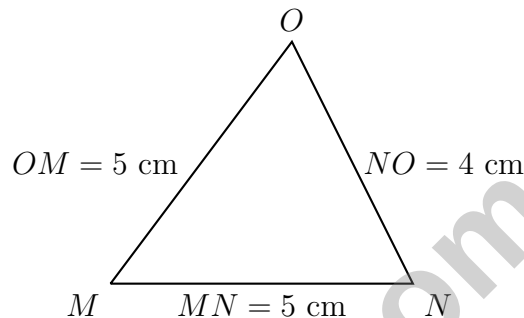
- ☐ A. \$4 ☐ C. \$400
☐ B. \$4,000 ☐ D. \$40



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- 5) A student deposits money at 7% annual compound interest for 3 years and the balance becomes \$1,210.36. What was the original principal (rounded to nearest dollar)?

- ☐ A. \$900 ☐ C. \$1,000
☐ B. \$975 ☐ D. \$1,050



6)

Triangle MNO has sides $MN = 5$ cm, $NO = 4$ cm, and $OM = 5$ cm. What type of triangle is MNO ?

- ☐ A. Scalene ☐ C. Equilateral
☐ B. Isosceles ☐ D. Right triangle
- 7) Marcus walks 12 meters east. To return to his starting point, he must walk 12 meters west. Which number represents his westward walk?
- ☐ A. -12 (opposite direction) ☐ C. 0 (no displacement)
☐ B. 12 (same direction as eastward walk) ☐ D. -24 (double the distance in opposite direction)



8) Identify the unlike terms in this expression: $4a + 3b + 2a + 5c$

☐ A. $4a$ and $2a$

☐ C. $4a$ and $3b$

☐ B. $3b$ and $5c$

☐ D. $2a$ and $5c$

9) To design a simulation for the probability that a student passes a course (estimated at 75%), which spinner is most appropriate?

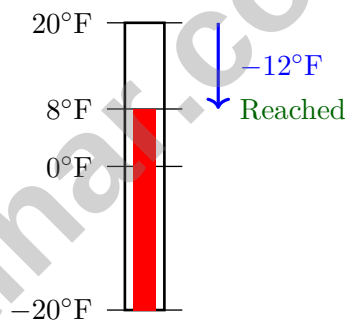
☐ A. A spinner with 2 equal sections

☐ C. A spinner with 4 equal sections, 3 shaded

☐ B. A spinner with 3 equal sections, one shaded

☐ D. A spinner with 4 equal sections, 1 shaded

10) A thermometer starts at 20°F . After adding -12°F , which temperature is reached?



Which shows the result of $20 + (-12)$?

☐ A. 20°F

☐ C. -4°F

☐ B. -20°F

☐ D. 8°F



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- 1) A square in a scale drawing has a side length of 2 cm. The scale is 1 cm : 3 m. What is the area of the actual square in square meters?
- ☐ A. 9 m^2 ☐ C. 36 m^2
☐ B. 12 m^2 ☐ D. 72 m^2
- 2) Which statement is true?
- ☐ A. $\sqrt{16} = 4$ and $4^2 = 16$ ☐ C. $\sqrt{36} = 6$ and $6^2 = 37$
☐ B. $\sqrt{25} = -5$ and $5^2 = 25$ ☐ D. $\sqrt{49} = 7$ and $7^2 = 49$
- 3) A data set has values: 12, 15, 15, 18, 21, 23, 24, 28. Which is the correct stem-and-leaf plot?
- ☐ A. Stem 1: 2, 5, 5, 8; Stem 2: 1, 3, 4, 8 ☐ C. Stem 1: 2, 5, 5, 8; Stem 2: 3, 4, 8, 1
☐ B. Stem 1: 1, 2, 5, 5; Stem 2: 1, 3, 4, 8 ☐ D. Stem 1: 1, 2, 3, 4; Stem 2: 1, 5, 5, 8
- 4) An irregular hexagon can be split into three rectangles: $(4 \text{ m} \times 2 \text{ m})$, $(3 \text{ m} \times 2 \text{ m})$, and $(2 \text{ m} \times 2 \text{ m})$. What is the total area?
- ☐ A. 18 m^2 ☐ C. 22 m^2
☐ B. 20 m^2 ☐ D. 24 m^2
- 5) A triangular prism has a triangular base with area 15 cm^2 and a height of 10 cm. What is its volume?
- ☐ A. 25 cm^3 ☐ C. 150 cm^3
☐ B. 75 cm^3 ☐ D. 300 cm^3



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6) A circle has a diameter of $\frac{30}{7}$ meters. What is its radius?

☐ A. $\frac{15}{7}$ meters

☐ B. $\frac{30}{7}$ meters

☐ C. $\frac{60}{7}$ meters

☐ D. 7 meters

7) Simplify: $8x + 5y - 3x - 2y + x$

☐ A. $6x + 3y$

☐ B. $12x + 3y$

☐ C. $4x + 3y$

☐ D. $8x + 5y$

8) A simulation consists of rolling a die and flipping a coin, recording both results. This is the compound event. How many equally likely outcomes are in the sample space?

