

3

Kansas KAP

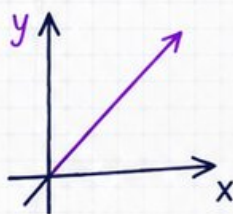
GRADE

7

MATH

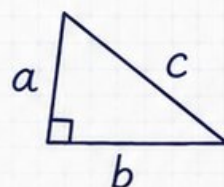
PRACTICE TESTS

- ✓ 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



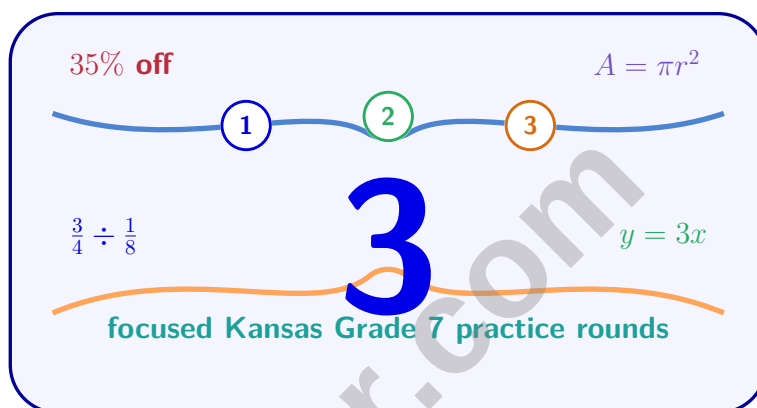
Detailed Answers
& Explanations



Improve Test
Performance

3 Kansas KAP Grade 7 Math Practice Tests

KAP Practice with Skill Checks, Keys, and Explanations



Three 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!

Three focused rounds for sharper KAP math thinking

This book gives you three 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 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.

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?

Three KAP 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.



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& answers

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1) What is x if $9x - 7 = 47$?

☐ A. $x = 3$

☐ C. $x = 6$

☐ B. $x = 5$

☐ D. $x = 9$

2) A student estimated the area of a field to be 550 square meters, but the actual area is 625 square meters. What is the percent error?

☐ A. 13.7%

☐ C. 75 square meters

☐ B. 88%

☐ D. 12%

3) Expand: $-3(x - 6)$

☐ A. $-3x - 18$

☐ C. $3x - 18$

☐ B. $-3x + 18$

☐ D. $3x + 18$

4) Which number line correctly represents $y > -6$?



☐ A. Closed circle at -6 pointing right

☐ C. Open circle at -6 pointing right

☐ B. Open circle at -6 pointing left

☐ D. Closed circle at -6 pointing left

5) What is the relationship between simple interest and each of the three variables in $I = Prt$?

☐ A. Interest increases proportionally with P and inversely with r and t

☐ C. Interest is constant regardless of P , r , or t

☐ B. Interest depends only on t ; the other variables have no effect

☐ D. Interest increases proportionally with P , r , and t



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6) A toy train layout uses a scale of 1 inch : 4 feet. A piece of track on the layout is 18 inches long. A student incorrectly calculates the actual length as 4.5 feet by dividing. What should the correct answer be?

- ☐ A. 4.5 feet (the student is correct) ☐ C. 14 feet
☐ B. 9 feet ☐ D. 72 feet

7) What is 35% of 400?

- ☐ A. 120 ☐ C. 140
☐ B. 130 ☐ D. 150

8) A store applies a markup of \$50 to an item costing \$200. What is the percent markup?

- ☐ A. 20% ☐ C. 10%
☐ B. 50% ☐ D. 25%

9) Which statement is true?

- ☐ A. $-5 + 3 = 8$ ☐ C. $4 + (-9) = 5$
☐ B. $-12 + 20 = -8$ ☐ D. $-5 + 3 = -2$

10) Simplify: $-2m - 5m + 3n + n$

- ☐ A. $-7m + 4n$ ☐ C. $-7m + 3n$
☐ B. $-3m + 4n$ ☐ D. $7m + 4n$

11) Which expression is NOT equivalent to $8(x + 2)$?

