

Thinkwell's Homeschool Algebra 2

Course Lesson Plan: 34 weeks

Welcome to Thinkwell's Homeschool Algebra 2! We're thrilled that you've decided to make us part of your homeschool curriculum. This lesson plan is meant to be a guide for you and your homeschool student. Each day, you'll tackle a different topic and all the materials associated with that topic, such as video lectures, exercises, and worksheets. If you follow our day-by-day schedule, you'll complete the full curriculum for the course in 34 weeks. Feel free to modify and amend the plan as it best works for you. And, as always, please [let us know](#) what we can do to help you get up and running with Thinkwell's Algebra 2!

Week 1	
Chapter 1: Foundations for Functions	
Assignments	Notes
<u>Week 1, Day 1</u>	
<input type="checkbox"/> 1.1.1 Sets of Numbers	
<u>Week 1, Day 2</u>	
<input type="checkbox"/> 1.1.2 Properties of Real Numbers	
<u>Week 1, Day 3</u>	
<input type="checkbox"/> 1.1.3 Square Roots	
<u>Week 1, Day 4</u>	
<input type="checkbox"/> 1.1.4 Simplifying Algebraic Expressions	
<u>Week 1, Day 5</u>	
<input type="checkbox"/> 1.1.5 Properties of Exponents and Scientific Notation	

Week 2	
Chapter 1: Foundations for Functions	
Assignments	Notes
<u>Week 2, Day 1</u>	
<input type="checkbox"/> Subchapter 1.1 Worksheet: Properties and Operations, Parts 1 & 2	
<u>Week 2, Day 2</u>	
<input type="checkbox"/> 1.2.1 Relations and Functions	
<u>Week 2, Day 3</u>	
<input type="checkbox"/> 1.2.2 Function Notation	
<u>Week 2, Day 4</u>	
<input type="checkbox"/> 1.2.3 Exploring Transformations	
<u>Week 2, Day 5</u>	
<input type="checkbox"/> 1.2.4 Introduction to Parent Functions	

Week 3 Chapter 1: Foundations for Functions Chapter 1 Test Chapter 2: Linear Functions	
Assignments	Notes
<u>Week 3, Day 1</u> <input type="checkbox"/> Subchapter 1.2 Worksheet: Introduction to Functions	
<u>Week 3, Day 2</u> <input type="checkbox"/> Chapter 1 Practice Test	
<u>Week 3, Day 3</u> <input type="checkbox"/> Chapter 1 Test	Chapter 1 Test Score: _____
<u>Week 3, Day 4</u> <input type="checkbox"/> 2.1.1 Solving Linear Equations and Inequalities	
<u>Week 3, Day 5</u> <input type="checkbox"/> 2.1.2 Proportional Reasoning	

Week 4 Chapter 2: Linear Functions	
Assignments	Notes
<u>Week 4, Day 1</u> <input type="checkbox"/> 2.1.3 Graphing Linear Functions	
<u>Week 4, Day 2</u> <input type="checkbox"/> 2.1.4 Writing Linear Functions	
<u>Week 4, Day 3</u> <input type="checkbox"/> 2.1.5 Linear Inequalities in Two Variables	
<u>Week 4, Day 4</u> <input type="checkbox"/> Subchapter 2.1 Worksheet: Linear Equations and Inequalities, Part 1	
<u>Week 4, Day 5</u> <input type="checkbox"/> Subchapter 2.1 Worksheet: Linear Equations and Inequalities, Part 2	

Week 5 Chapter 2: Linear Functions Chapter 2 Test	
Assignments	Notes
<u>Week 5, Day 1</u> <input type="checkbox"/> 2.2.1 Transforming Linear Functions	
<u>Week 5, Day 2</u> <input type="checkbox"/> 2.2.2 Curve Fitting With Linear Models	
<u>Week 5, Day 3</u> <input type="checkbox"/> 2.2.3 Solving Absolute-Value Equations and Inequalities	
<u>Week 5, Day 4</u> <input type="checkbox"/> 2.2.4 Absolute-Value Functions	

