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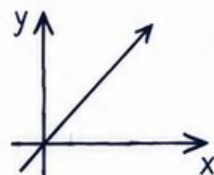
Kentucky KSA

GRADE
7
MATH

PRACTICE TESTS

Standards Aligned
Problem Solving
For Comprehensive
Assessment Programs

$$y = mx + b$$



$$\frac{2x}{3} + \frac{x}{6} = 2$$



$$V = \frac{1}{3} \pi r^2 h$$

**4 PRINTED TESTS****2 ONLINE TESTS**

USE THESE TWO
**ADDITIONAL ONLINE
PRACTICE TESTS**

FOR EXTRA REVIEW AFTER
THE PRINTED TESTS
IN THIS BOOK.



Build
Confidence



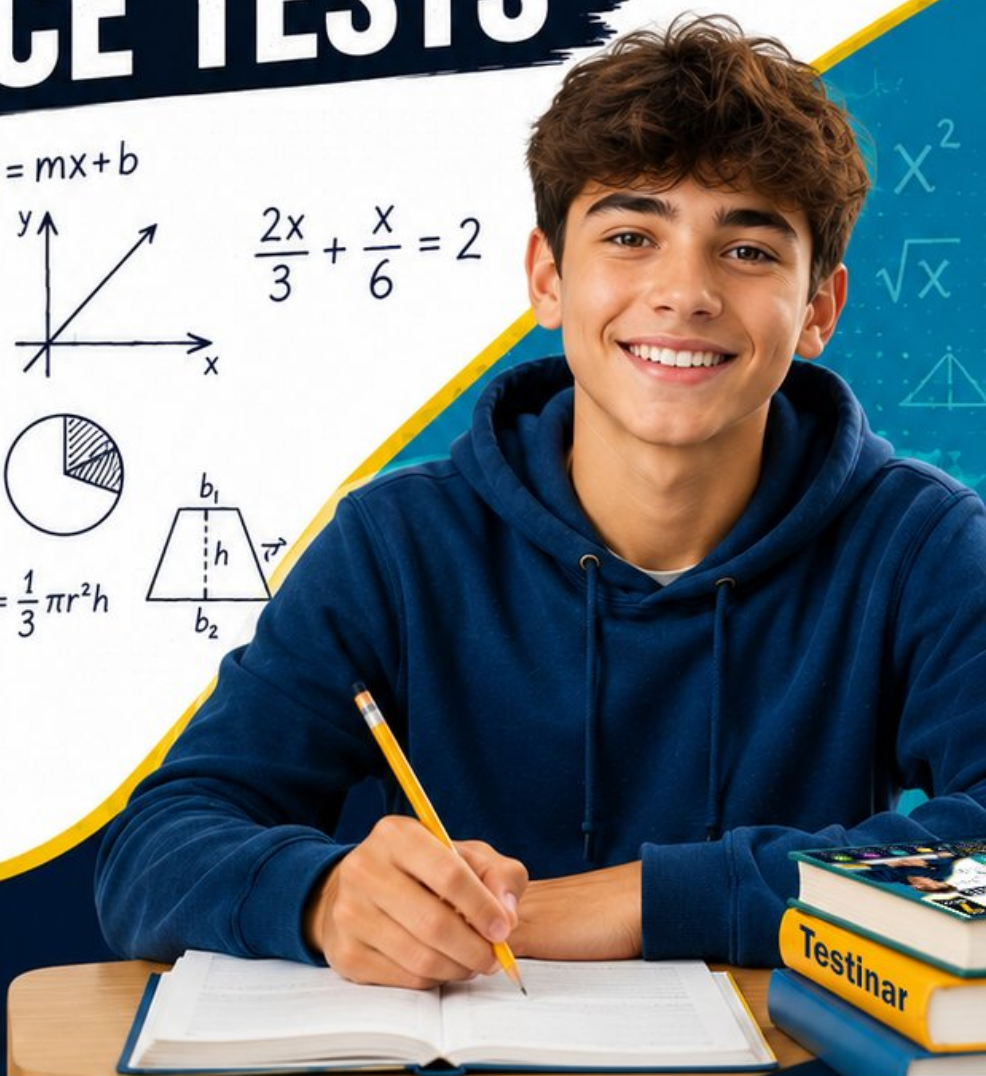
Strengthen
Math Skills



Detailed Answers
& Explanations



Improve Test
Performance



4 Kentucky KSA Grade 7 Math Practice Tests

Focused Grade 7 Review for KSA with Complete Answer Help



Four complete 40-question Grade 7 KSA 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, Kentucky Grade 7 Problem Solver!

