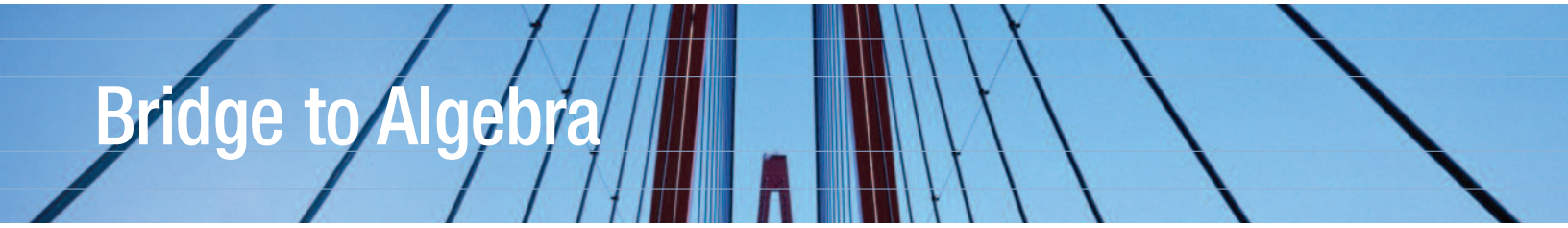
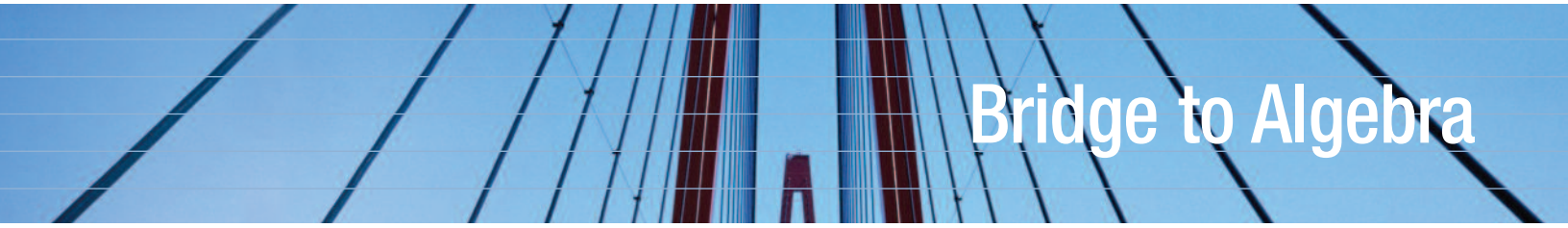


Bridge to Algebra

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	• 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	• 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	• 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. Decimals	12. Decimals and Place Value 13. Fraction and Decimal Conversions 14. Decimal Addition and Subtraction 15. Decimal Multiplication and Division	• 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	• 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	• 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. Order of Operations 23. Exponents 24. Scientific Notation 25. Absolute Value	• 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.



Bridge to Algebra

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Textbook	Cognitive Tutor®Software	Skills Covered
Print Chapter	Software Unit	The student will:
8. Algebraic Problem Solving	26. Picture Algebra and Equations 27. Patterns and Expressions 28. One-Step Unit Conversions 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	• 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	• 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	• 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. Single Event Probability 45. Independent and Dependent Probabilities 46. Measures of Central Tendency	• 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	47. Volume and Surface Area	• 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	48. Linear Functions	• 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	49. Rational and Irrational Numbers 50. Operations with Rational Numbers	• 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	51. Geometric Transformations	• 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.