Week 5, Day 5 <input type="checkbox"/> Subchapter 2.2 Worksheet: Applying Linear Functions	
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Week 6 Chapter 2 Test Chapter 3: Linear Systems	
Assignments	Notes
Week 6, Day 1 <input type="checkbox"/> Chapter 2 Practice Test	
Week 6, Day 2 <input type="checkbox"/> Chapter 2 Test	Chapter 2 Test Score: _____
Week 6, Day 3 <input type="checkbox"/> 3.1.1 Using Graphs and Tables to Solve Linear Systems	
Week 6, Day 4 <input type="checkbox"/> 3.1.2 Using Algebraic Methods to Solve Linear Systems	
Week 6, Day 5 <input type="checkbox"/> 3.1.3 Solving Systems of Linear Inequalities	

Week 7 Chapter 3: Linear Systems	
Assignments	Notes
Week 7, Day 1 <input type="checkbox"/> 3.1.4 Linear Programming	
Week 7, Day 2 <input type="checkbox"/> Subchapter 3.1 Worksheet: Linear Systems in Two Dimensions	
Week 7, Day 3 <input type="checkbox"/> 3.2.1 Linear Equations in Three Dimensions	
Week 7, Day 4 <input type="checkbox"/> 3.2.2 Solving Linear Systems in Three Variables	
Week 7, Day 5 <input type="checkbox"/> Subchapter 3.2 Worksheet: Linear Systems in Three Dimensions	

Week 8 Chapter 3 Test Chapter 4: Matrices	
Assignments	Notes
Week 8, Day 1 <input type="checkbox"/> Chapter 3 Practice Test	
Week 8, Day 2 <input type="checkbox"/> Chapter 3 Test	Chapter 3 Test Score: _____
Week 8, Day 3 <input type="checkbox"/> 4.1.1 Matrices and Data	

<u>Week 8, Day 4</u> <input type="checkbox"/> 4.1.2 Multiplying Matrices	
<u>Week 8, Day 5</u> <input type="checkbox"/> 4.1.3 Using Matrices to Transform Geometric Figures	

Week 9 Chapter 4: Matrices	
Assignments	Notes
<u>Week 9, Day 1</u> <input type="checkbox"/> Subchapter 4.1 Worksheet: Matrix Operations	
<u>Week 9, Day 2</u> <input type="checkbox"/> 4.2.1 Determinants and Cramer's Rule	
<u>Week 9, Day 3</u> <input type="checkbox"/> 4.2.2 Matrix Inverses and Solving Systems	
<u>Week 9, Day 4</u> <input type="checkbox"/> 4.2.3 Row Operations and Augmented Matrices	
<u>Week 9, Day 5</u> <input type="checkbox"/> Subchapter 4.2 Worksheet: Using Matrices to Solve Systems	

Week 10 Chapter 4 Test Chapter 5: Quadratic Functions	
Assignments	Notes
<u>Week 10, Day 1</u> <input type="checkbox"/> Chapter 4 Practice Test	
<u>Week 10, Day 2</u> <input type="checkbox"/> Chapter 4 Test	Chapter 4 Test Score: _____
<u>Week 10, Day 3</u> <input type="checkbox"/> 5.1.1 Using Transformations to Graph Quadratic Functions	
<u>Week 10, Day 4</u> <input type="checkbox"/> 5.1.2 Properties of Quadratic Functions in Standard Form	
<u>Week 10, Day 5</u> <input type="checkbox"/> 5.1.3 Solving Quadratic Equations by Graphing and Factoring	

Week 11 Chapter 5: Quadratic Functions	
Assignments	Notes
<u>Week 11, Day 1</u> <input type="checkbox"/> 5.1.4 Completing the Square	
<u>Week 11, Day 2</u> <input type="checkbox"/> 5.1.5 Complex Numbers and Roots	
<u>Week 11, Day 3</u> <input type="checkbox"/> 5.1.6 The Quadratic Formula	

