7 Full-Length Nevada Algebra 2 Practice Tests

Comprehensive Test Prep with Detailed Answer Explanations

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Welcome to Your Practice Book

7 full-length Algebra 2 tests for deeper preparation and review

Welcome!

*This book gives you **7 full-length Algebra 2 practice tests** with detailed answer explanations. Use each test as a rehearsal: work steadily, check your answers only at the end, study your mistakes, and use the next test to measure progress.*

Practice routine

- *Take each test in one quiet sitting*
- *Use a timer and avoid notes*
- *Mark questions you want to revisit*

Improve your score

- *Review every missed question*
- *Write down the mistake pattern*
- *Practice that kind of problem again*

Use the tests like checkpoints: try, study, retry, and watch the pattern improve.

log

1 Try — 2 Study — 3 Retest

> *Simulate real test conditions: quiet space, timer on, no notes, and answers checked only at the end.*

How to Use This Book

A 7-test path from diagnosis to mastery

What is inside

7 full-length practice tests

Each test samples all major Algebra 2 chapters, including functions, quadratics, polynomials, rational and radical expressions, exponential and logarithmic models, sequences, matrices, trigonometry, conics, statistics, probability, and finance.

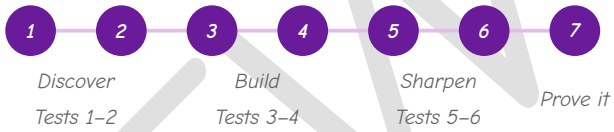
Step-by-step explanations

Treat every missed question as a study assignment. The explanations show the reasoning that should appear in your own work.

Reference sheet and score tracker

Keep formulas close, then record scores and review topics after each test.

Seven-test rhythm



Suggested pacing: *Take tests 4–5 days apart. Keep a running list of weak topics so your review becomes more focused each week.*

Question types

Multiple Choice

Use structure: signs, restrictions, graph behavior, and units can rule out bad options.

Short Answer

Write the method clearly enough that another person can follow your steps.

Graphing & Data

Mark scale, intercepts, key features, and what the model means in context.

1. **Score** — *Mark every answer.*
2. **Study** — *Review missed topics.*
3. **Retry** — *Redo similar problems.*

Test-Taking Tips

Practical habits for Algebra 2 practice tests

During the test

1. Read for the target.

Identify exactly what the question asks before calculating.

2. Set up before solving.

Write the equation, expression, graph feature, or formula you plan to use.

3. Show the algebra.

Keep signs, restrictions, substitutions, and simplification visible.

4. Check reasonableness.

Substitute, estimate, inspect the graph, or compare units.

5. Answer the question asked.

Re-read the final sentence before marking your answer.

Common traps

Inequalities: *flip the sign when multiplying or dividing by a negative.*

Quadratics: *use* $2a$ *in the denominator of the quadratic formula and interpret the discriminant before solving.*

Rational expressions: *excluded values come from the original denominator, even after simplifying.*

Radicals and logs: *check domain restrictions and extraneous solutions.*

Graphs: *scale the axes first, then label intercepts, asymptotes, extrema, or end behavior.*

After the test

Score

Mark each question and write down the test score.

Sort

Group missed questions by topic, not by page number.

Study

Review the explanation, then retry a similar problem.

What You'll Need

Gather materials before you begin

Materials checklist

- ✔ *Sharpened pencils*
- ✔ *Scratch paper*
- ✔ *Graphing calculator, if allowed*
- ✔ *Timer for practice tests*
- ✔ *Good eraser*
- ✔ *Ruler or straightedge*
- ✔ *Quiet place to work*
- ✔ *The answer key for review afterward*

Usually allowed

Pencils, scratch paper provided on test day, graphing calculator when your state allows it, and a straightedge for graphing.

Usually not allowed

Phones, notes, textbooks, online help, or any calculator/app not permitted by your official test rules.

Same setup **Same tools** **Better comparison**

A consistent routine makes your scores easier to compare.

Algebra 2 Reference Sheet

High-yield formulas for quick review before each practice test

Functions

Domain = allowed inputs; range = outputs.

Average rate: $\frac{f(b)-f(a)}{b-a}$

$f(x)+k$: up/down; $f(x-h)$: right/left

$af(x)$: vertical stretch/reflection

$f(bx)$: horizontal change

Inverse: $f^{-1}(f(x))=x$

Linear

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

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

Slope-intercept: $y=mx+b$

Standard: $Ax+By=C$

Parallel: same m; perpendicular: $m_1m_2=-1$

Systems

Solutions are intersections.

Substitution: solve one equation, plug in.

Elimination: align terms, add/subtract.

No solution: parallel lines.

Infinitely many: same line.

