Thinkwell's Homeschool Honors Algebra 2 | Course Lesson Plan: 36 weeks

Welcome to Thinkwell's Homeschool Honors Algebra 2!

Thank you for making us part of your homeschool curriculum. This 36-week lesson plan is meant to be a guide for you and your homeschool student. Feel free to modify this plan to suit your individual needs.

As described below, each day your student will study a different topic and all the materials associated with that topic, such as video lectures, exercises, and worksheets. Expect to spend about an hour to an hour and a half per day on the content suggested here.

If you follow our day-by-day schedule, you'll complete the full curriculum for the course in 36 weeks. Please let us know if we can assist you with any of the material here. We're happy to be your partner in thinking well.

Schedule Overview:

Weeks 1 – 3	Chapter 1: Foundations for Functions
Weeks 3 – 5	Chapter 2: Linear Functions
Weeks 5 – 7	Chapter 3: Linear Systems
Weeks 8 – 10	Chapter 4: Matrices
Weeks 10 – 12	Chapter 5: Quadratic Functions
Weeks 13 – 16	Chapter 6: Polynomial Functions
Weeks 16 – 18	Chapter 7: Exponential and Logarithmic Functions
Week 19	Midterm
Weeks 19 – 22	Chapter 8: Rational and Radical Functions
Weeks 22 – 24	Chapter 9: Properties and Attributes of Functions
Weeks 24 – 27	Chapter 10: Conic Sections
Weeks 27 – 29	Chapter 11: Probability and Statistics
Weeks 29 – 31	Chapter 12: Sequences and Series
Weeks 31 – 34	Chapter 13: Trigonometric Functions
Weeks 34 – 36	Chapter 14: Trigonometric Graphs and Identities
Week 36	Final Exam

On the pages that follow is a week-by-week, day-by-day list of Algebra 2 content for your student to complete in order to stay on track with Thinkwell's Honors Algebra 2 coursework. Under each week's header you'll see what chapter your student will be working on, along with the daily assignments for that chapter.

On a given day, your student may have one or more topics to complete. The online content for that topic will typically include one or more video lessons for your student to watch. The total time for the video lessons is noted in parentheses next to the topic name.

Each topic listed in this lesson plan will have a core set of content for your student to view and complete:

We suggest that your student first open the notes for that topic. Notes will include key terms, definitions, formulas and illustrations. You may want to print the notes so that your student can take notes on the lesson content as they view the videos. Printed notes are available to purchase as a book if you choose.

Next, we suggest that your student view the video lessons in their entirety.

Finally, students can complete the topic worksheet or they can do the Thinkwell online exercise to demonstrate that they've successfully understood the concepts presented in the lesson. Worksheets and exercises are for practice only and will not count towards the course grade.

After your student has completed a section of topics, they will take a section quiz. Quizzes are available on the Assessments page, and are available to take once for a grade. Practice and Chapter Tests will be scheduled at the end of each chapter. Midterm and Final Exams are also available and are scheduled for weeks 19 and 36, respectively.

As always, feel free to modify this plan to best suit your student's needs. If at any time you require assistance with your course, please reach out to us at support@thinkwell.com.

We're happy to be your partner in thinking well.

Week 1	
Chapter 1: Foundations for Functions	
Assignments	*Notes*
Week 1, Day 1 ☐ 1.1.1 Sets of Numbers (12:28) ☐ 1.1.2 Properties of Real Numbers (9:45)	
Week 1, Day 2 ☐ 1.1.3 Square Roots (13:36) ☐ 1.1.4 Simplifying Algebraic Expressions (13:22)	
Week 1, Day 3 ☐ 1.1.5 Properties of Exponents and Scientific Notation (12:08)	
Week 1, Day 4 ☐ Subchapter 1.1 Worksheet: Properties and Operations, Parts 1 & 2	
Week 1, Day 5 ☐ Subchapter 1.1 Quiz	