<u>Week 11, Day 4</u> <input type="checkbox"/> Subchapter 5.1 Worksheet: Quadratic Functions and Complex Numbers, Part 1	
<u>Week 11, Day 5</u> <input type="checkbox"/> Subchapter 5.1 Worksheet: Quadratic Functions and Complex Numbers, Part 2	

Week 12 Chapter 5: Quadratic Functions	
Assignments	Notes
<u>Week 12, Day 1</u> <input type="checkbox"/> 5.2.1 Solving Quadratic Inequalities	
<u>Week 12, Day 2</u> <input type="checkbox"/> 5.2.2 Curve Fitting with Quadratic Models	
<u>Week 12, Day 3</u> <input type="checkbox"/> 5.2.3 Operations with Complex Numbers	
<u>Week 12, Day 4</u> <input type="checkbox"/> Subchapter 5.2 Worksheet: Applying Quadratic Functions	
<u>Week 12, Day 5</u> <input type="checkbox"/> Chapter 5 Practice Test	

Week 13 Chapter 5 Test Chapter 6: Polynomial Functions	
Assignments	Notes
<u>Week 13, Day 1</u> <input type="checkbox"/> Chapter 5 Test	Chapter 5 Test Score: _____
<u>Week 13, Day 2</u> <input type="checkbox"/> 6.1.1 Polynomials	
<u>Week 13, Day 3</u> <input type="checkbox"/> 6.1.2 Adding and Subtracting Polynomials	
<u>Week 13, Day 4</u> <input type="checkbox"/> 6.1.3 Multiplying Polynomials	
<u>Week 13, Day 5</u> <input type="checkbox"/> 6.1.4 Factoring by Grouping	

Week 14 Chapter 6: Polynomial Functions	
Assignments	Notes
<u>Week 14, Day 1</u> <input type="checkbox"/> 6.1.5 Dividing Polynomials	
<u>Week 14, Day 2</u> <input type="checkbox"/> 6.1.6 Synthetic Division and the Remainder and Factor Theorems	

<u>Week 14, Day 3</u> <input type="checkbox"/> Subchapter 6.1 Worksheet: Operations with Polynomials, Part 1	
<u>Week 14, Day 4</u> <input type="checkbox"/> Subchapter 6.1 Worksheet: Operations with Polynomials, Part 2	
<u>Week 14, Day 5</u> <input type="checkbox"/> 6.2.1 Finding Real Roots of Polynomial Equations	

Week 15 Chapter 6: Polynomial Functions	
Assignments	Notes
<u>Week 15, Day 1</u> <input type="checkbox"/> 6.2.2 Fundamental Theorem of Algebra	
<u>Week 15, Day 2</u> <input type="checkbox"/> 6.2.3 Investigating Graphs of Polynomial Functions	
<u>Week 15, Day 3</u> <input type="checkbox"/> 6.2.4 Transforming Polynomial Functions	
<u>Week 15, Day 4</u> <input type="checkbox"/> 6.2.5 Curve Fitting with Polynomial Models	
<u>Week 15, Day 5</u> <input type="checkbox"/> Subchapter 6.2 Worksheet: Roots and Graphs of Polynomial Functions, Part 1	

Week 16 Chapter 6: Polynomial Functions Chapter 6 Test Chapter 7: Exponential and Logarithmic Functions	
Assignments	Notes
<u>Week 16, Day 1</u> <input type="checkbox"/> Subchapter 6.2 Worksheet: Roots and Graphs of Polynomial Functions, Part 2	
<u>Week 16, Day 2</u> <input type="checkbox"/> Chapter 6 Practice Test	
<u>Week 16, Day 3</u> <input type="checkbox"/> Chapter 6 Test	Chapter 6 Test Score: _____
<u>Week 16, Day 4</u> <input type="checkbox"/> 7.1.1 Exponential Functions, Growth, and Decay	
<u>Week 16, Day 5</u> <input type="checkbox"/> 7.1.2 Inverses of Relations and Functions	

Week 17 Chapter 7: Exponential and Logarithmic Functions	
Assignments	Notes
<u>Week 17, Day 1</u> <input type="checkbox"/> 7.1.3 Logarithmic Functions	