Four focused rounds for sharper KSA math thinking

This book gives you four full Grade 7 KSA 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 Kentucky 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 four-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.

Kentucky 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?

Four KSA tests, 160 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.
Tests 3–4	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.



Scan me!
For more practice
& answers

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1) A photographer charges per photo in a proportional relationship. If 12 photos cost \$84, what is the cost per photo?

☐ A. \$1008

☐ C. \$72

☐ B. \$12

☐ D. \$7

2) A circle has an area of 78.5 square inches. What is its radius? Use $\pi \approx 3.14$.

☐ A. 2.5 inches

☐ C. 10 inches

☐ B. 5 inches

☐ D. 25 inches

3) Which statement is FALSE about cylinders?

☐ A. Doubling the height doubles the volume

☐ C. Doubling both height and radius doubles the surface area

☐ B. Doubling the radius quadruples the volume

☐ D. The lateral area does not depend on the height of the cylinder

4) Two small businesses' monthly profit (in thousands):

Business	Median Profit	MAD
Steady Supply	\$8	\$0.6
Growth Startup	\$8	\$2.5

If you were a risk-averse investor, which is more attractive?

☐ A. Growth Startup (higher variability = higher potential)

☐ C. Both equally risky

☐ B. Steady Supply (predictable \$8K median, low MAD means stable cash flow)

☐ D. Cannot decide without knowing exact historical profits


- 5) A line graph shows the growth of a plant over 8 weeks (height in cm): Week 1: 5, Week 2: 7, Week 3: 9, Week 4: 11, Week 5: 12, Week 6: 13, Week 7: 14, Week 8: 14.5. Based on this trend, which prediction is most reasonable for Week 9?

☐ A. 15 cm ☐ C. 10 cm
☐ B. 14 cm ☐ D. 20 cm

- 6) A spinner is divided into 8 equal sections. 2 sections are labeled “Win”, 3 are labeled “Lose”, and 3 are labeled “Try Again”. What is the probability of spinning “Win”?

☐ A. $\frac{1}{8}$ ☐ C. $\frac{3}{8}$
☐ B. $\frac{1}{4}$ ☐ D. $\frac{1}{2}$

- 7) Two histograms show daily temperature (in degrees Fahrenheit) over a month for City A and City B. City A’s temperatures cluster at 70–75 degrees (range 5 degrees). City B’s temperatures span 50–90 degrees (range 40 degrees). Where do the distributions overlap?

☐ A. City A has more variable temperatures ☐ C. Distributions overlap at 70–75 degrees; City A is more consistent
☐ B. City B is always hotter than City A ☐ D. City B never reaches City A’s temperature

- 8) Simplify $(-2) \times 3 \times (-\frac{1}{3})$.



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- 9) A teacher randomly selects two students without replacement from a class of 12 to give a presentation. If 7 students are prepared, what is the probability both selected are prepared?

☐ A. $\frac{49}{144}$

☐ B. $\frac{7}{12} \cdot \frac{6}{12}$

☐ C. $\frac{42}{120}$

☐ D. $\frac{7}{22}$

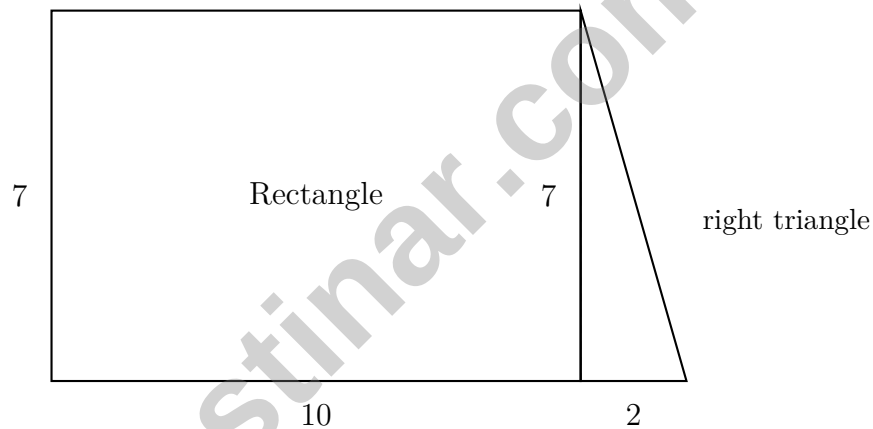
- 10) A dart was thrown at a target 400 times. It hit the bullseye 92 times. What is the experimental probability of hitting the bullseye?

