

7 Kentucky KSA Grade 9 Math Practice Tests

Comprehensive Test Prep with Detailed Answers

Dr. A. Nazari

Copyright © 2026 Dr. A. Nazari

Published by View Math Education

ViewMath.com

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the author, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law, including Section 107 or 108 of the 1976 United States Copyright Act.

The information in this book is distributed on an “as is” basis, without warranty. While every precaution has been taken in the preparation of this work, neither the author nor the publisher shall have any liability to any person or entity with respect to any loss or damage caused or alleged to be caused directly or indirectly by the information contained in this book.

Copyright © 2026



7 Practice Tests

★ Algebra 1 ★

Welcome!

This book contains **7 full-length practice tests** designed to give you thorough preparation for your Algebra 1 assessment. Each test covers all nine major chapters:

- 📖 Foundations & Exponents
- 📖 Linear Equations & Inequalities
- 📖 Functions
- 📖 Linear Functions & Graphing
- 📖 Systems of Equations
- 📖 Polynomials & Factoring
- 📖 Quadratic Functions
- 📖 Exponential Functions
- 📖 Data & Statistics

Seven tests give you the repetition you need to master every topic. With each test, you'll get faster, more accurate, and more confident.

Repetition builds mastery. Mastery builds confidence.

“Seven tests means seven chances to improve. Focus on one chapter at a time and you'll see real results!”



How to Use This Book

Make the most of 7 practice tests

What's Inside

- **7 Full-Length Practice Tests** — each covers all 9 chapters of Algebra 1: foundations & exponents, linear equations & inequalities, functions, linear functions & graphing, systems of equations, polynomials & factoring, quadratics, exponential functions, and data & statistics.
- **Detailed Answer Explanations** — every question includes a step-by-step solution so you can understand the reasoning.
- **Formula Reference Sheet** — essential Algebra 1 formulas and key concepts for quick review before each test.
- **Test Tracker** — log your scores across all 7 tests and monitor your improvement over time.

Your 7-Test Battle Plan

★ PHASE 1: DISCOVER (Tests 1–2)

Untimed. Find your strengths and weaknesses. Review every answer explanation.

★★ PHASE 2: BUILD (Tests 3–4)

Soft timer (120 min). Start practicing pacing and time management.

★★★ PHASE 3: SHARPEN (Tests 5–6)


Timed, strict. Speed + accuracy together. Show complete solutions.


🏆 PHASE 4: PROVE IT (Test 7)


Full test conditions: timed, quiet, no notes. Compare with Test 1.

Tip: Space tests 4–5 days apart. Use the days between to study the topics you missed.

 **Types of Questions**

 **Multiple Choice:** Four answer options — only one is correct. Eliminate clearly wrong options to improve your odds.

 **Short Answer & Constructed Response:** Show all your work: equations, substitutions, and simplifications. Even a partial solution can earn credit.

 **Graphing & Data:** Plot points, draw lines, interpret scatter plots and data displays. Use a ruler and label everything clearly.



Tip: With 7 tests, you have the depth to truly master every chapter. Don't rush through them — quality review between tests is what drives real improvement.



Get Online



Find more at
[ViewMath.com/KY-Algebra1](https://www.viewmath.com/KY-Algebra1)



 **ViewMath.com**



💡 Test-Taking Tips 💡

A problem-solving checklist for every question

Your Problem-Solving Checklist

- I read the entire problem and identified what is given and what is asked.
- I wrote the equation or formula before substituting any numbers.
- I solved step by step and showed every operation.
- I checked my answer by plugging it back in or estimating.
- I re-read the question to make sure I answered exactly what was asked.
- I labeled my answer with correct units or notation.

Common Mistakes in Algebra 1

-  **Combining like terms:** $3x + 2y \neq 5xy$. Only combine terms with the same variable and exponent.
-  **Exponent rules:** $x^2 \cdot x^3 = x^5$ (add exponents), but $(x^2)^3 = x^6$ (multiply exponents).
-  **Inequality direction:** When multiplying or dividing by a negative, flip the inequality sign.
-  **Function notation:** $f(3)$ means the output when input is 3, not $f \times 3$.
-  **Quadratic formula:** The denominator is $2a$, not just a . Don't forget the \pm .