<u>Week 17, Day 2</u> <input type="checkbox"/> 7.1.4 Properties of Logarithms	
<u>Week 17, Day 3</u> <input type="checkbox"/> Subchapter 7.1 Worksheet: Exponential Functions and Logarithms	
<u>Week 17, Day 4</u> <input type="checkbox"/> 7.2.1 Exponential and Logarithmic Equations and Inequalities	
<u>Week 17, Day 5</u> <input type="checkbox"/> 7.2.2 The Natural Base, e	

Week 18 Chapter 7 Test	
Assignments	Notes
<u>Week 18, Day 1</u> <input type="checkbox"/> 7.2.3 Transforming Exponential and Logarithmic Functions	
<u>Week 18, Day 2</u> <input type="checkbox"/> 7.2.4 Curve Fitting With Exponential and Logarithmic Models	
<u>Week 18, Day 3</u> <input type="checkbox"/> Subchapter 7.2 Worksheet: Applying Exponential and Logarithmic Functions	
<u>Week 18, Day 4</u> <input type="checkbox"/> Chapter 7 Practice Test	
<u>Week 18, Day 5</u> <input type="checkbox"/> Chapter 7 Test	Chapter 7 Test Score: _____

Week 19 Midterm Exam Chapter 8: Rational and Radical Functions	
Assignments	Notes
<u>Week 19, Day 1</u> <input type="checkbox"/> Practice Midterm	
<u>Week 19, Day 2</u> <input type="checkbox"/> Midterm Exam	Midterm Exam Score: _____
<u>Week 19, Day 3</u> <input type="checkbox"/> 8.1.1 Variation Functions	
<u>Week 19, Day 4</u> <input type="checkbox"/> 8.1.2 Multiplying and Dividing Rational Expressions	
<u>Week 19, Day 5</u> <input type="checkbox"/> 8.1.3 Adding and Subtracting Rational Expressions	

Week 20 Chapter 8: Rational and Radical Functions	
Assignments	Notes
<u>Week 20, Day 1</u> <input type="checkbox"/> 8.1.4 Rational Functions	
<u>Week 20, Day 2</u> <input type="checkbox"/> 8.1.5 Solving Rational Equations and Inequalities	
<u>Week 20, Day 3</u> <input type="checkbox"/> Subchapter 8.1 Worksheet: Rational Functions, Part 1	
<u>Week 20, Day 4</u> <input type="checkbox"/> Subchapter 8.1 Worksheet: Rational Functions, Part 2	
<u>Week 20, Day 5</u> <input type="checkbox"/> 8.2.1 Radical Expressions and Rational Exponents	

Week 21 Chapter 8: Rational and Radical Functions Chapter 8 Test	
Assignments	Notes
<u>Week 21, Day 1</u> <input type="checkbox"/> 8.2.2 Radical Functions	
<u>Week 21, Day 2</u> <input type="checkbox"/> 8.2.3 Solving Radical Equations and Inequalities	
<u>Week 21, Day 3</u> <input type="checkbox"/> Subchapter 8.2 Worksheet: Radical Functions	
<u>Week 21, Day 4</u> <input type="checkbox"/> Chapter 8 Practice Test	
<u>Week 21, Day 5</u> <input type="checkbox"/> Chapter 8 Test	Chapter 8 Test Score: _____

Week 22 Chapter 9: Properties and Attributes of Functions	
Assignments	Notes
<u>Week 22, Day 1</u> <input type="checkbox"/> 9.1.1 Multiple Representations of Functions	
<u>Week 22, Day 2</u> <input type="checkbox"/> 9.1.2 Piecewise Functions	
<u>Week 22, Day 3</u> <input type="checkbox"/> 9.1.3 Transforming Functions	
<u>Week 22, Day 4</u> <input type="checkbox"/> Subchapter 9.1 Worksheet: Functions and Their Graphs	
<u>Week 22, Day 5</u> <input type="checkbox"/> 9.2.1 Operations with Functions	