Quadratics

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

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

Factored: $y=a(x-r_1)(x-r_2)$

Axis: $x=-\frac{b}{2a}$

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

Discriminant: b^2-4ac

Roots: $r_1+r_2=-\frac{b}{a}$, $r_1r_2=\frac{c}{a}$

Polynomials

Remainder: divide by $x-a$, remainder $f(a)$.

Factor: $x-a$ factor iff $f(a)=0$.

Zeros and factors: $x=r \leftrightarrow (x-r)$

Even degree: same end behavior.

Odd degree: opposite end behavior.

Even multiplicity touches; odd crosses.

Complex Numbers

$i^2=-1$, $i^3=-i$, $i^4=1$

$(a+bi)+(c+di)=(a+c)+(b+d)i$

$(a+bi)(c+di)=(ac-bd)+(ad+bc)i$

Conjugates: $a+bi$, $a-bi$

Real polynomials have conjugate complex roots.

Rational

Excluded values come from original denominator.

Factor first; cancel common factors.

Vertical asymptotes: uncanceled denominator zeros.

Holes: canceled denominator zeros.

Horizontal asymptote compares degrees.

Rational inequality: use sign chart.

Radicals

$a^{m/n}=\sqrt[n]{a^m}=(\sqrt[n]{a})^m$

$a^m a^n=a^{m+n}$

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

Power function: $f(x)=ax^p$

Radical equations: isolate, power, check.

Even roots need nonnegative radicands.

Exponential

Model: $y=ab^x$

Growth: $b>1$; decay: $0<b<1$

Compound: $A=P(1+\frac{r}{n})^{nt}$

Continuous: $A=Pe^{rt}$

Half-life/decay: $A=A_0(1-r)^t$

Logarithms

$\log_b(x)=y \leftrightarrow b^y=x$

$\log_b(MN)=\log_b M+\log_b N$

$\log_b(M/N)=\log_b M-\log_b N$

$\log_b(M^p)=p\log_b M$

Change base: $\log_b x=\frac{\log x}{\log b}$

Log domain: argument >0.

Sequences

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

Arithmetic recursive: $a_n=a_{n-1}+d$

Arithmetic sum: $S_n=\frac{n(a_1+a_n)}{2}$

Geometric: $a_n=a_1r^{n-1}$

Geometric recursive: $a_n=ra_{n-1}$

Finite sum: $S_n=\frac{a_1(1-r^n)}{1-r}$

Infinite sum: $S=\frac{a_1}{1-r}$, $|r|<1$

Matrices

Matrix size: rows × columns.

Add/subtract only same dimensions.

Multiply $A_{m\times n}B_{n\times p}=C_{m\times p}$.

Identity: $AI=IA=A$

For 2×2, determinant $ad-bc$.

Algebra 2 Reference Sheet

Trig, conics, data, probability, and modeling reminders

Trigonometry

Unit point: $(\cos\theta, \sin\theta)$

$\sin^2\theta + \cos^2\theta = 1$

$1 + \tan^2\theta = \sec^2\theta$

$\sin = \frac{opp}{hyp}$, $\cos = \frac{adj}{hyp}$, $\tan = \frac{opp}{adj}$

Sine/cosine period: $\frac{2\pi}{|b|}$

Tangent period: $\frac{\pi}{|b|}$

Law of Sines: $\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$

Law of Cosines: $c^2 = a^2 + b^2 - 2ab\cos C$

Trig Graphs

$y = A\sin(B(x - C)) + D$

Amplitude: $|A|$

Period: $\frac{2\pi}{|B|}$ *for sine/cosine*

Period: $\frac{\pi}{|B|}$ *for tangent*

Phase shift: C

Midline: $y = D$

Max/min: $D \pm |A|$

Special Angles

$30^\circ = \frac{\pi}{6}$, $45^\circ = \frac{\pi}{4}$, $60^\circ = \frac{\pi}{3}$

$\sin 30^\circ = \frac{1}{2}$, $\cos 30^\circ = \frac{\sqrt{3}}{2}$

$\sin 45^\circ = \cos 45^\circ = \frac{\sqrt{2}}{2}$

$\sin 60^\circ = \frac{\sqrt{3}}{2}$, $\cos 60^\circ = \frac{1}{2}$

Quadrant signs: ASTC.

Conics

Circle: $(x - h)^2 + (y - k)^2 = r^2$

Parabola: $(x - h)^2 = 4p(y - k)$

or $(y - k)^2 = 4p(x - h)$

Ellipse: $\frac{(x - h)^2}{a^2} + \frac{(y - k)^2}{b^2} = 1$

Hyperbola: $\frac{(x - h)^2}{a^2} - \frac{(y - k)^2}{b^2} = 1$

Conic Details

Circle center (h, k)*, radius* r*.*

Parabola vertex (h, k)*, focus is* $|p|$ *away.*

Ellipse: larger denominator gives major axis.