- ☐ A. $8x + 16$ ☐ C. $8x + 2$
☐ B. $4(2x + 4)$ ☐ D. $2(4x + 8)$



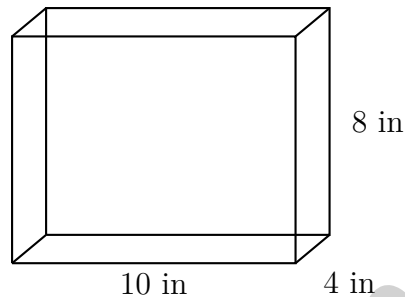
12) Solve: $0.5x + 2 < 7$

☐ A. $x < 10$

☐ B. $x > 10$

☐ C. $x < 18$

☐ D. $x < 4.5$



13)

The rectangular prism shown has dimensions $10 \text{ in} \times 8 \text{ in} \times 4 \text{ in}$. Calculate the surface area.

☐ A. 320 in^2

☐ B. 304 in^2

☐ C. 240 in^2

☐ D. 160 in^2

14) A school wants to know which sports are most popular among its students. Compare these two methods:

- *Method 1:* Ask the students in the first period gym class
- *Method 2:* Randomly select 30 students from a complete list of all students

Why is Method 2 more likely to produce an accurate estimate?

☐ A. Method 2 is faster to conduct

☐ C. Method 2 uses fewer students

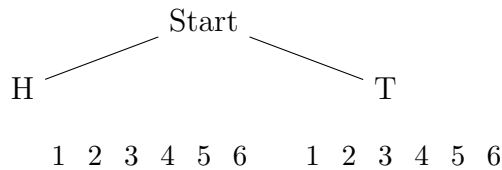
☐ B. Method 2 includes students with different interests and backgrounds

☐ D. Method 2 requires no preparation



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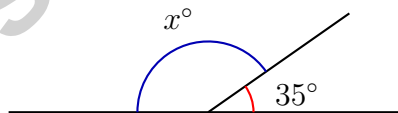
- 1) A fair six-sided die is rolled and a coin is flipped. Which of the following is the correct way to count the sample space?



- ☐ A. $6 + 2 = 8$ outcomes
☐ B. $6 \times 2 = 12$ outcomes
☐ C. $6 - 2 = 4$ outcomes
☐ D. $\frac{6}{2} = 3$ outcomes
- 2) A scale drawing uses a scale of 5 mm : 1 cm. What is the scale factor?
- ☐ A. 0.5
☐ B. 1
☐ C. 2
☐ D. 5
- 3) A triangular prism with a right-triangular base (legs 3 cm and 4 cm) and height 10 cm is sliced perpendicular to its triangular bases. Which shape could NOT be a cross-section?

- ☐ A. Triangle
☐ B. Rectangle
☐ C. Pentagon
☐ D. Hexagon

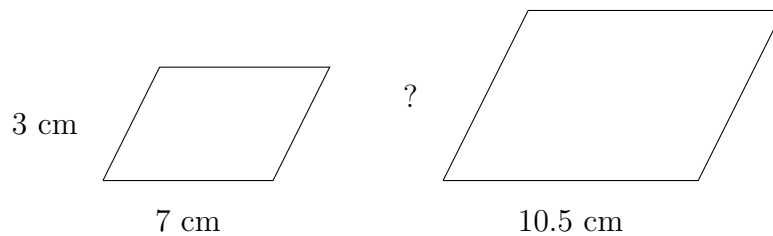
4)



A ray divides a straight angle into two angles of 35° and x . Find x .

- ☐ A. 35°
☐ B. 55°
☐ C. 145°
☐ D. 215°





5)

The trapezoids are similar. Find the height of the larger trapezoid.

☐ A. 3 cm☐ C. 4.5 cm☐ B. 4 cm☐ D. 6 cm

6) If you double the radius of a circle, what happens to the circumference?

☐ A. It stays the same.☐ C. It quadruples.☐ B. It doubles.☐ D. It is cut in half.

7) A circular pool has a radius of 9 feet. What is the area of the pool's surface? Use $\pi \approx 3.14$.

☐ A. 56.52 ft²☐ C. 254.34 ft²☐ B. 113.04 ft²☐ D. 1017.36 ft²

8) A cylinder has a radius of 2.5 m and a volume of 78.5 m³. What is the height? Use $\pi \approx 3.14$.

