

7

Kentucky KSA

Grade 7 Math Practice Tests



ONLINE

7 PRINTED TESTS + 2 ONLINE TESTS

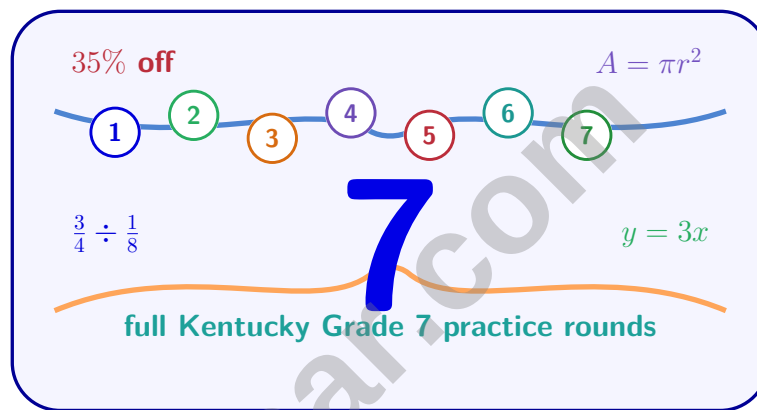


**Standards Aligned Problem Solving
For Comprehensive Assessment Programs**



8 Kentucky KSA Grade 7 Math Practice Tests

A complete workout in Kentucky Grade 7 ratios, integer operations, equations, angle relationships, statistics, and chance



Eight 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.

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Welcome, Kentucky Grade 7 Problem Solver!

Eight focused rounds for sharper KSA math thinking

This book gives you seven 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

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.

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?

Eight KSA 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

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1) A student rolls a die once and flips a coin once. They claim the probability of getting a 6 AND heads is $\frac{1}{12}$. Is this correct?

☐ A. No; it is $\frac{1}{2}$.

☐ C. No; it is $\frac{1}{8}$.

☐ B. Yes; $\frac{1}{6} \times \frac{1}{2} = \frac{1}{12}$.

☐ D. No; it is $\frac{1}{6} + \frac{1}{2} = \frac{2}{3}$.

2) Which statement is true?

☐ A. $(-6) \times 3 > 0$

☐ C. $5 \times (-2) = (-2) \times 5$

☐ B. $(-4) \times (-4) < 0$

☐ D. $(-1) \times 7 < (-1) \times 6$

3) Estimate $\sqrt{75}$ to the nearest whole number.

☐ A. 8

☐ C. 10

☐ B. 9

☐ D. 11

4) A fitness center charges a \$30 enrollment fee and \$45 per month. What is the total cost for 6 months of membership?

☐ A. \$240

☐ C. \$300

☐ B. \$270

☐ D. \$330

5) A student wants to compare compound interest vs. simple interest on \$600 at 5% annual rate. After 3 years, what is the difference in interest earned?

☐ A. \$0 (they are the same)

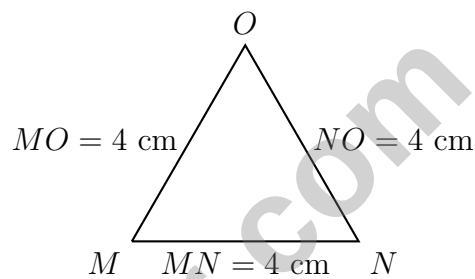
☐ C. \$4.58

☐ B. \$1.58

☐ D. \$7.50



- 6) A bank account has a balance of -45 dollars (overdrawn). After a deposit and withdrawal, the balance becomes -20 dollars. What was the net change in the account (deposit minus withdrawal)? Write your answer as an integer with the appropriate sign.