Smart Strategies

- Answer the questions you're most confident about first
- Underline keywords: "solve," "simplify," "factor," "graph," "explain"
- For word problems, define your variable and translate step by step
- When graphing, always plot at least two points and connect with a ruler
- When stuck, skip and come back — fresh eyes often see the solution

 **After Each Test**

- Read the full explanation for every wrong answer
- Note the chapter (not just the question number) so you know what to study
- Before the next test, review those chapters until you understand them
- Log your results in the Test Tracker



“ Every wrong answer is a learning opportunity. After each test, go back and understand not just **what** the right answer is, but **why** your approach didn't work. ”



Get Online



Find more at
[ViewMath.com/KY-Algebra1](https://www.viewmath.com/KY-Algebra1)



 [ViewMath.com](https://www.viewmath.com)



What You'll Need

Gather these materials before you begin

Materials Checklist

- ✓ **Sharpened Pencils** — #2 pencils, at least two
- ✓ **Good Eraser** — for clean corrections
- ✓ **Scratch Paper** — for working out problems
- ✓ **Graphing Calculator** — if allowed by your state test
- ✓ **Ruler / Straightedge** — for graphing lines
- ✓ **Quiet Space** — no distractions
- ✓ **Focused Mind** — ready to do your best

Allowed Materials

- ✓ Pencils and eraser
- ✓ Scratch paper (provided on official test day)
- ✓ Graphing calculator (most Algebra 1 state tests allow calculators — check your state's policy)
- ✓ Ruler or straightedge

Not Allowed

- ✗ Cell phone or any electronic device
- ✗ Notes, textbooks, or reference sheets (unless provided by the test)
- ✗ Help from others during the test
- ✗ Calculator apps or internet access

♥ A Note for Parents & Guardians

Seven tests allow for deep, thorough preparation. Plan one test every 4–5 days with study sessions in between.

How to help:

- Tests 1–2 should be untimed — let your student explore and learn.
- After each test, review the answer explanations together. Focus on the chapter, not just individual questions.
- Use the Test Tracker to visualize progress across all 7 tests.
- For extra topic support, pair this book with our **Algebra 1 Study Guide** or **Algebra 1 Workbook**.



Find more at
[ViewMath.com/KY-Algebra1](https://www.viewmath.com/KY-Algebra1)



Algebra 1 Reference Sheet

Key formulas and facts you may use during each practice test

★ Properties & Exponents

Commutative: $a + b = b + a$; $ab = ba$

Associative: $(a + b) + c = a + (b + c)$

Distributive: $a(b + c) = ab + ac$

$a^m \cdot a^n = a^{m+n}$ $(a^m)^n = a^{mn}$

$\frac{a^m}{a^n} = a^{m-n}$ $a^0 = 1$

$a^{-n} = \frac{1}{a^n}$ $(ab)^n = a^n b^n$

★ Linear Equations & Inequalities

Slope-intercept: $y = mx + b$

Point-slope: $y - y_1 = m(x - x_1)$

Standard form: $Ax + By = C$

Slope: $m = \frac{y_2 - y_1}{x_2 - x_1}$

Parallel lines: same slope

Perpendicular: $m_1 \cdot m_2 = -1$

★ Functions

A function maps each input to exactly one output.

Vertical line test: passes through at most one point.

Domain: set of all inputs (x -values)

Range: set of all outputs (y -values)

$f(x)$ notation: $f(3)$ means substitute $x = 3$

★ Systems of Equations

Solve by graphing, substitution, or elimination

One solution: lines intersect (consistent)

No solution: lines are parallel

Infinitely many: same line (dependent)

★ Polynomials & Factoring

$(a + b)^2 = a^2 + 2ab + b^2$

$(a - b)^2 = a^2 - 2ab + b^2$

$a^2 - b^2 = (a + b)(a - b)$

To factor $ax^2 + bx + c$: find two numbers that multiply to ac and add to b

★ Quadratic Functions

Standard form: $y = ax^2 + bx + c$

Vertex form: $y = a(x - h)^2 + k$

Vertex: (h, k) ; axis of symmetry: $x = h$

Quadratic formula: $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

Discriminant: $b^2 - 4ac$

> 0 : two real solutions $= 0$: one < 0 : none

★ Exponential Functions & Sequences

Growth: $y = a \cdot b^x$ where $b > 1$

Decay: $y = a \cdot b^x$ where $0 < b < 1$

Arithmetic sequence: $a_n = a_1 + (n - 1)d$

Geometric sequence: $a_n = a_1 \cdot r^{n-1}$

★ Data & Statistics

Line of best fit: approximates scatter plot trend

Correlation: positive, negative, or none

Correlation \neq causation

Residual = actual - predicted

Good fit: residuals small, randomly scattered

★ Square Roots & Radicals

Perfect squares: 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144

$\sqrt{ab} = \sqrt{a} \cdot \sqrt{b}$ $\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$