☐ A. 0.20

☐ B. 0.23

☐ C. 0.25

☐ D. 0.30



11)

A side view of a building shows a rectangle (10 units $\times$ 7 units) with a right triangle (legs 2 units and 7 units) on the right. What is the total area?

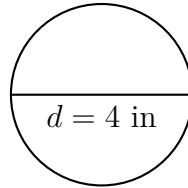
☐ A. 63 sq units

☐ B. 70 sq units

☐ C. 77 sq units

☐ D. 147 sq units





1)

What is the circumference of this circle? Use $\pi \approx 3.14$.

☐ A. 6.28 in

☐ C. 50.24 in

☐ B. 12.56 in

☐ D. 25.12 in

2) Which expression has the largest product?

☐ A. 0.5×10
☐ C. $(-2) \times (-3.5)$
☐ B. 0.25×16
☐ D. $(-1) \times 5$
3) What is $\sqrt{121}$?
☐ A. 10

☐ C. 12

☐ B. 11

☐ D. 13

4)

$5x - 10$
$5(x - 2)$
Both equivalent

Which property explains why $5x - 10 = 5(x - 2)$?

☐ A. Associative property of multiplication

☐ C. Commutative property

☐ D. Combining like terms

☐ B. Distributive property (factoring)


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- 5) A triangle has sides of 3.2 cm and 5.1 cm. Which range gives all possible values for the third side?

☐ A. $1.9 < c < 8.3$ cm

☐ B. $1.9 \leq c \leq 8.3$ cm

☐ C. $3.2 < c < 5.1$ cm

☐ D. $0 < c < 8.3$ cm

- 6) Simplify: $9x^2 + 3x^2 + 2x - 4x$

☐ A. $12x^2 - 2x$

☐ B. $12x^3 - 2x$

☐ C. $11x^2 - x$

☐ D. $12x^2 + 2x$

- 7) A teenager receives \$200 per month. Their budget allocates 40% to savings, 35% to entertainment, 20% to clothing, and the rest to charitable donations. How much money do they allocate to charitable donations each month?

- 8) Evaluate $-3(x - 2)$ when $x = 5$.

☐ A. 9

☐ B. -9

☐ C. 21

☐ D. -21

- 9) What is the GCF of $6xy$ and $9y$?

☐ A. $3y$

☐ B. $6y$

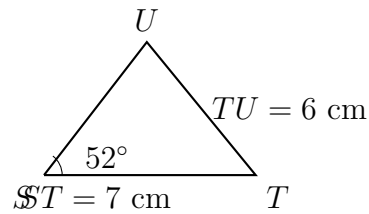
☐ C. $9y$

☐ D. $3xy$



- 1) Two angles are supplementary. If one angle measures 65° , what is the measure of the other angle?
- ☐ A. 25° ☐ C. 115°
☐ B. 35° ☐ D. 295°
- 2) A stem-and-leaf plot shows the ages of workers at two companies. Company X has data: 22, 24, 25, 26, 29; Company Y has data: 18, 19, 22, 45, 48. Which statement is best supported?
- ☐ A. Company X has a higher median and less spread ☐ C. Both companies have the same age distribution
☐ B. Company Y has younger workers overall ☐ D. Company X workers are older than Company Y workers
- 3) A composite figure consists of three rectangles stacked horizontally: $5\text{ m} \times 3\text{ m}$, $5\text{ m} \times 3\text{ m}$, and $5\text{ m} \times 3\text{ m}$. What is the total area?
- ☐ A. 15 m^2 ☐ C. 35 m^2
☐ B. 30 m^2 ☐ D. 45 m^2
- 4) A triangular prism has volume 126 cubic inches. If the triangular base has area 18 in^2 , what is the height of the prism?
- ☐ A. 7 in ☐ C. 9 in
☐ B. 8 in ☐ D. 144 in
- 5) A circle has a diameter of $\frac{30}{7}$ meters. What is its radius?
- ☐ A. $\frac{15}{7}$ meters ☐ C. $\frac{60}{7}$ meters
☐ B. $\frac{30}{7}$ meters ☐ D. 7 meters