☐ A. 2 m☐ C. 6 m☐ B. 4 m☐ D. 8 m

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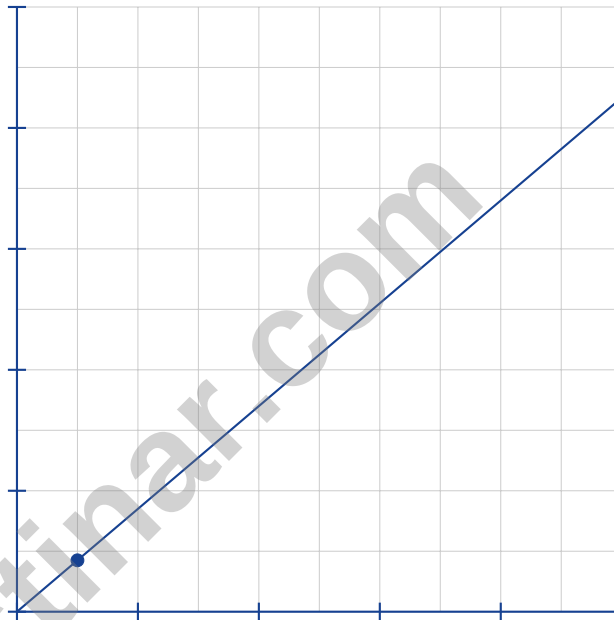
- 1) A triangular prism has a base that is a right triangle with legs 10 inches and 6 inches. If the volume is 360 in^3 , what is the depth of the prism?
- ☐ A. 6 in ☐ C. 15 in
☐ B. 12 in ☐ D. 30 in
- 2) A biased spinner has $P(\text{Win}) = 0.75$. If you spin once, what is $P(\text{Lose})$?
- ☐ A. 0.25 ☐ C. 0.5
☐ B. 0.75 ☐ D. -0.25
- 3) An online store deducts a 3% processing fee from seller payments. If a seller receives payment for items totaling \$1,000, how much is deducted as a fee?
- ☐ A. \$15 ☐ C. \$30
☐ B. \$25 ☐ D. \$100
- 4) A credit score ranges from 300 to 850. A score above 700 is considered good. Jamie's score is 680. By how many points does her score fall short of the good credit threshold?
- ☐ A. 15 points ☐ C. 25 points
☐ B. 30 points ☐ D. 20 points
- 5) A scholarship fund grows from \$5,000 to \$5,512.50 in two years under annual compound interest. What is the interest rate?
- ☐ A. 4% ☐ C. 5.12%
☐ B. 10% ☐ D. 5%



- 6) Two shops have different pricing on the same jacket. Shop A: originally \$80, marked down 15%. Shop B: originally \$75, marked down 10%. Which shop has the lower final price?

- ☐ A. Shop A; \$68
☐ B. Shop A; \$65
☐ C. They cost the same.
☐ D. Shop B; \$67.50

Total cost (\$)



7)