Ellipse: $c^2 = a^2 - b^2$

Hyperbola: $c^2 = a^2 + b^2$

Asymptotes guide hyperbola branches.

Statistics

Mean: $\bar{x} = \frac{\sum x}{n}$

$z = \frac{x - \mu}{\sigma}$

Residual = actual − predicted

Correlation r *is between* -1 *and* 1*.*

Normal: about $68\%, 95\%, 99.7\%$ *within* $1, 2, 3$ *SDs.*

Data Displays

IQR: $Q_3 - Q_1$

Outlier fence: $Q_1 - 1.5(IQR)$*,* $Q_3 + 1.5(IQR)$

Median resists outliers.

Mean is pulled by outliers.

Standard deviation measures typical distance from mean.

Regression

Residual: actual − predicted.

Positive r*: as* x *rises,* y *tends to rise.*

Negative r*: as* x *rises,* y *tends to fall.*

Strong linear fit: $|r|$ *close to* 1*.*

R^2 *is percent of variation explained.*

Probability

$P(A \mid B) = \frac{P(A \cap B)}{P(B)}$

Independent: $P(A \cap B) = P(A)P(B)$

Either/or: $P(A \cup B) = P(A) + P(B) - P(A \cap B)$

Permutations: ${}_nP_r = \frac{n!}{(n - r)!}$

Combinations: ${}_nC_r = \frac{n!}{r!(n - r)!}$

Binomial: ${}_nC_r p^r (1 - p)^{n-r}$

Counting

Fundamental counting principle: multiply choices.

Permutation: order matters.

Combination: order does not matter.

With replacement: choices stay the same.

Without replacement: choices decrease.

Finance

Simple interest: $I = Prt$

Future amount: $A = P + I$

Compound: $A = P(1 + \frac{r}{n})^{nt}$

Continuous: $A = Pe^{rt}$

Depreciation: $A = P(1 - r)^t$

Percent change: $\frac{new - old}{old}$

Modeling Checks

Linear: constant first differences.

Quadratic: constant second differences.

Exponential: constant ratios.

Domain should match the context.

Round only at the end unless directed.

My Test Tracker

Record scores, review topics, and save your progress online

Name: _____ **Start Date:** _____

Test	Date	Score / 50	Percent	Topic or chapter to review
1				
2				
3				
4				
5				
6				
7				

Review pattern

Tests 1–2

Discover strengths and weak chapters.

Tests 3–6

Build pacing while closing topic gaps.

Test 7

Run a final test-day rehearsal.

Track your progress and save your scores on ViewMath.com

Scan the QR code to enter scores, save progress, and review weak topics.

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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. *Simplify* $5(2y - 1) - 3(y + 4)$.

(A) $7y - 17$ (B) $7y + 7$

(C) $13y - 17$ (D) $10y - 15$

2. *Which expression represents a rational number?*

(A) $\sqrt{45}$ (B) $\sqrt{81}$

(C) $\pi + 1$ (D) $\sqrt{2} + \sqrt{8}$

3. *Which matrix row operation preserves a system's solutions?*

(A) *replace a row by twice that row* (B) *change only one coefficient randomly*

(C) *delete one equation always* (D) *divide by zero*

4. *Which product is written in scientific notation?*

(A) 43.2×10^5 (B) 0.432×10^8

(C) 4.32×10^6 (D) 432×10^4

5. *Which point satisfies* $x \geq 0$, $y \geq 0$, *and* $x + y \leq 5$?

(A) $(-1, 2)$ (B) $(2, 4)$

(C) $(3, 1)$ (D) $(6, 0)$

6. *Which equation represents a horizontal line through* $(3, -7)$?

(A) $x = 3$ (B) $y = -7$

(C) $y = 3x - 7$ (D) $x = -7$

7. *Which inequality represents at most 12?*

(A) $x < 12$ (B) $x \leq 12$

(C) $x > 12$ (D) $x \geq 12$

8. *What does the solution to a system of two linear equations represent on a graph?*

(A) *the steepest line* (B) *the intersection point*

(C) *the y-intercepts only* (D) *the shaded side of one line*

9. *Which form best reveals the zeros of $f(x) = 2(x - 1)(x + 4)$?*

(A) *standard form* (B) *factored form*

(C) *vertex form* (D) *recursive form*

10. *Use the table to identify the inverse pair.*

x	$f(x)$
-1	5
0	3
2	-1

(A) $f^{-1}(5) = -1$ (B) $f^{-1}(-1) = 5$

(C) $f^{-1}(3) = 3$ (D) $f^{-1}(2) = -1$

Answer Key & Explanations

Answer Key

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

Practice Test 1 — Answer Key

1 A	2 B	3 A	4 C	5 C	6 B	7 B	8 B	9 B	10 A

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. Distribute first to get $10y - 5 - 3y - 12$, and combine like terms to get $7y - 17$.