Simplify: $\sqrt{50} = \sqrt{25 \cdot 2} = 5\sqrt{2}$

My Test Tracker

Record your scores and track your growth

Name: _____

Start Date: _____

Test 1 – Untimed

Date: _____

Score: _____ / _____

%: _____

Notes: _____

Test 2 – Untimed

Date: _____

Score: _____ / _____

%: _____

Notes: _____

Test 3 – Soft Timer – 120 min

Date: _____

Score: _____ / _____

%: _____

Notes: _____

Test 4 – Timed

Date: _____

Score: _____ / _____

%: _____

Notes: _____

Test 5 – Timed

Date: _____

Score: _____ / _____

%: _____

Notes: _____

Test 6 – Timed – Strict

Date: _____

Score: _____ / _____

%: _____

Notes: _____

Test 7 – Full Test Conditions

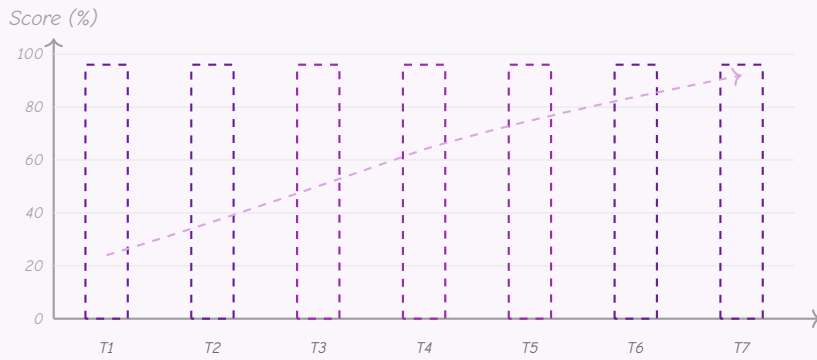
Date: _____

Score: _____ / _____

%: _____

Notes: _____

 Score Progress



Shade each bar after every test. Watch your progress!

 Final Reflection

The most important thing I learned: _____

The topic where I improved the most: _____

What I want to keep working on: _____

PREVIEW



Get Online



Find more at
[ViewMath.com/KY-Algebra1](https://www.viewmath.com/KY-Algebra1)



YOUR ONLINE COMPANION

Continue Learning at ViewMath Academy!

For Parents, Teachers & Students

Great job on the practice tests! Want to keep improving? ViewMath Academy is your **free online companion** to this book.

-  **Score Analyzer** — Enter your answers and instantly see which topics need more practice
-  **Interactive Lessons** — Review the concepts behind each question with clear explanations
-  **Adaptive Quizzes** — Practice your weak topics with questions that match your level
-  **Progress Tracking** — See your mastery grow across all Grade A1 math topics
-  **Personalized Dashboard** — A learning plan tailored just for you



Scan to visit ViewMath Academy

ViewMath.com/KY-Algebra1

 Free to use • No downloads required • Works on any device



PRACTICE TEST

1

Practice Test 1

 10 Questions

Before You Start

- ✓ *Read each question carefully before choosing your answer.*
- ✓ *Show your work on scratch paper when you need to.*
- ✓ *Skip hard questions and come back to them later.*
- ✓ *Check your answers when you're done.*
- ✓ *Take your time — there's no rush!*

★ *You've Got This!* ★

Do your best and show what you know!