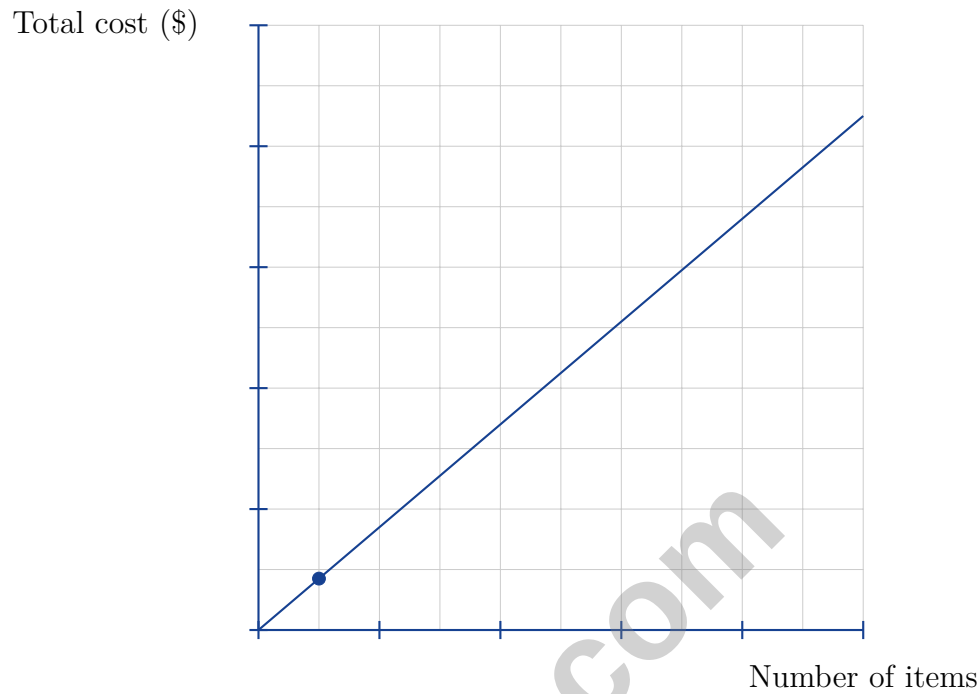
7)

Triangle MNO has all three sides equal: $MN = NO = OM = 4 \text{ cm}$. What are the measures of all angles?

- ☐ A. 60° , 60° , 60° ☐ D. Cannot be determined without more info
- ☐ B. 45° , 45° , 90°
- ☐ C. 30° , 60° , 90°



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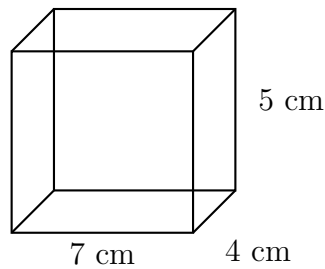


8)

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

9) A restaurant owner borrows \$10000 at 7.2% simple interest for 2.5 years to buy kitchen equipment. How much total interest will be paid?

☐ A. \$1440☐ C. \$2000☐ B. \$2500☐ D. \$1800



1)

The diagram shows a rectangular prism with dimensions $7\text{ cm} \times 5\text{ cm} \times 4\text{ cm}$. What is the surface area?

☐ A. 166 cm^2 ☐ C. 256 cm^2 ☐ B. 140 cm^2 ☐ D. 384 cm^2

2) Two dot plots display the number of glasses of water consumed per day by two fitness groups. Athletic Group: 6, 7, 7, 8, 8, 8, 8, 9 glasses; Casual Group: 2, 3, 4, 8, 9, 10 glasses. Which group shows more consistent hydration behavior?

☐ A. Athletic Group (centered at 8 glasses, range 3)☐ C. Both groups have identical patterns☐ B. Casual Group (some very low values)☐ D. Casual Group (includes higher values up to 10)

3) Account balance was $-\$45$ (overdrawn). After a deposit of $\$100$, what is the new balance?



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- 4) The stock price changes are shown in the table. What was the total change?

Day	Price Change
Monday	−\$2.50
Tuesday	+\$3.75

- 5) The ordered data is: 15, 18, 21, 24, 27, 30, 33. In the stem-and-leaf plot, what is the position of the median in the ordered list?

- ☐ A. 3rd position ☐ C. 5th position
☐ B. 4th position ☐ D. 6th position



- 1) A store marks up the cost c by \$5, then multiplies by 3 for sale price. Which expression shows the final price?

- ☐ A. $3c + 5$ ☐ C. $3c - 5$
☐ B. $3c + 15$ ☐ D. $c + 15$

- 2) Simplify $(y^3)^2 \cdot y^1$. What is the exponent on y ?