☐ A. 6

☐ B. 8

☐ C. 12

☐ D. 36

9) A student factors $-8m - 12$ and gets $-4(2m + 3)$. Is this correct?

☐ A. Yes; $-4(2m + 3) = -8m - 12$

☐ B. No; the GCF should be -2

☐ C. No; the correct factorization is $4(2m + 3)$

☐ D. No; the correct factorization is $-4(2m - 3)$

10) Solve: $5x - 2 \geq 18$

☐ A. $x \geq 4$

☐ B. $x \leq 4$

☐ C. $x \geq 20$

☐ D. $x > 4$

11) A square pyramid has a base with side 4 in and slant height 5 in. What is the surface area?

☐ A. 16 in^2

☐ B. 40 in^2

☐ C. 56 in^2

☐ D. 96 in^2



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

☐ A. 6

☐ C. 9

☐ B. 8

☐ D. 7

2) A basketball team scores 96 points. If 33.33% came from three-pointers, approximately how many points came from three-pointers? (Round to the nearest whole number.)

☐ A. 23 points

☐ C. 64 points

☐ B. 96 points

☐ D. 32 points

3) Aisha earns \$1 800 per month. Her net income (take-home pay) is \$1 530 after taxes and deductions. What percentage of her gross income is her net income?

☐ A. 80%

☐ C. 85%

☐ B. 82%

☐ D. 90%

4) A gardener increased the area of a flowerbed from 40 square feet to 56 square feet. What is the percent increase?

☐ A. 16%

☐ C. 40%

☐ B. 28.6%

☐ D. 60%

5) A square pyramid has base side 9 m and slant height 12 m. What is the total surface area?

☐ A. 81 m²

☐ C. 297 m²

☐ B. 216 m²

☐ D. 378 m²

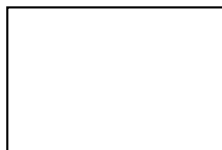


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6) A museum posts a survey on its website for visitors to complete. What is the PRIMARY limitation of this method?

- ☐ A. The survey is too long ☐ C. It requires payment from visitors
☐ B. It excludes non-internet users and ☐ D. It uses systematic random sampling
creates voluntary response bias

Scale: 1 cm : 2.5 m



3.6 cm $\times$ 2.4 cm

7)

A scale drawing of a loading dock is 3.6 cm by 2.4 cm with a scale of 1 cm : 2.5 m. What is the area of the actual loading dock in square meters?

- ☐ A. 8.64 m² ☐ C. 54 m²
☐ B. 21.6 m² ☐ D. 81 m²

8) A rental agency charges \$30 to rent a bicycle and \$5 per day. If the total cost is \$60, write an equation to represent the number of days d the bicycle was rented, solve for d , and verify your answer.