Week 2	
Chapter 1: Foundations for Functions	
Assignments	*Notes*
Week 2, Day 1 ☐ 1.2.1 Relations and Functions (8:25) ☐ 1.2.2 Function Notation (13:34)	
Week 2, Day 2 ☐ 1.2.3 Exploring Transformations (13:38) ☐ 1.2.4 Introduction to Parent Functions (9:50)	
Week 2, Day 3 ☐ Subchapter 1.2 Worksheet: Introduction to Functions	
Week 2, Day 4 ☐ Subchapter 1.2 Quiz	
Week 2, Day 5 ☐ Chapter 1 Practice Test	

Week 3	
Chapter 1 Test Chapter 2: Linear Functions	
Assignments	*Notes*
Week 3, Day 1 ☐ Chapter 1 Test	Chapter 1 Test Score: _____
Week 3, Day 2 ☐ 2.1.1 Solving Linear Equations and Inequalities (18:48) ☐ 2.1.2 Proportional Reasoning (12:12)	
Week 3, Day 3 ☐ 2.1.3 Graphing Linear Functions (17:50)	
Week 3, Day 4	

☐ 2.1.4 Writing Linear Functions (20:42)	
Week 3, Day 5 ☐ 2.1.5 Linear Inequalities in Two Variables (17:00)	

Week 4 Chapter 2: Linear Functions	
Assignments	*Notes*
Week 4, Day 1 ☐ Subchapter 2.1 Worksheet: Linear Equations and Inequalities, Parts 1 & 2	
Week 4, Day 2 ☐ Subchapter 2.1 Quiz	
Week 4, Day 3 ☐ 2.2.1 Transforming Linear Functions (14:34) ☐ 2.2.2 Curve Fitting With Linear Models (18:48)	
Week 4, Day 4 ☐ 2.2.3 Solving Absolute-Value Equations and Inequalities (26:25)	
Week 4, Day 5 ☐ 2.2.4 Absolute-Value Functions (15:14)	

Week 5 Chapter 2: Linear Functions Chapter 2 Test Chapter 3: Linear Systems	
Assignments	*Notes*
Week 5, Day 1 ☐ Subchapter 2.2 Worksheet: Applying Linear Functions	
Week 5, Day 2 ☐ Subchapter 2.2 Quiz	
Week 5, Day 3 ☐ Chapter 2 Practice Test	
Week 5, Day 4 ☐ Chapter 2 Test	Chapter 2 Test Score: _____
Week 5, Day 5 ☐ 3.1.1 Using Graphs and Tables to Solve Linear Systems (17:48)	

Week 6 Chapter 3: Linear Systems	
Assignments	*Notes*
Week 6, Day 1 ☐ 3.1.2 Using Algebraic Methods to Solve Linear Systems (21:33)	

Week 6, Day 2 ☐ 3.1.3 Solving Systems of Linear Inequalities (21:11) ☐ 3.1.4 Linear Programming (25:49)	
Week 6, Day 3 ☐ Subchapter 3.1 Worksheet: Linear Systems in Two Dimensions	
Week 6, Day 4 ☐ Subchapter 3.1 Quiz	
Week 6, Day 5 ☐ 3.2.1 Linear Equations in Three Dimensions (12:04)	

Week 7 Chapter 3: Linear Systems Chapter 3 Test	
Assignments	*Notes*
Week 7, Day 1 ☐ 3.2.2 Solving Linear Systems in Three Variables (23:13)	
Week 7, Day 2 ☐ Subchapter 3.2 Worksheet: Linear Systems in Three Dimensions	
Week 7, Day 3 ☐ Subchapter 3.2: Quiz	
Week 7, Day 4 ☐ Chapter 3 Practice Test	
Week 7, Day 5 ☐ Chapter 3 Test	Chapter 3 Test Score: _____

Week 8 Chapter 4: Matrices	
Assignments	*Notes*
Week 8, Day 1 ☐ 4.1.1 Matrices and Data (13:56)	
Week 8, Day 2 ☐ 4.1.2 Multiplying Matrices (16:39)	
Week 8, Day 3 ☐ 4.1.3 Using Matrices to Transform Geometric Figures (16:03)	
Week 8, Day 4 ☐ Subchapter 4.1 Worksheet: Matrix Operations	
Week 8, Day 5 ☐ Subchapter 4.1 Quiz	