6)

Triangle STU has side $ST = 7 \text{ cm}$, side $TU = 6 \text{ cm}$, and the angle at T is 52° . This triangle is uniquely determined by the:

☐ A. SSS condition

☐ C. ASA condition

☐ B. SAS condition

☐ D. SSA condition

7) Temperature drops 20 degrees from 10 degrees. Express the drop (change) as a signed number.

☐ A. 20 (ignores the direction of change)

☐ D. -20 (correct; drop is negative change)

☐ B. 30 (adds instead of subtracts)

☐ C. -10 (starting temperature)

8) Evaluate $4x^2 - 3x$ when $x = 2$.

☐ A. 2

☐ C. 16

☐ B. 4

☐ D. 10

9) Factor: $12p - 8$

☐ A. $4(3p - 2)$
☐ C. $8(4p - 1)$
☐ B. $2(6p - 4)$
☐ D. $6(2p - 1.33)$


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Kentucky KSA 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 Kentucky KSA practice test.

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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice D is correct.** (7.RP.1-7.RP.3) Unit rate = $\$84 \div 12 = \7 per photo.
- 2) **Choice B is correct.** (7.G.4-7.G.6) From $A = \pi r^2$, we have $78.5 = 3.14 \times r^2$, so $r^2 = 25$ and $r = 5$ inches.
- 3) **Choice D is correct.** (7.G.4-7.G.6) A is true: Volume $\propto h$. B is true: $V \propto r^2$. C is true: $SA = 2\pi r^2 + 2\pi rh$ doubles when both r and h double (since both r^2 and rh double). D is false: Lateral area = $2\pi rh$ depends on both r and h .
- 4) **Choice B is correct.** (7.SP.1-7.SP.4) Risk-averse investors prioritize predictability. Steady Supply: median \$8K, MAD \$0.6K (consistently around \$8K). Growth Startup: same median but MAD \$2.5K (wildly variable, some months much lower). Steady Supply is safer.
- 5) **Choice A is correct.** (7.SP.1-7.SP.4) The plant grows about 2 cm/week initially, then slows to 0.5 cm/week. Continuing the slowing trend suggests growth of 0.5 cm more, giving $14.5 + 0.5 = 15$ cm.
- 6) **Choice B is correct.** (7.SP.5-7.SP.8) "Win" sections: 2 out of 8. $P(\text{Win}) = \frac{2}{8} = \frac{1}{4}$.
- 7) **Choice C is correct.** (7.SP.3) City A clusters at 70–75 (range 5), indicating consistency. City B spans 50–90 (range 40), showing high variability. Both distributions include temperatures 70–75 degrees, so they overlap there.
- 8) **The correct answer is 2.** (7.NS.2) $(-2) \times 3 = -6$. Then $(-6) \times (-\frac{1}{3}) = \frac{6}{3} = 2$. Two negatives give positive.
- 9) **Choice D is correct.** (7.SP.5-7.SP.8) $P(\text{first prepared}) = \frac{7}{12}$; 6 prepared remain out of 11 total. $P(\text{second prepared}) = \frac{6}{11}$. Product: $\frac{7}{12} \cdot \frac{6}{11} = \frac{42}{132} = \frac{7}{22}$.
- 10) **Choice B is correct.** (7.SP.6) Experimental probability = $\frac{92}{400} = 0.23$. Distractors represent nearby decimal values that students might compute incorrectly.
- 11) **Choice C is correct.** (7.G.4-7.G.6) Rectangle: $10 \times 7 = 70$ sq units. Triangle: $\frac{1}{2} \times 2 \times 7 = 7$ sq units. Total: $70 + 7 = 77$ sq units.
- 12) **Choice C is correct.** (7.SP.1-7.SP.4) Total data points = $3 + 3 + 3 = 9$.
- 13) **Choice A is correct.** (7.G.4-7.G.6) Rearranging $V = B \times h$, we get $h = \frac{V}{B} = \frac{240}{30} = 8$ cm.
- 14) **Choice C is correct.** (7.G.4-7.G.6) Diameter is twice the radius: $2 \times 5 = 10$ inches.