Number of items

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



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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 C is correct.** (7.EE.3-7.EE.4) Add 7: $9x = 54$. Divide by 9: $x = 6$.
- 2) **Choice D is correct.** (7.RP.3) Percent error = $\frac{|550-625|}{625} \times 100\% = \frac{75}{625} \times 100\% = 12\%$.
- 3) **Choice B is correct.** (7.EE.1-7.EE.2) Distribute -3 : $-3(x) - 3(-6) = -3x + 18$. Negative times negative is positive.
- 4) **Choice C is correct.** (7.EE.4b) $y > -6$ is a strict inequality, so use an open circle at -6 with the arrow pointing right.
- 5) **Choice D is correct.** (7.RP.3) In $I = Prt$, interest is directly proportional to principal, rate, and time. If any of these increases, interest increases by the same factor.
- 6) **Choice D is correct.** (7.RP.1-7.RP.3) Multiply: $18 \times 4 = 72$ feet. Student divided instead of multiplied (flipped the operation).
- 7) **Choice C is correct.** (7.RP.3) 35% of 400 is $0.35 \times 400 = 140$.
- 8) **Choice D is correct.** (7.RP.3) Percent markup = $\frac{50}{200} \times 100 = 25\%$.
- 9) **Choice D is correct.** (7.NS.1b) Check each: A: $-5 + 3 = -2$, not 8. B: $-5 + 3 = -2$ ✓. C: $4 + (-9) = -5$, not 5. D: $-12 + 20 = 8$, not -8 .
- 10) **Choice A is correct.** (7.EE.1) Combine like terms: $(-2m - 5m) + (3n + n) = -7m + 4n$.
- 11) **Choice C is correct.** (7.EE.1-7.EE.2) Expand $8(x + 2) = 8x + 16$. Check others: A) $8x + 16$ ✓, B) $4(2x + 4) = 8x + 16$ ✓, D) $2(4x + 8) = 8x + 16$ ✓. Only C) $8x + 2 \neq 8x + 16$ is not equivalent.
- 12) **Choice A is correct.** (7.EE.4b) Subtract 2: $0.5x < 5$. Divide by 0.5: $x < 10$.
- 13) **Choice B is correct.** (7.G.4-7.G.6) $SA = 2(10 \cdot 8 + 10 \cdot 4 + 8 \cdot 4) = 2(80 + 40 + 32) = 2(152) = 304 \text{ in}^2$.
- 14) **Choice B is correct.** (7.SP.1-7.SP.4) Random selection from all students ensures the sample is representative because it includes diverse students: athletes and non-athletes, different grade levels, and different interests. Method 1 only surveys gym class students, who are more likely to favor sports, making that sample biased and unrepresentative of all students.
- 15) **Choice C is correct.** (7.SP.5-7.SP.8) First spin: 2 outcomes (A or B). Second spin: 2 outcomes. Total: $2 \times 2 = 4$ outcomes (AA, AB, BA, BB).
- 16) **Choice C is correct.** (7.RP.3) Set up the proportion: $\frac{1}{4} = \frac{p}{100}$. Cross-multiply: $p = 25$, so $\frac{1}{4} = 0.25 = 25\%$.
- 17) **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.
- 18) **Choice A is correct.** (7.EE.1-7.EE.2) Half of c is $\frac{c}{2}$. Four less than $\frac{c}{2}$ is $\frac{c}{2} - 4$.
- 19) **The correct answer is A, C.** (7.SP.1-7.SP.4) Bread: $0.35 \times 400 = 140$ items, so A is correct. Pastries and cakes together make 200 items, not 50, so B is false. Other: $0.15 \times 400 = 60$ items, so C is correct. Pastries (28%) plus other (15%) equals 43%, not 45%.
- 20) **Choice D is correct.** (7.EE.1-7.EE.2) Check: A is $y^3 \cdot y^3 = y^6$ ✓; B is $(y^2)^3 = y^6$ ✓; C is $\frac{y^{10}}{y^4} = y^6$ ✓; D is $y^2 \cdot y^3 = y^5$ ✗.
- 21) **Choice A is correct.** (7.EE.4a) Setup fee is \$19.99 plus \$12.99 per month, so $C = 19.99 + 12.99n$.
- 22) **Choice C is correct.** (7.G.1-7.G.5) The error states the scale is doubled (from 1:500 to 1:1000, meaning each inch now represents 1000 ft instead of 500 ft). However, "doubling the scale" in this error context means the drawing is mistakenly enlarged by a factor of 2 (perhaps from copying at 200%). For the same real park: new drawing dimensions are $6 \times 2 = 12$ in and $8 \times 2 = 16$ in.
- 23) **Choice A is correct.** (7.G.1-7.G.5) The translation is: $(3, 2) + (-3, -2) = (0, 0)$.
- 24) **Choice A is correct.** (7.SP.5-7.SP.8) $P(\text{purple}) = \frac{6}{25}$ means 6 purple beads out of 25 total.
- 25) **Choice D is correct.** (7.RP.1-7.RP.3) For $y = 3x$, the slope is 3. The red line passes through $(1, 3)$, which satisfies $y = 3(1) = 3$.
- 26) **Choice C is correct.** (7.RP.1-7.RP.3) Unit rate: $\$52 \div 4 = \13 per pizza. For 7 pizzas: $7 \times \$13 = \91 .
- 27) **Choice D is correct.** (7.RP.3) Option 1 interest: $3\% \times \$1,000 = \30 . Option 2 interest: $5\% \times \$1,000 = \50 . Difference: $\$50 - \$30 = \$20$.



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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 3 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 **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!

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