Week 9 Chapter 4: Matrices	
Assignments	*Notes*
Week 9, Day 1 ☐ 4.2.1 Determinants and Cramer's Rule (32:39)	
Week 9, Day 2 ☐ 4.2.2 Matrix Inverses and Solving Systems (17:31)	
Week 9, Day 3 ☐ 4.2.3 Row Operations and Augmented Matrices (18:55)	
Week 9, Day 4 ☐ Subchapter 4.2 Worksheet: Using Matrices to Solve Systems	
Week 9, Day 5 ☐ Subchapter 4.2 Quiz	

Week 10 Chapter 4 Test Chapter 5: Quadratic Functions	
Assignments	*Notes*
Week 10, Day 1 ☐ Chapter 4 Practice Test	
Week 10, Day 2 ☐ Chapter 4 Test	Chapter 4 Test Score: _____
Week 10, Day 3 ☐ 5.1.1 Using Transformations to Graph Quadratic Functions (15:57) ☐ 5.1.2 Properties of Quadratic Functions in Standard Form (12:22)	
Week 10, Day 4 ☐ 5.1.3 Solving Quadratic Equations by Graphing and Factoring (14:11)	
Week 10, Day 5 ☐ 5.1.4 Completing the Square (16:45)	

Week 11 Chapter 5: Quadratic Functions	
Assignments	*Notes*
Week 11, Day 1 ☐ 5.1.5 Complex Numbers and Roots (11:18) ☐ 5.1.6 The Quadratic Formula (14:29)	
Week 11, Day 2 ☐ Subchapter 5.1 Worksheet: Quadratic Functions and Complex Numbers, Parts 1 & 2	
Week 11, Day 3 ☐ Subchapter 5.1 Quiz	
Week 11, Day 4 ☐ 5.2.1 Solving Quadratic Inequalities (16:29)	
Week 11, Day 5 ☐ 5.2.2 Curve Fitting with Quadratic Models (10:57)	

Week 12	
Chapter 5: Quadratic Functions	
Chapter 5 Test	
Assignments	*Notes*
Week 12, Day 1 ☐ 5.2.3 Operations with Complex Numbers (20:32)	
Week 12, Day 2 ☐ Subchapter 5.2 Worksheet: Applying Quadratic Functions	
Week 12, Day 3 ☐ Subchapter 5.2 Quiz	
Week 12, Day 4 ☐ Chapter 5 Practice Test	
Week 12, Day 5 ☐ Chapter 5 Test	Chapter 5 Test Score: _____

Week 13	
Chapter 6: Polynomial Functions	
Assignments	*Notes*
Week 13, Day 1 ☐ 6.1.1 Polynomials (15:05)	
Week 13, Day 2 ☐ 6.1.2 Adding and Subtracting Polynomials (16:07)	
Week 13, Day 3 ☐ 6.1.3 Multiplying Polynomials (29:35)	
Week 13, Day 4 ☐ 6.1.4 Factoring Polynomials (29:30)	
Week 13, Day 5 ☐ 6.1.5 Dividing Polynomials (15:30)	

Week 14	
Chapter 6: Polynomial Functions	
Assignments	*Notes*
Week 14, Day 1 ☐ 6.1.6 Synthetic Division and the Remainder and Factor Theorems (37:50)	
Week 14, Day 2 ☐ Subchapter 6.1 Worksheet: Operations with Polynomials, Parts 1 & 2	
Week 14, Day 3 ☐ Subchapter 6.1 Quiz	
Week 14, Day 4 ☐ 6.2.1 Finding Real Roots of Polynomial Equations (18:10)	
Week 14, Day 5 ☐ 6.2.2 Fundamental Theorem of Algebra (20:37)	

Week 15 Chapter 6: Polynomial Functions	
Assignments	*Notes*
Week 15, Day 1 ☐ 6.2.3 Investigating Graphs of Polynomial Functions (20:05)	
Week 15, Day 2 ☐ 6.2.4 Transforming Polynomial Functions (17:23)	
Week 15, Day 3 ☐ 6.2.5 Curve Fitting with Polynomial Models (15:34)	
Week 15, Day 4 ☐ Subchapter 6.2 Worksheet: Roots and Graphs of Polynomial Functions, Parts 1 & 2	
Week 15, Day 5 ☐ Subchapter 6.2 Quiz	