Week 23 Chapter 9: Properties and Attributes of Functions Chapter 9 Test	
Assignments	Notes
<u>Week 23, Day 1</u> <input type="checkbox"/> 9.2.2 Functions and Their Inverses	
<u>Week 23, Day 2</u> <input type="checkbox"/> 9.2.3 Modeling Real-World Data	
<u>Week 23, Day 3</u> <input type="checkbox"/> Subchapter 9.2 Worksheet: Functional Relationships	
<u>Week 23, Day 4</u> <input type="checkbox"/> Chapter 9 Practice Test	
<u>Week 23, Day 5</u> <input type="checkbox"/> Chapter 9 Test	Chapter 9 Test Score: _____

Week 24 Chapter 10: Conic Sections	
Assignments	Notes
<u>Week 24, Day 1</u> <input type="checkbox"/> 10.1.1 Introduction to Conic Sections	
<u>Week 24, Day 2</u> <input type="checkbox"/> 10.1.2 Circles	
<u>Week 24, Day 3</u> <input type="checkbox"/> 10.1.3 Ellipses	
<u>Week 24, Day 4</u> <input type="checkbox"/> 10.1.4 Hyperbolas	
<u>Week 24, Day 5</u> <input type="checkbox"/> 10.1.5 Parabolas	

Week 25 Chapter 10: Conic Sections	
Assignments	Notes
<u>Week 25, Day 1</u> <input type="checkbox"/> Subchapter 10.1 Worksheet: Understanding Conic Sections, Part 1	
<u>Week 25, Day 2</u> <input type="checkbox"/> Subchapter 10.1 Worksheet: Understanding Conic Sections, Part 2	
<u>Week 25, Day 3</u> <input type="checkbox"/> 10.2.1 Identifying Conic Sections	
<u>Week 25, Day 4</u> <input type="checkbox"/> 10.2.2 Solving Nonlinear Systems	
<u>Week 25, Day 5</u> <input type="checkbox"/> Subchapter 10.2 Worksheet: Applying Conic Sections	

Week 26 Chapter 10 Test Chapter 11: Probability and Statistics	
Assignments	Notes
<u>Week 26, Day 1</u> <input type="checkbox"/> Chapter 10 Practice Test	
<u>Week 26, Day 2</u> <input type="checkbox"/> Chapter 10 Test	Chapter 10 Test Score: _____
<u>Week 26, Day 3</u> <input type="checkbox"/> 11.1.1 Permutations and Combinations	
<u>Week 26, Day 4</u> <input type="checkbox"/> 11.1.2 Theoretical and Experimental Probability	
<u>Week 26, Day 5</u> <input type="checkbox"/> 11.1.3 Independent and Dependent Events	

Week 27 Chapter 11: Probability and Statistics	
Assignments	Notes
<u>Week 27, Day 1</u> <input type="checkbox"/> 11.1.4 Compound Events	
<u>Week 27, Day 2</u> <input type="checkbox"/> Subchapter 11.1 Worksheet: Probability	
<u>Week 27, Day 3</u> <input type="checkbox"/> 11.2.1 Measures of Central Tendency and Variation	
<u>Week 27, Day 4</u> <input type="checkbox"/> 11.2.2 Binomial Distributions	
<u>Week 27, Day 5</u> <input type="checkbox"/> Subchapter 11.2 Worksheet: Data Analysis and Statistics	

Week 28 Chapter 11 Test Chapter 12: Sequences and Series	
Assignments	Notes
<u>Week 28, Day 1</u> <input type="checkbox"/> Chapter 11 Practice Test	
<u>Week 28, Day 2</u> <input type="checkbox"/> Chapter 11 Test	Chapter 11 Test Score: _____
<u>Week 28, Day 3</u> <input type="checkbox"/> 12.1.1 Introduction to Sequences	
<u>Week 28, Day 4</u> <input type="checkbox"/> 12.1.2 Series and Summation Notation	
<u>Week 28, Day 5</u> <input type="checkbox"/> 12.1.3 Arithmetic Sequences and Series	