- 15) **Choice D is correct.** (7.G.1-7.G.5) The Triangle Inequality requires the sum of any two sides to exceed the third. With sides 5 and 9: we need $5 + 9 > c$, so $c < 14$ m. Also $5 + c > 9$, so $c > 4$ m. Thus $4 < c < 14$. The value 15 exceeds this range.
- 16) **Choice B is correct.** (7.SP.5-7.SP.8) An even chance means equally likely to happen or not, which is $P = 0.5 = 50\%$.
- 17) **Choice A is correct.** (7.SP.1-7.SP.4) Compare each day's proportion. Monday: $\frac{18}{100} = 0.18$ (18%). Tuesday: $\frac{36}{160} = 0.225$ (22.5%). Wednesday: $\frac{25}{125} = 0.20$ (20%). Monday has the lowest proportion at 18%.
- 18) **Choice D is correct.** (7.NS.1-7.NS.3) $9 - (-4) = 9 + 4 = 13$.
- 19) **Choice D is correct.** (7.RP.1-7.RP.3) Multiply: $8 \times 0.5 = 4$ km.
- 20) **The correct answer is A,D.** (7.NS.1-7.NS.3) Statement A is true: the opposite of -5 is 5 (positive). Statement D is true: -5 and 5 are each 5 units from zero. Statement B is false because opposites have the same absolute value. Statement C is false: $5 + (-5) = 0$, not 10.
- 21) **Choice C is correct.** (7.RP.3) The shaded region is $\frac{60}{100} = 60\%$ of the grid.
- 22) **Choice C is correct.** (7.SP.1-7.SP.4) 45% of 500 = $0.45 \times 500 = 225$ kWh.
- 23) **The correct answer is 11.** (7.NS.1-7.NS.3) $\sqrt{25} = 5$ and $\sqrt{36} = 6$, so $5 + 6 = 11$.
- 24) **Choice D is correct.** (7.RP.1-7.RP.3) From the first pair: $\frac{2/3}{1/5} = \frac{2}{3} \times 5 = \frac{10}{3}$ mph.
- 25) **Choice D is correct.** (7.RP.1-7.RP.3) Each row: $6/2 = 3$, $12/4 = 3$, $18/6 = 3$, $24/8 = 3$. Constant ratio of 3 dollars per notebook.
- 26) **Choice C is correct.** (7.RP.3) Set up the proportion $\frac{35}{100} = \frac{x}{280}$. Cross-multiply: $35 \times 280 = 100x$, giving $x = 98$.
- 27) **The correct answer is 24.** (7.EE.1-7.EE.2) Distribute and distribute the negative: $2x + 14 - x + 3 + 5$. Combine like terms: $(2x - x) + (14 + 3 + 5) = x + 22$. With $x = 2$: $2 + 22 = 24$.



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Hi, Thoughtful Reader!

◇ A strong Grade 7 test taker is also a strong reader. You practiced turning words, tables, graphs, and diagrams into math decisions. ◇

★ **Remember this:** That skill grows each time you slow down enough to ask what the problem is really telling you and what it is really asking for. This version gave you 4 opportunities to rehearse test-day habits. ★

Reader-to-Solver Skills

- **Circle the Ask:** Make the target visible.
- **Sort Information:** Separate useful facts from extra words.
- **Match Units:** Keep quantities connected.
- **Answer Fully:** Include the value and what it means.

Grade 7 test-day tip: After solving, reread only the final question. Make sure your answer matches it exactly.

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

Jay Daie

Your Reading-and-Math Helper

PRACTICE TODAY. SUCCEED TOMORROW!

This book includes **4** 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:

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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.



Improve Understanding

Learn with clear explanations and step-by-step solutions.



Test Confidence

Familiarize with test formats and improve accuracy and speed.



Boost 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!



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