Week 16 Chapter 6: Polynomial Functions & Chapter 6 Test Chapter 7: Exponential and Logarithmic Functions	
Assignments	*Notes*
Week 16, Day 1 ☐ Chapter 6 Practice Test	
Week 16, Day 2 ☐ Chapter 6 Test	Chapter 6 Test Score: _____
Week 16, Day 3 ☐ 7.1.1 Exponential Functions, Growth, and Decay (15:14)	
Week 16, Day 4 ☐ 7.1.2 Inverses of Relations and Functions (18:36)	
Week 16, Day 5 ☐ 7.1.3 Logarithmic Functions (20:29)	

Week 17 Chapter 7: Exponential and Logarithmic Functions	
Assignments	*Notes*
Week 17, Day 1 ☐ 7.1.4 Properties of Logarithms (21:14)	
Week 17, Day 2 ☐ Subchapter 7.1 Worksheet: Exponential Functions and Logarithms	
Week 17, Day 3 ☐ Subchapter 7.1 Quiz	
Week 17, Day 4 ☐ 7.2.1 Exponential and Logarithmic Equations and Inequalities (26:15)	
Week 17, Day 5 ☐ 7.2.2 The Natural Base, *e* (16:51)	

Week 18	
Chapter 7: Exponential and Logarithmic Functions & Chapter 7 Test	
Assignments	*Notes*
Week 18, Day 1 ☐ 7.2.3 Transforming Exponential and Logarithmic Functions (21:26) ☐ 7.2.4 Curve Fitting With Exponential and Logarithmic Models (8:52)	
Week 18, Day 2 ☐ Subchapter 7.2 Worksheet: Applying Exponential and Logarithmic Functions	
Week 18, Day 3 ☐ Subchapter 7.2 Quiz	
Week 18, Day 4 ☐ Chapter 7 Practice Test	
Week 18, Day 5 ☐ Chapter 7 Test	Chapter 7 Test Score: _____

Week 19	
Midterm Exam	
Chapter 8: Rational and Radical Functions	
Assignments	*Notes*
Week 19, Day 1 ☐ Practice Midterm	
Week 19, Day 2 ☐ **Midterm Exam**	Midterm Exam Score: _____
Week 19, Day 3 ☐ 8.1.1 Variation Functions (27:15)	
Week 19, Day 4 ☐ 8.1.2 Multiplying and Dividing Rational Expressions (29:28)	
Week 19, Day 5 ☐ 8.1.3 Adding and Subtracting Rational Expressions (33:08)	

Week 20	
Chapter 8: Rational and Radical Functions	
Assignments	*Notes*
Week 20, Day 1 ☐ 8.1.4 Rational Functions (31:31)	
Week 20, Day 2 ☐ 8.1.5 Solving Rational Equations and Inequalities (32:37)	
Week 20, Day 3 ☐ Subchapter 8.1 Worksheet: Rational Functions, Parts 1 & 2	
Week 20, Day 4 ☐ Subchapter 8.1 Quiz	
Week 20, Day 5 ☐ 8.2.1 Radical Expressions and Rational Exponents (22:05)	

Week 21 Chapter 8: Rational and Radical Functions	
Assignments	*Notes*
Week 21, Day 1 ☐ 8.2.2 Radical Functions (25:02)	
Week 21, Day 2 ☐ 8.2.3 Solving Radical Equations and Inequalities (28:42)	
Week 21, Day 3 ☐ Subchapter 8.2 Worksheet: Radical Functions	
Week 21, Day 4 ☐ Subchapter 8.2 Quiz	
Week 21, Day 5 ☐ Chapter 8 Practice Test	

Week 22 Chapter 8 Test Chapter 9: Properties and Attributes of Functions	
Assignments	*Notes*
Week 22, Day 1 ☐ Chapter 8 Test	Chapter 8 Test Score: _____
Week 22, Day 2 ☐ 9.1.1 Multiple Representations of Functions (18:25)	
Week 22, Day 3 ☐ 9.1.2 Piecewise Functions (19:14)	
Week 22, Day 4 ☐ 9.1.3 Transforming Functions (16:10)	
Week 22, Day 5 ☐ Subchapter 9.1 Worksheet: Functions and Their Graphs	

