

Workout 3A: Algebra Tools

Course Name	Covered Topics	Learning Time
Get Ready	Who Should Take This Course, Help Us Know More About You, How to Use This Course, Table of Content	
Day 1 Workout	Q1. Two-Variable Equations, Squares, Cubes Q2. Mean, Median, Mode, and Range; Weighted Average Q3. Digit Sum, Multiplication Tricks Bonus: Equation of a Line, X-Intercept, Factoring Quadratics	9 videos, 40 min
Day 2 Workout	Q1. Reversing Digits of a Number, Word Problem, 2-Variable Equations Q2. Special Operations Q3. Base 2, Base 5, Base 7; Easy Strategy for Converting Between Base 10 and Other Bases	11 videos, 40 min
Day 3 Workout	Q1. Expanding and Multiplying Binomials Q2. Two-Variable Equations, Adding-or-Subtracting Method, Mental Math Q3. Graphs, Rates, Slope, Slope-Intercept Form of the Equation of a Line	13 videos, 47 min
Day 4 Workout	Q1. Arithmetic Sequence Q2. Prime Factorization, Geometric Mean Q3. Linear vs. Exponential Growth, Geometric Sequence Bonus: Square Root Function and Graph	13 videos, 52 min
Week 1 Challenge	Try your new skills!	10 questions, 60 min
Day 5 Workout	Q1. Sum of Digits Q2. Coordinate Bashing, Perpendicular Slopes, "Epols," Intersection of Two Lines Q3. Gaussian Elimination, System of Equations with 3 Variables	10 videos, 43 min
Day 6 Workout	Q1. Graphs of Exponential Functions, Finding Solutions Graphically Q2. Change of Variables, Solving 4th-Degree Equations, Substitution, Roots of a Quadratic and Prof. Loh's Method for Quadratics Bonus: Rational Equations, Quadratic Equations and Formula	12 videos, 50 min
Day 7 Workout	Q1. Rational Expressions, Polynomials, Factoring, Cubics, Quadratics Q2. Rational Expressions, Expanding Binomials Q3. Repeating Decimals and Their Fraction Representations, Geometric Series Bonus: Complex Numbers, Graphs in the Complex Plane, 3rd-Degree Functions, Derivative	10 videos, 45 min
Day 8 Workout	Q1. Systems of Equations Q2. Fibonacci Numbers, Factors Q3. Polynomial Functions, Base Conversion, Cubic Functions Q4. Sum of Squares, Sum of First n Odd Squares	11 videos, 42 min
Week 2 Challenge	Try your new skills!	10 questions, 60 min