2. The value $\sqrt{81} = 9$ is rational; the other choices include nonrepeating irrational parts.

3. Multiplying an equation by a nonzero constant creates an equivalent equation, so it preserves the solution set.

4 Scientific notation requires a factor at least 1 and less than 10, so only 4.32×10^6 has the correct form.

5 The point $(3, 1)$ has nonnegative coordinates and $3 + 1 = 4 \leq 5$, so it is feasible.

6 A horizontal line has a constant y-value, so every point on it has $y = -7$.

7 At most means the value can equal 12 or be less than 12, so the symbol is $\leq$.

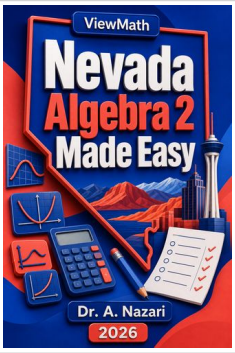
8 A solution must satisfy both equations, so it is the point where the two lines meet.

9 Factored form shows the zeros by setting each factor equal to zero, giving $x = 1$ and $x = -4$.

10 The row $x = -1$, $f(x) = 5$ reverses to $f^{-1}(5) = -1$.

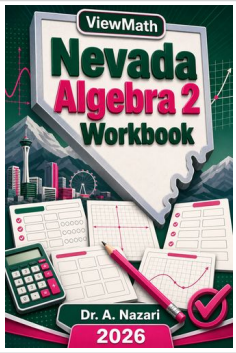
Great Job! Keep Learning with ViewMath!

*Keep up the great work! Visit **viewmath.com/NV-Algebra2** for free lessons, quizzes, and more.*



Study Guide

Scan Me



Workbook

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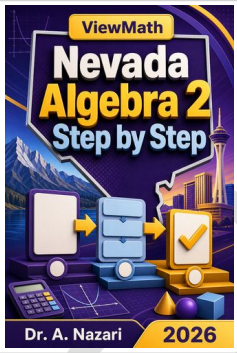

Step-by-Step

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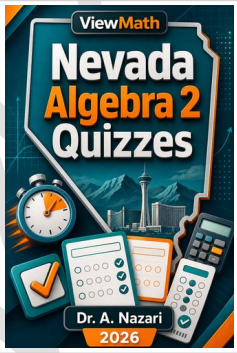

Quizzes

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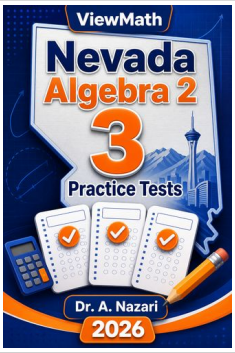

3 Practice Tests

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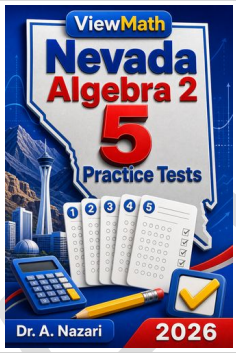

5 Practice Tests

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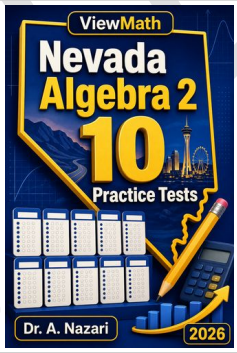

10 Practice Tests

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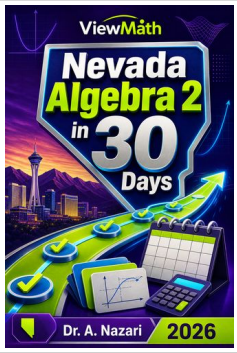

Math in 30 Days

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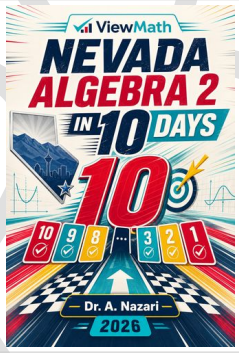

Math in 10 Days

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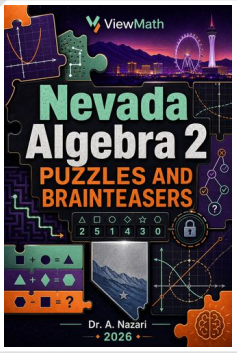

Puzzles

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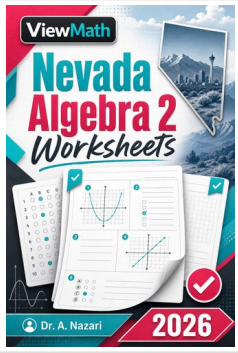

Worksheets

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