Week 23 Chapter 9: Properties and Attributes of Functions	
Assignments	*Notes*
Week 23, Day 1 ☐ Subchapter 9.1 Quiz	
Week 23, Day 2 ☐ 9.2.1 Operations with Functions (18:26)	
Week 23, Day 3 ☐ 9.2.2 Functions and Their Inverses (12:24)	
Week 23, Day 4 ☐ 9.2.3 Modeling Real-World Data (16:59)	
Week 23, Day 5 ☐ Subchapter 9.2 Worksheet: Functional Relationships	

Week 24	
Chapter 9: Properties and Attributes of Functions Chapter 9 Test Chapter 10: Conic Sections	
Assignments	*Notes*
Week 24, Day 1 ☐ Subchapter 9.2 Quiz	
Week 24, Day 2 ☐ Chapter 9 Practice Test	
Week 24, Day 3 ☐ Chapter 9 Test	Chapter 9 Test Score: _____
Week 24, Day 4 ☐ 10.1.1 Introduction to Conic Sections (15:39)	
Week 24, Day 5 ☐ 10.1.2 Circles (14:57)	

Week 25	
Chapter 10: Conic Sections	
Assignments	*Notes*
Week 25, Day 1 ☐ 10.1.3 Ellipses (21:23)	
Week 25, Day 2 ☐ 10.1.4 Hyperbolas (22:36)	
Week 25, Day 3 ☐ 10.1.5 Parabolas (23:03)	
Week 25, Day 4 ☐ Subchapter 10.1 Worksheet: Understanding Conic Sections, Parts 1 & 2	
Week 25, Day 5 ☐ Subchapter 10.1 Quiz	

Week 26	
Chapter 10: Conic Sections	
Assignments	*Notes*
Week 26, Day 1 ☐ 10.2.1 Identifying Conic Sections (22:23)	
Week 26, Day 2 ☐ 10.2.2 Solving Nonlinear Systems (27:11)	
Week 26, Day 3 ☐ Subchapter 10.2 Worksheet: Applying Conic Sections	
Week 26, Day 4 ☐ Subchapter 10.2 Quiz	
Week 26, Day 5 ☐ Chapter 10 Practice Test	

Week 27	
Chapter 10 Test	
Chapter 11: Probability and Statistics	
Assignments	*Notes*
Week 27, Day 1 ☐ Chapter 10 Test	Chapter 10 Test Score: _____
Week 27, Day 2 ☐ 11.1.1 Permutations and Combinations (17:53)	
Week 27, Day 3 ☐ 11.1.2 Theoretical and Experimental Probability (19:07)	
Week 27, Day 4 ☐ 11.1.3 Independent and Dependent Events (20:57)	
Week 27, Day 5 ☐ 11.1.4 Compound Events (20:25)	

Week 28	
Chapter 11: Probability and Statistics	
Assignments	*Notes*
Week 28, Day 1 ☐ Subchapter 11.1 Worksheet: Probability	
Week 28, Day 2 ☐ Subchapter 11.1 Quiz	
Week 28, Day 3 ☐ 11.2.1 Measures of Central Tendency and Variation (18:46)	
Week 28, Day 4 ☐ 11.2.2 Binomial Distributions (14:46)	
Week 28, Day 5 ☐ Subchapter 11.2 Worksheet: Data Analysis and Statistics	

Week 29	
Chapter 11: Probability and Statistics	
Chapter 11 Test	
Chapter 12: Sequences and Series	
Assignments	*Notes*
Week 29, Day 1 ☐ Subchapter 11.2 Quiz	
Week 29, Day 2 ☐ Chapter 11 Practice Test	
Week 29, Day 3 ☐ Chapter 11 Test	Chapter 11 Test Score: _____
Week 29, Day 4 ☐ 12.1.1 Introduction to Sequences (20:03)	
Week 29, Day 5 ☐ 12.1.2 Series and Summation Notation (18:22)	