- 3) You want to borrow \$6 000 and compare two loan options:

Option	Interest Rate
Online Bank	7.5% per year
Credit Union	5.2% per year

Which statement is true?

- ☐ A. Credit Union has a lower interest rate and will cost less in total interest
☐ B. Online Bank will cost less total interest despite the higher rate
☐ C. Both loans cost the same total interest
☐ D. Online Bank is better because interest is lower over time
- 4) A membership fee was \$200 per year. This year it was raised by 12%. How much is the new fee?

- ☐ A. \$212 ☐ C. \$224
☐ B. \$220 ☐ D. \$232



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5) A cube has edge length 7 ft. What is the surface area?

☐ A. 49 ft^2

☐ C. 196 ft^2

☐ B. 98 ft^2

☐ D. 294 ft^2

6) A sports league charges a \$100 registration fee and \$50 per game played. If a team's total bill is \$400, write an equation to represent the number of games g played, solve for g , and verify your answer.

7) A spinner with 4 equal sections (Red, Blue, Green, Yellow) is spun twice to simulate a compound event. If “success” is defined as “the first spin is Red and the second spin is Blue,” how many outcomes in the sample space represent a success?

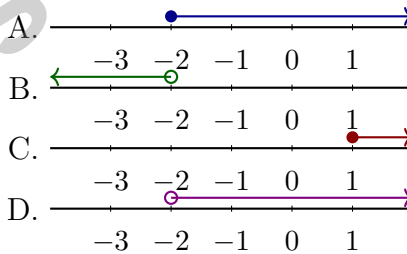
☐ A. 1

☐ C. 4

☐ B. 2

☐ D. 8

8) Which number line represents $x < -2$?



Kentucky Summative Assessment 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 Summative Assessment practice test.



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Practice Test Answers and Explanations