1. The sum of two numbers is 14 and one number is 4 more than the other. What are the two numbers?

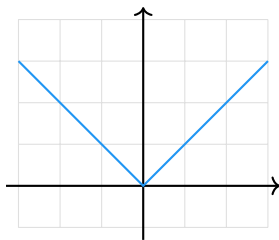
Your Answer:

2. The table below shows an equation with a missing exponent n . Use the rules of exponents to find the value of n .

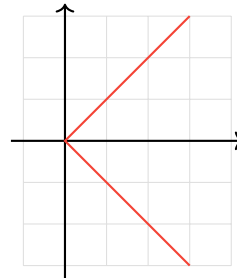
Numerator	Denominator	Result
$x^8 \cdot x^n$	x^3	x^9

Your Answer:

3. Which graph below represents a function?



Graph I



Graph II

- (A) Graph I only
 (B) Graph II only
 (C) Both Graph I and Graph II
 (D) Neither Graph I nor Graph II

4. How many solutions does $4(2x + 3) = 2(4x - 1)$ have?

Your Answer:



Get Online



Find more at
ViewMath.com/KY-Algebra1



 ViewMath.com



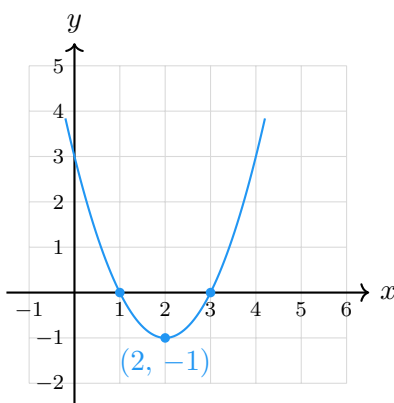
5. What type of boundary line does $y \geq \frac{3}{4}x - 1$ have?

Your Answer:

6. A car is bought for \$18,000 and loses 10% of its value each year. What is the car's value after 5 years? Round to the nearest dollar.

Your Answer:

7. Use the quadratic formula to solve the equation represented by the parabola below. The equation is $x^2 - 4x + 3 = 0$.



Your Answer:

8. Expand $(x + 6)^2$. Write the result in standard form.

Your Answer:



Get Online



Find more at
[ViewMath.com/KY-Algebra1](https://www.viewmath.com/KY-Algebra1)



9. Given $f(x) = 4x - 3$ and $g(x) = x + 7$, what is $f(2) + g(2)$?

(A) 14

(B) 12

(C) 16

(D) 18

10. A car's value decreases by approximately 15% each year. Which model type best describes this depreciation?

(A) Linear, because the value decreases at a constant rate.

(B) Quadratic, because the value decreases and then increases.

(C) Exponential decay, because the value decreases by a constant percentage each year.

(D) No model is appropriate for depreciation.

PREVIEW



Find more at
[ViewMath.com/KY-Algebra1](https://www.viewmath.com/KY-Algebra1)



Answer Key & Explanations



Answer Key

First try each test on your own, then check your work here.

Practice Test 1 – Answer Key

1 9 and 5

2 4

3 A

4 no solution

5 Solid

6 \$10,629

7 $x = 1$ and $x = 3$

8 $x^2 + 12x + 36$

9 A

10 C

Time to Learn!

Review the explanations below, *especially for the questions you missed*.

Understanding why each answer is correct builds stronger problem-solving skills.

Tip: Circle any questions you got wrong, then read their explanation carefully.

Practice Test 1 – Detailed Explanations

1 Let $x + y = 14$ and $x = y + 4$. Substitute: $(y + 4) + y = 14$, so $2y = 10$ and $y = 5$. Then $x = 9$. The two numbers are 9 and 5.

2 Using the product rule in the numerator: $x^8 \cdot x^n = x^{8+n}$. Then the quotient rule: $\frac{x^{8+n}}{x^3} = x^{8+n-3} = x^{n+5}$. Setting $x^{n+5} = x^9$ gives $n + 5 = 9$, so $n = 4$.



Find more at
[ViewMath.com/KY-Algebra1](https://www.viewmath.com/KY-Algebra1)



3 Graph I shows a V-shape; every vertical line crosses it at most once, so it is a function. Graph II shows a sideways V; a vertical line at $x = 2$ crosses it at two points (one above and one below the x -axis), so it is not a function.

4 Distribute: $8x + 12 = 8x - 2$. Subtract $8x$: $12 = -2$. This is a false statement, so the equation has no solution.

5 The symbol \geq includes equality, so points on the boundary line are solutions. A solid line is used for \leq or \geq .

6 The decay factor is $b = 1 - 0.10 = 0.90$. After 5 years: $f(5) = 18,000(0.90)^5 = 18,000 \times 0.59049 \approx \$10,629$.