Week 30	
Chapter 12: Sequences and Series	
Assignments	*Notes*
Week 30, Day 1 ☐ 12.1.3 Arithmetic Sequences and Series (21:03)	
Week 30, Day 2 ☐ Subchapter 12.1 Worksheet: Exploring Arithmetic Sequences and Series	
Week 30, Day 3 ☐ Subchapter 12.1 Quiz	
Week 30, Day 4 ☐ 12.2.1 Geometric Sequences and Series (19:27)	
Week 30, Day 5 ☐ 12.2.2 Mathematical Induction and Infinite Geometric Series (22:13)	

Week 31	
Chapter 12: Sequences and Series Chapter 12 Test Chapter 13: Trigonometric Functions	
Assignments	*Notes*
Week 31, Day 1 ☐ Subchapter 12.2 Worksheet: Exploring Geometric Sequences and Series	
Week 31, Day 2 ☐ Subchapter 12.2 Quiz	
Week 31, Day 3 ☐ Chapter 12 Practice Test	
Week 31, Day 4 ☐ Chapter 12 Test	Chapter 12 Test Score: _____
Week 31, Day 5 ☐ 13.1.1 Right-Angle Trigonometry (20:03)	

Week 32	
Chapter 13: Trigonometric Functions	
Assignments	*Notes*
Week 32, Day 1 ☐ 13.1.2 Angles of Rotation (22:19)	
Week 32, Day 2 ☐ 13.1.3 The Unit Circle (23:28)	
Week 32, Day 3 ☐ 13.1.4 Inverses of Trigonometric Functions (18:18)	
Week 32, Day 4	

☐ Subchapter 13.1 Worksheet: Introduction to Trigonometric Functions, Parts 1 & 2	
Week 32, Day 5	
☐ Subchapter 13.1 Quiz	

Week 33 Chapter 13: Trigonometric Functions	
Assignments	*Notes*
Week 33, Day 1 ☐ 13.2.1 The Law of Sines (23:49)	
Week 33, Day 2 ☐ 13.2.2 The Law of Cosines (21:39)	
Week 33, Day 3 ☐ Subchapter 13.2 Worksheet: Applying Trigonometric Functions	
Week 33, Day 4 ☐ Subchapter 13.2 Quiz	
Week 33, Day 5 ☐ Chapter 13 Practice Test	

Week 34 Chapter 13 Test Chapter 14: Trigonometric Graphs and Identities	
Assignments	Notes
Week 34, Day 1 ☐ Chapter 13 Test	Chapter 13 Test Score: _____
Week 34, Day 2 ☐ 14.1.1 Graphs of Sine and Cosine (14:37)	
Week 34, Day 3 ☐ 14.1.2 Graphs of Other Trigonometric Functions (12:21)	
Week 34, Day 4 ☐ Subchapter 14.1 Worksheet: Exploring Trigonometric Graphs	
Week 34, Day 5 ☐ Subchapter 14.1 Quiz	

Week 35 Chapter 14: Trigonometric Graphs and Identities	
Assignments	Notes
Week 35, Day 1 ☐ 14.2.1 Fundamental Trigonometric Identities (12:23)	
Week 35, Day 2 ☐ 14.2.2 Sum and Difference Identities (28:46)	
Week 35, Day 3	

☐ 14.2.3 Double-Angle and Half-Angle Identities (23:27)	
Week 35, Day 4	
☐ 14.2.4 Solving Trigonometric Equations (15:59)	
Week 35, Day 5	
☐ Subchapter 14.2 Worksheet: Trigonometric Identities	

Week 36 Chapter 14: Trigonometric Graphs and Identities Chapter 14 Test Final Exam	
Assignments	Notes
Week 36, Day 1 ☐ Subchapter 14.2 Quiz	
Week 36, Day 2 ☐ Chapter 14 Practice Test	
Week 36, Day 3 ☐ Chapter 14 Test	Chapter 14 Test Score: _____
Week 36, Day 4 ☐ Practice Final	
Week 36, Day 5 ☐ **Final Exam**	Final Exam Score: _____