Practice Test 1 Answers and Explanations

- 1) **Choice B is correct.** (7.SP.5-7.SP.8) For independent events: $P(6 \text{ AND heads}) = P(6) \times P(\text{heads}) = \frac{1}{6} \times \frac{1}{2} = \frac{1}{12}$.
- 2) **Choice C is correct.** (7.NS.2) A: $(-6) \times 3 = -18 < 0$ (false). B: $(-4) \times (-4) = 16 > 0$ (false). C: Both equal -10 (true). D: $(-1) \times 7 = -7$ and $(-1) \times 6 = -6$; $-7 \not< -6$ (false).
- 3) **Choice B is correct.** (7.NS.1-7.NS.3) $8^2 = 64$ and $9^2 = 81$. Since 75 is closer to 81 than to 64, $\sqrt{75} \approx 8.66$, which rounds to 9.
- 4) **Choice C is correct.** (7.RP.3) Total cost = $30 + (45 \times 6) = 30 + 270 = \300 .
- 5) **Choice C is correct.** (7.RP.3) Simple: $600 \times 0.05 \times 3 = 90$. Compound: $600(1.05)^3 = 694.58$; interest = 94.58. Difference: $94.58 - 90 = 4.58$.
- 6) **The correct answer is 25.** (7.NS.1-7.NS.3) Net change = final balance - initial balance = $-20 - (-45) = -20 + 45 = 25$ dollars. The account increased by 25 dollars (a net deposit of 25).
- 7) **Choice A is correct.** (7.G.1-7.G.5) An equilateral triangle has all sides and all angles equal. Since the angle sum is 180° and all three angles are equal, each angle is $180^\circ \div 3 = 60^\circ$.
- 8) **The correct answer is 0.85.** (7.RP.1-7.RP.3) The marked point is $(1, 0.85)$, which is the unit-rate point. This means the constant of proportionality is $k = 0.85$, so the cost is \$0.85 per item.
- 9) **Choice D is correct.** (7.RP.3) $I = 10000 \times 0.072 \times 2.5 = \1800 .
- 10) **Choice C is correct.** (7.EE.1) Combine: $\frac{1}{2}a + \frac{1}{4}a = \frac{2}{4}a + \frac{1}{4}a = \frac{3}{4}a$.
- 11) **Choice D is correct.** (7.NS.1b) Start at -8 on a number line and move 5 units right: $-8 + 5 = -3$.
- 12) **Choice A is correct.** (7.EE.1-7.EE.2) GCF of 4 and 8 is 4. Factor: $4x + 8y = 4(x + 2y)$.
- 13) **Choice B is correct.** (7.G.4-7.G.6) $SA = 2(6 \cdot 4 + 6 \cdot 3 + 4 \cdot 3) = 2(24 + 18 + 12) = 2(54) = 108 \text{ cm}^2$.
- 14) **Choice A is correct.** (7.SP.5-7.SP.8) Error for green: $|0.24 - 0.25| = 0.01$. Error for blue: $|0.38 - 0.25| = 0.13$. Error for red: $|0.76 - 0.25| = 0.51$. Green has the smallest error.
- 15) **Choice D is correct.** (7.RP.3) Deficit = $\$2,100 - \$1,800 = \$300$.
- 16) **Choice A is correct.** (7.NS.1-7.NS.3) $1\frac{1}{2} = \frac{3}{2}$. Then $\frac{3}{2} \div \frac{1}{4} = \frac{3}{2} \times \frac{4}{1} = 6$.
- 17) **Choice C is correct.** (7.NS.2d) Divide $1 \div 2 = 0.5$. This is a terminating decimal since the denominator has only factors of 2 and 5.
- 18) **Choice C is correct.** (7.NS.1-7.NS.3) Start at 5, go down 8: $5 - 8 = -3$ (basement). Then up 6: $-3 + 6 = 3$.
- 19) **Choice C is correct.** (7.NS.1-7.NS.3) $1.8 \times 10^6 = 1,800,000$, which is larger than all others.
- 20) **The correct answer is 150.** (7.RP.3) Calculate $\frac{3}{5} \times 250 = \frac{3 \times 250}{5} = \frac{750}{5} = 150$ students.
- 21) **The correct answer is A,B.** (7.RP.3) Choice A: 20% of 500 = $0.20 \times 500 = 100$. ✓ Choice B: 50% of 500 = $0.50 \times 500 = 250$. ✓ Choice C: 10% of 500 = 50, not 40. ✗ Choice D: 15% of 500 = 75, not 80. ✗
- 22) **Choice A is correct.** (7.EE.1-7.EE.2) Power rule: $(l^2)^n = l^{2n}$. Set equal to l^{14} : $2n = 14$, so $n = 7$.
- 23) **Choice C is correct.** (7.EE.3-7.EE.4) First, undo the subtraction by adding 1 to both sides to isolate the fraction $\frac{3x}{4}$.
- 24) **Choice C is correct.** (7.EE.3-7.EE.4) Multiply: $3 \times \frac{2}{3} = \frac{6}{3} = 2$ cups. Check: $\frac{2}{3}$ is roughly 0.67; $3 \times 0.67 \approx 2$ ✓. Reasonable: tripling means flour increases 3 times.
- 25) **Choice B is correct.** (7.EE.4b) Divide both sides by 4: $x < \frac{20}{4} = 5$.
- 26) **Choice A is correct.** (7.G.1-7.G.5) Linear scale factor: $\frac{1 \text{ km}}{2 \text{ cm}} = 0.5 \text{ km/cm}$. Area scale factor: $(0.5)^2 = 0.25 \text{ km}^2/\text{cm}^2$. Actual area: $8 \times 0.25 = 2 \text{ km}^2$.
- 27) **Choice B is correct.** (7.G.1-7.G.5) Let the smaller angle be x . Then $x + (x + 8) = 90^\circ$, so $2x = 82^\circ$ and $x = 41^\circ$.
- 28) **Choice A is correct.** (7.G.1-7.G.5) Scale factor = $\frac{19.5}{13} = 1.5$. Corresponding leg = $5 \times 1.5 = 7.5 \text{ cm}$.
- 29) **Choice B is correct.** (7.G.4-7.G.6) $C = \pi d \Rightarrow 44 = \frac{22}{7}d \Rightarrow d = 44 \div \frac{22}{7} = 44 \times \frac{7}{22} = 14 \text{ m}$.
- 30) **Choice D is correct.** (7.SP.1-7.SP.4) Sampling only during evening hours is convenient for the surveyor but misses members who visit at other times, introducing convenience bias.



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 7 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 **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.



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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

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- ✓ 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

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



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