Kansas Assessment Program 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 Assessment Program practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice A is correct.** (7.SP.3) Inventory planning requires predictability. Shop X clusters at 42–46 beverages (range 8), making stocking predictable. Shop Y spans 20–70 beverages (range 50), creating inventory uncertainty.
- 2) **The correct answer is 11.** (7.RP.1-7.RP.3) $y = 2.2 \times 5 = 11$.
- 3) **Choice A is correct.** (7.NS.2) $\frac{3}{4} \times 8 = \frac{3 \times 8}{4} = \frac{24}{4} = 6$.
- 4) **Choice D is correct.** (7.RP.3) Commission = commission rate $\times$ trade value = $0.005 \times 8000 = \$40$.
- 5) **Choice C is correct.** (7.RP.3) Working backwards: $P(1.07)^3 = 1210.36 \Rightarrow P = \frac{1210.36}{1.2250} = 988.13 \approx 1000$.
- 6) **Choice B is correct.** (7.G.1-7.G.5) Two sides have the same length: $OM = MN = 5$ cm. An isosceles triangle has at least two congruent sides. Checking: $4^2 + 5^2 = 41 \neq 25$, so it is not a right triangle.
- 7) **Choice A is correct.** (7.NS.1-7.NS.3) If east is positive, then west is negative. Walking 12 meters west is represented by -12 .
- 8) **Choice B is correct.** (7.EE.1) Unlike terms have different variables. b and c are different variables, so $3b$ and $5c$ are unlike.
- 9) **Choice C is correct.** (7.SP.5-7.SP.8) $75\% = \frac{3}{4}$. A spinner with 4 equal sections where 3 are shaded represents this probability.
- 10) **Choice D is correct.** (7.NS.1b) $20 + (-12) = 8$. Starting at 20° and decreasing by 12° gives 8° .
- 11) **Choice A is correct.** (7.EE.1-7.EE.2) Distribute: $-3(2x + 5) = -3(2x) + (-3)(5) = -6x - 15$.
- 12) **Choice A is correct.** (7.EE.4b) “The sum of a number and 2” is $n + 2$; “is not equal to 7” is $\neq 7$.
- 13) **Choice C is correct.** (7.G.4-7.G.6) Two triangular bases: $2 \times \frac{1}{2}(12)(9) = 108 \text{ cm}^2$. Three rectangular sides: base $12 \times 10 = 120$, two equal sides $2 \times 10.8 \times 10 = 216 \text{ cm}^2$. Total: $108 + 120 + 216 = 444 \text{ cm}^2$.
- 14) **Choice B is correct.** (7.SP.1-7.SP.4) A random sample of all rental addresses (not just one complex) ensures all neighborhoods and rent levels are represented, avoiding bias.
- 15) **Choice D is correct.** (7.NS.1-7.NS.3) $\frac{1}{4} - \frac{3}{4} = -\frac{2}{4} = -\frac{1}{2}$.
- 16) **Choice D is correct.** (7.NS.2d) Divide $23 \div 40 = 0.575$. Since $40 = 2^3 \times 5$, it terminates in three decimal places.
- 17) **Choice A is correct.** (7.EE.1-7.EE.2) Twice a number t is $2t$. Sum of 6 and $2t$ is $6 + 2t$.
- 18) **Choice B is correct.** (7.EE.1-7.EE.2) An odd exponent preserves the sign of the base: $(-2)^3 = (-2) \cdot (-2) \cdot (-2) = -8$.
- 19) **Choice D is correct.** (7.EE.4a) Game is \$60 plus \$9.99 per bundle. Equation: $9.99b + 60 = 99.96$.
- 20) **Choice A is correct.** (7.G.1-7.G.5) Multiply drawing dimensions by scale factor: $2.5 \times 10 = 25$ ft and $3.5 \times 10 = 35$ ft.
- 21) **The correct answer is A,C.** (7.RP.1-7.RP.3) True: A ($4 \times 6 = 24$ feet) and C ($2 \times 6 = 12$ feet; $2.5 \times 6 = 15$ feet). False: B (area scales by $6^2 = 36$, not 6); D (area: $900 \div 36 = 25$ sq in, not 36); E (areas are reduced by $\frac{1}{36}$ on the plan, not $\frac{1}{6}$).
- 22) **Choice A is correct.** (7.G.1-7.G.5) Reflection over $y = x$ swaps coordinates: $(5, -4) \rightarrow (-4, 5)$.
- 23) **Choice B is correct.** (7.G.4-7.G.6) $C = \pi d = 3.14 \times 8 = 25.12$ units.
- 24) **Choice A is correct.** (7.SP.5-7.SP.8) Total tokens = $3 + 4 + 8 = 15$. $P(\text{purple}) = \frac{4}{15}$.
- 25) **Choice C is correct.** (7.SP.5-7.SP.8) Colors: 2; sizes: 3. By the counting principle: $2 \times 3 = 6$ combinations.
- 26) **Choice B is correct.** (7.NS.1-7.NS.3) Divide the magnitudes: $13 \div 4 = 3.25$. Apply sign rule: $(+) \div (-) = (-)$. Thus $13 \div (-4) = -3.25$.
- 27) **The correct answer is 15%.** (7.RP.3) The discount amount is $60 - 51 = 9$ dollars. Percent discount: $\frac{9}{60} = 0.15 = 15\%$.
- 28) **Choice C is correct.** (7.NS.1-7.NS.3) Paper weight: $4.2 \times \frac{3}{7} = \frac{12.6}{7} = 1.8$ kg.
- 29) **Choice D is correct.** (7.NS.1-7.NS.3) $5.0 \times 10^3 = 5,000$. Check: $0.05 \times 10^3 = 0.05 \times 1,000 = 50 \neq 5,000$.
- 30) **The correct answer is 60.** (7.RP.3) Calculate $\frac{5}{12} \times 144 = \frac{5 \times 144}{12} = \frac{720}{12} = 60$ books.
- 31) **Choice A is correct.** (7.EE.1-7.EE.2) $85(1.15) = 85 + 0.15(85) = 85 + 12.75 = 97.75$.
- 32) **Choice C is correct.** (7.EE.4a) Distribute: $4x - 12 = 12$. Add 12: $4x = 24$. Divide by 4: $x = 6$.



Hi, Number Sense Builder!

◇ Grade 7 numbers do more than sit on a page. They describe rates, changes, comparisons, distances, chances, and patterns. ◇

★ **Remember this:** You practiced listening to that story. When the answer makes sense in the situation, your math becomes much stronger. This version gave you 7 opportunities to rehearse test-day habits. ★

Number Sense Checks

- **Too Big?:** Compare with an estimate.
- **Too Small?:** Use the context to judge.
- **Right Sign?:** Positive and negative values matter.
- **Right Unit?:** A number needs meaning.

Grade 7 test-day tip: Before choosing an answer, ask whether it fits the story of the problem.

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

Jay Daie

Your Number-Sense Friend

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!



PRACTICE
REGULARLY



STAY
FOCUSED



SOLVE
CONFIDENTLY



SUCCEED
BRIGHTLY



2 ONLINE TESTS

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