

Bridge to Algebra

SCOPE + SEQUENCE

CONTENT OFFERED IN CARNEGIE LEARNING™ MATH SOLUTIONS

Textbook	Cognitive Tutor® Software	Skills Covered
Print Chapter	Software Unit	The student will:
1. Number Sense and Algebraic Thinking	1. Operations with Whole Numbers 2. Picture Algebra 3. Least Common Multiple 4. Greatest Common Factor	<ul style="list-style-type: none"> • Use the order of operations. • Become familiar with the multiplicative identity. • Use the associative property of multiplication. • Find the least common multiple of two or more numbers. • Find the greatest common factor of two or more numbers. • Find the prime factorization of a number. • Use powers and exponents to write the prime factorization.
2. Fractions	5. Fraction Representations 6. Division of Multiple Wholes as Fractions 7. Division of Groups as Fractions 8. Equivalent Fractions	<ul style="list-style-type: none"> • Use fractions to represent dividing a whole into fractional parts. • Use fractions to represent dividing a group into fractional parts. • Write equivalent fractions. • Write fractions in simplest form. • Compare and order fractions. • Determine whether solutions are reasonable.
3. Operations with Fractions and Mixed Numbers	9. Fraction Addition and Subtraction 10. Mixed Numbers and Improper Fractions 11. Fraction Multiplication and Division	<ul style="list-style-type: none"> • Add and subtract like and unlike fractions. • Write improper fractions as mixed numbers. • Write decimals in word form and expanded form. • Round decimals. • Compare and order decimals. • Add, subtract, multiply, and divide mixed numbers. • Use metric units to measure length, mass, and capacity. • Choose appropriate units of measure.
4. Linear Functions and Inequalities	12. Decimals and Place Value 13. Fraction and Decimal Conversion 14. Decimal Addition and Subtraction 15. Decimal Multiplication and Division	<ul style="list-style-type: none"> • Write decimals as special fractions. • Represent decimals using a place-value chart. • Write mixed numbers as improper fractions. • Multiply and divide fractions. • Add, subtract, multiply, and divide mixed numbers. • Convert between customary units of measure.
5. Ratios and Proportions	16. Ratios and Proportions	<ul style="list-style-type: none"> • Write and compare ratios. • Find the means and extremes of a proportion. • Find unit rates. • Write and solve proportions.
6. Percents	17. Fraction, Decimal, and Percent Conversions 18. Percents and Proportions 19. Percent Change	<ul style="list-style-type: none"> • Write percents as decimals and fractions. • Write decimals and fractions as percents. • Use a proportion to find the percent of a number. • Calculate simple interest. • Find the percent of increase or decrease of a quantity.
7. Integers	20. Integer Representation, Addition, and Subtraction 21. Integer Multiplication and Division 22. Absolute Value 23. Exponents 24. Scientific Notation	<ul style="list-style-type: none"> • Graph integers on a number line. • Compare integers. • Add, subtract, multiply, and divide integers. • Write the absolute value of a number. • Represent numbers using powers of 10. • Multiply and divide by powers of 10.

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8. Algebraic Problem Solving	25. Picture Algebra and Equations 26. Patterns and Expressions 27. One-Step Unit Conversions 28. Order of Operations 29. Patterns and One-Step Equations 30. One-Step Equations 31. Patterns and Two-Step Equations 32. Expression Evaluation 33. Two-Step Equations 34. Problem Solving with Two-Step Equations 35. First Quadrant Graphs 36. Graphs of Inequalities	<ul style="list-style-type: none"> Evaluate expressions. Solve one- and two-step equations. Identify and graph points in the coordinate plane. Make a table of values. Create a graph of ordered pairs. Use equations, tables, and graphs to solve problems.
9. Geometric Figures and Their Properties	37. Angles and Angle Pairs 38. Triangles, Quadrilaterals, and Polygons 39. Introduction to Similar Triangles	<ul style="list-style-type: none"> Determine measures of angles and identify special angle pairs. Classify triangles, quadrilaterals, and polygons. Find angle measures in polygons. Determine whether polygons are similar or congruent. Find measurements indirectly.
10. Area and the Pythagorean Theorem	40. Squares and Square Roots 41. Perimeter and Area 42. Pythagorean Theorem 43. Distance and Midpoint	<ul style="list-style-type: none"> Find perimeters and areas of rectangles. Explain the effect on perimeter and area of changing dimensions. Find circumferences and areas of circles. Find areas of triangles, parallelograms, and trapezoids. Find areas of composite figures. Find and estimate square roots of numbers. Prove and use the Pythagorean Theorem and its converse.
11. Probability and Statistics	44. Probability 45. Measures of Central Tendency	<ul style="list-style-type: none"> Find the probability of an event. Understand independent and dependent events. Find the probability of a compound event. Find the mean, median, mode, and range of a set of data. Create and interpret frequency tables and histograms. Create and interpret stem-and-leaf plots, box-and-whisker plots, and circle graphs.
12. Volume and Surface Area	46. Volume and Surface Area	<ul style="list-style-type: none"> Find volumes of prisms, cylinders, pyramids, cones, and spheres. Find surface areas of prisms, cylinders, and spheres. Design nets for three-dimensional objects. Construct side, front, and top views of three-dimensional objects.
13. Linear Functions	47. Linear Functions	<ul style="list-style-type: none"> use tables, graphs, and function notation to represent functions graph lines using slopes and intercepts create scatter plots of data find a line of best fit for a set of data
14. Number Systems	48. Rational and Irrational Numbers 49. Operations with Rational Numbers	<ul style="list-style-type: none"> Use a number line to compare and order rational numbers. Perform operations with rational numbers. Identify decimals as terminating or repeating. Write repeating decimals as fractions. Identify irrational numbers. Classify numbers in the real number system.
15. Transformations	50. Geometric Transformations	<ul style="list-style-type: none"> Understand the four quadrants of a coordinate plane. Identify and plot points in a coordinate plane. Make and use scale drawings and scale models. Graph translations, rotations, reflections, and dilations. Graph multiple transformations in a coordinate plane.