7 With $a = 1$, $b = -4$, $c = 3$, the discriminant is $D = 16 - 12 = 4$. Then $x = \frac{4 \pm 2}{2}$, giving $x = 3$ or $x = 1$. These match the x -intercepts on the graph.

8 Use the square of a sum pattern: $(x + 6)^2 = x^2 + 2(x)(6) + 6^2 = x^2 + 12x + 36$.

9 Evaluate each function at $x = 2$: $f(2) = 4(2) - 3 = 5$ and $g(2) = 2 + 7 = 9$. Then $f(2) + g(2) = 5 + 9 = 14$.

10 A constant percentage decrease each year means the car retains 85% of its value annually, giving the model $V = V_0(0.85)^t$. This is exponential decay because each year the amount lost is a fixed fraction of the current value, not a fixed dollar amount.

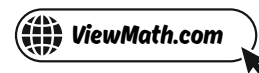


Well done checking your answers!

Keep practicing to strengthen your skills.

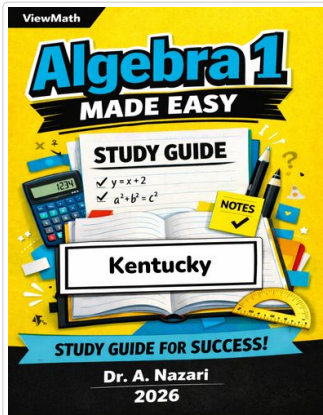


Find more at
[ViewMath.com/KY-Algebra1](https://www.viewmath.com/KY-Algebra1)



 **Great Job! Keep Learning with ViewMath!**

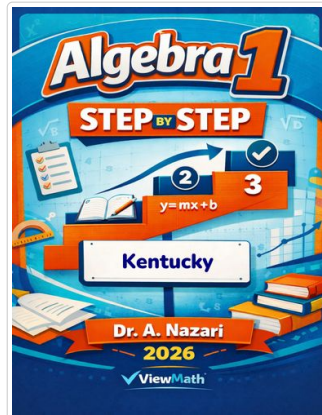
Keep up the great work! Visit viewmath.com/KY-Algebra1 for free lessons, quizzes, and more.



Study Guide



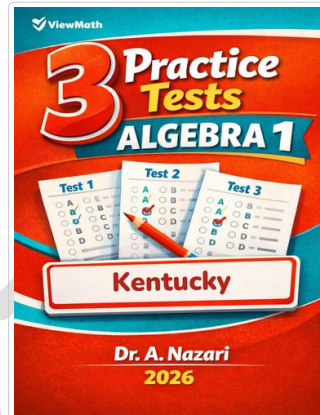
Scan Me



Step-by-Step



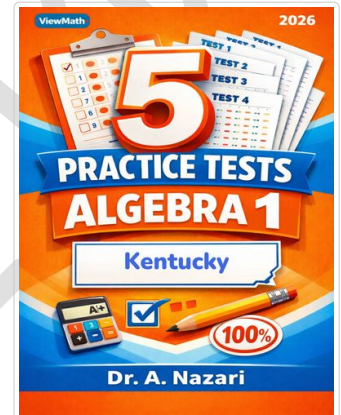
Scan Me



3 Practice Tests



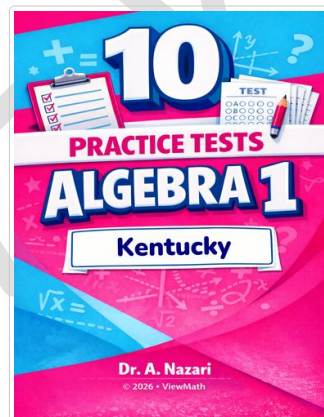
Scan Me



5 Practice Tests



Scan Me



10 Practice Tests



Scan Me



Get Online



Find more at
ViewMath.com/KY-Algebra1



THANK YOU

Enjoyed This Preview?

Get the Full Book!

This preview shows just a small sample of what's inside.

The complete book includes:

- ✓ *All chapters and topics*
- ✓ *Hundreds of practice problems*
- ✓ *Complete answer key with explanations*
- ✓ *Colorful visuals and step-by-step examples*
- ✓ *Reference sheets and progress trackers*

🌐 Visit us at [ViewMath.com](https://www.viewmath.com) for free resources and more books!