Week 29 Chapter 12: Sequences and Series	
Assignments	Notes
<u>Week 29, Day 1</u> <input type="checkbox"/> Subchapter 12.1 Worksheet: Exploring Arithmetic Sequences and Series	
<u>Week 29, Day 2</u> <input type="checkbox"/> 12.2.1 Geometric Sequences and Series	
<u>Week 29, Day 3</u> <input type="checkbox"/> 12.2.2 Mathematical Induction and Infinite Geometric Series	
<u>Week 29, Day 4</u> <input type="checkbox"/> Subchapter 12.2 Worksheet: Exploring Geometric Sequences and Series	
<u>Week 29, Day 5</u> <input type="checkbox"/> Chapter 12 Practice Test	

Week 30 Chapter 13: Trigonometric Functions	
Assignments	Notes
<u>Week 30, Day 1</u> <input type="checkbox"/> Chapter 12 Test	Chapter 12 Test Score: _____
<u>Week 30, Day 2</u> <input type="checkbox"/> 13.1.1 Right-Angle Trigonometry	
<u>Week 30, Day 3</u> <input type="checkbox"/> 13.1.2 Angles of Rotation	
<u>Week 30, Day 4</u> <input type="checkbox"/> 13.1.3 The Unit Circle	
<u>Week 30, Day 5</u> <input type="checkbox"/> 13.1.4 Inverses of Trigonometric Functions	

Week 31 Chapter 13: Trigonometric Functions	
Assignments	Notes
<u>Week 31, Day 1</u> <input type="checkbox"/> Subchapter 13.1 Worksheet: Introduction to Trigonometric Functions, Part 1	
<u>Week 31, Day 2</u> <input type="checkbox"/> Subchapter 13.1 Worksheet: Introduction to Trigonometric Functions, Part 2	
<u>Week 31, Day 3</u> <input type="checkbox"/> 13.2.1 The Law of Sines	
<u>Week 31, Day 4</u> <input type="checkbox"/> 13.2.2 The Law of Cosines	

<u>Week 31, Day 5</u> <input type="checkbox"/> Subchapter 13.2 Worksheet: Applying Trigonometric Functions	
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Week 32 Chapter 13 Test Chapter 14: Trigonometric Graphs and Identities	
Assignments	Notes
<u>Week 32, Day 1</u> <input type="checkbox"/> Chapter 13 Practice Test	
<u>Week 32, Day 2</u> <input type="checkbox"/> Chapter 13 Test	Chapter 13 Test Score: _____
<u>Week 32, Day 3</u> <input type="checkbox"/> 14.1.1 Graphs of Sine and Cosine	
<u>Week 32, Day 4</u> <input type="checkbox"/> 14.1.2 Graphs of Other Trigonometric Functions	
<u>Week 32, Day 5</u> <input type="checkbox"/> Subchapter 14.1 Worksheet: Exploring Trigonometric Graphs	

Week 33 Chapter 14: Trigonometric Graphs and Identities	
Assignments	Notes
<u>Week 33, Day 1</u> <input type="checkbox"/> 14.2.1 Fundamental Trigonometric Identities	
<u>Week 33, Day 2</u> <input type="checkbox"/> 14.2.2 Sum and Difference Identities	
<u>Week 33, Day 3</u> <input type="checkbox"/> 14.2.3 Double-Angle and Half-Angle Identities	
<u>Week 33, Day 4</u> <input type="checkbox"/> 14.2.4 Solving Trigonometric Equations	
<u>Week 33, Day 5</u> <input type="checkbox"/> Subchapter 14.2 Worksheet: Trigonometric Identities	

Week 34 Chapter 14 Test Final Exam	
Assignments	Notes
<u>Week 34, Day 1</u> <input type="checkbox"/> Chapter 14 Practice Test	
<u>Week 34, Day 2</u> <input type="checkbox"/> Chapter 14 Test	Chapter 14 Test Score: _____
<u>Week 34, Day 3</u> <input type="checkbox"/> Study for Final Exam	

<u>Week 34, Day 4</u> <input type="checkbox"/> Practice Final Exam	
<u>Week 34, Day 5</u> <input type="checkbox"/> Final Exam	Final Exam Score: _____