



Course Description - Algebra 1/2

Algebra ½ (3rd edition) is the culmination of pre algebra mathematics, a full pre-algebra course and an introduction to geometry and discrete mathematics. Some topics covered include Prime and Composite numbers; fractions & decimals; order of operations, coordinates, exponents, square roots, ratios, algebraic phrases, probability, the Pythagorean Theorem and more. (123 Lessons)

Table of Contents – Algebra ½

Lesson	Title
1	Whole Number Place Value and Expanded Notation/ Reading and Writing Whole Numbers and Addition
2	The Number Line and Ordering and Rounding Whole Numbers
3	Subtraction/Addition and subtraction patterns
4	Multiplication and division/ Multiplication and division patterns
5	Addition and subtraction word problems
6	Reading and Writing decimal numbers/ Adding and Subtracting Decimal Numbers/Rounding decimal numbers
7	Multiplying Decimal Numbers/Dividing Decimal Numbers/Estimation
8	Multiplying and Dividing by Powers of 10/Ordering Decimal Numbers
9	Points, Lines, Rays and Line Segments/Angles/Perimeter
10	Divisibility
11	Word Problems about Equal Groups
12	Prime Numbers and Composite Numbers/ Product of Prime Numbers
13	Common Factor and the Factor/ Multiplication Word Problems
14	Fractions/ Expanding Fractions/ Reducing Fractions
15	Fractions and Decimals/Rounding Repeaters/Decimals to Fractions
16	Exponents
17	Area of Rectangles
18	Multiplying Fractions and Whole Numbers, Fractional Part of a Number
19	Symbols for Multiplication/Multiplying Fractions/Dividing fractions

20	Multiples/Least Common Multiple
21	Average
22	Multiple Fractional Factors
23	U.S. Customary System/Unit Multipliers
24	Metric System
25	Area as a Difference
26	Mode, Median, Mode and Range/Average in Word Problems
27	Area of Triangles
28	Improper Fractions and Mixed Numbers/ Decimals and Mixed Numbers
29	Graphs
30	Adding and Subtraction Fractions/Adding Mixed Numbers
31	Order of Operations
32	Variables and Evaluation
33	Multiple Unit Multipliers/Converting Units of Area
34	Adding Mixed Numbers/Rate
35	Subtracting Mixed Numbers
36	Rate Word Problems
37	Equations: Answers and Solutions
38	Rectangular Coordinates
39	Equivalent Equations/Addition-Subtraction Rule for Equations
40	Reciprocals/Multiplication Rule/Division Rule
41	Overall Average
42	Symbols of Inclusion/Division in Order of Operations
43	Multiplying Mixed Numbers/Dividing Mixed Numbers
44	Roots/Order of Operations with Exponents and Roots
45	Volume of Rectangular Prism/ Volume of Right Solids
46	Order of Operations with Fractions
47	Evaluation of Exponential Expressions and Radicals
48	Fractional Part of a Number/Fractional Equations
49	Surface Area
50	Scientific Notation for Numbers Greater Than Ten/ Scientific Notation for Numbers Between Zero and One
51	Decimal Part of a Number
52	Fractions and Symbols of Inclusion
53	Percent
54	Ratio and Proportion/ P raised to the q power and the q root of P
55	Fractions, Decimals and Percents/Reference Numbers
56	Equations with Mixed Numbers
57	Mixed Number Problems
58	The Distance Problem
59	Proportions with Fractions

60	Circles
61	Solving Equations in Two Steps
62	Fractional Part Word Problems
63	Changing Rates
64	Semicircles
65	Proportions with Mixed Numbers/Using Proportions with Similar Triangles
66	Ratio Word Problems (Using Proportions to solve ratio problems)
67	Using Ratios to Compare
68	Percent Word Problems/Visualizing Percents Less Than 100
69	Absolute Value/Adding Signed Numbers
70	Rules for Addition of Signed Numbers
71	Powers of Fractions/Roots of Fractions
72	Graphing Inequalities
73	Right Circular Cylinders
74	Inserting Parentheses/Order of Addition
75	Implied Ratios
76	Multiplication with Scientific Notation
77	Percents Greater than 100
78	Opposites
79	Simplifying More Difficult Notations
80	Increases in Percent
81	Multiplication and Division of Signed Numbers
82	Evaluation with Signed Numbers
83	Rate Problems as Proportion Problems
84	Formats for the Addition Rule/Negative Coefficients/Properties of Equality
85	Equation of a Line/Graphing a Line
86	Algebraic Phrases
87	Properties of Algebra
88	Surface Area of a Right Solid - part 2/ Surface Area of a Right Solid - part 2
89	Trichotomy/Symbols of Negation
90	Algebraic Sentences
91	Order of Operations with Signed Numbers and Symbols of Inclusion
92	Estimating Roots
93	Fraction Bars as Symbols of Inclusion
94	Terms/Adding Like Terms, Part 1
95	Variables on Both Sides
96	Multiple Term Equations
97	Two-Step Problems
98	Adjacent, Complementary and Supplementary Angles
98	Measuring Angles with a Protractor
99	Exponents and Signed Numbers

100	Advanced Ratio Problems
101	Multiplication of Exponential Expression/Variables Bases
102	Adding Like Terms. Part 2
103	Distributive Property
104	Classifying Triangles
104	Sum of the Angle Measures of a Triangle
105	Evaluating Powers of Negative Bases
106	Roots of Negative Numbers/Negative Exponents/Zero Exponents
107	Roman Numerals
108	Fractional Percents
109	Simple Interest/Compound Interest
110	Markup/Markdown
111	Commission and Profit
112	Probability, part 1
113	Inch Scale/Metric Scale
114	Probability, part 2
115	Polygons/Congruence and Transformation
116	Area of Parallelograms and Trapezoids
117	Equations with x^2 , Pythagorean Theorem
118	English Volume Conversions
119	Metric Volume Conversions
120	Volume of Pyramids, Cones and Spheres/ Surface Area of Pyramids and Cones
121	Forming Solids/Symmetry
122	Permutations
123	Numerals and Numbers/The Subsets of Real Numbers