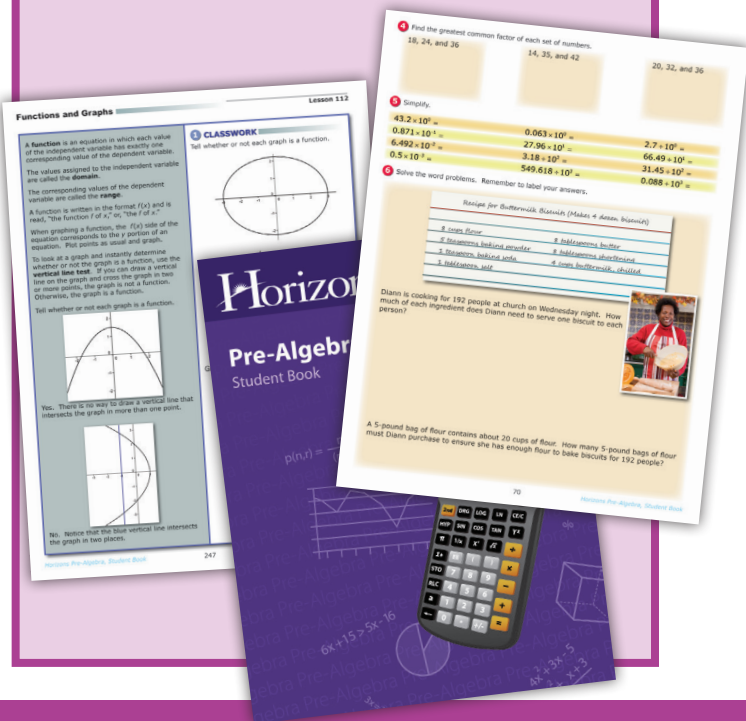# Horizons Pre-Algebra

Grade 7

Prepare students for advanced math with Horizons Pre-Algebra! Building on the Horizons K-6 math series, this hands-on course reviews whole numbers, decimals, fractions, percents, roots, and exponents before introducing students to concepts in algebra, trigonometry, geometry, and real-life applications. Recommended for students in 7th or 8th grade, this course prepares students for Horizons Algebra I.

What makes Horizons Pre-Algebra so effective?

- Contains human interest interviews with ordinary people who use math on a daily basis.
- Features college test prep questions that prepare students for standardized math testing.
- Includes hands-on materials to assist visual and kinesthetic learners in concept mastery.
- Reinforces new concepts with extra exercises for additional practice.
- Integrates personal interest themes into many of the word problems.
- Reproducible worksheets provide drill for initial learning, extra practice, and individual challenges

" We just started Horizons Pre-Algebra after trying another company, and we are so delighted. The pages are updated to make them look appropriate for this age range. They have also included real-life examples of missionaries and others using their math skills, a great example for those who want to know, 'When will I ever need to use this?' The teacher's guide is very concise and easy to follow. What a difference it makes in our homeschool! "

– Amy J., Washington

Lessons 1-40

- Addition and subtraction of decimals, fractions, mixed numbers
- English-Metric conversions and equivalents
- Equations and inequalities with one variable
- Negative exponents, powers of negative numbers, product of powers, power of a power, power of a product
- Like terms, number terminology
- Multiplication and division by powers of 10
- Multiplications and division of decimals and fractions
- Order of operations, simplifying expressions, factors
- Prime factorization, GCF, LCM, divisibility tests
- Signed numbers, absolute value
- Squares and square roots, cubes and cube roots

Lessons 41-80

- Combined probabilities, mutually exclusive events
- Commission, discount, mark-up, sale price, profits, and royalties
- Dependent events, independent events, expected value
- Five-number summary, box-and-whisker plots, stem-and-leaf plots
- Frequency distribution, histogram
- Multiplication and division of mixed numbers
- Multiplication principle of counting, permutations and combinations
- Percent decrease and increase
- Percents greater than 100 and less than 1
- Probability and odds, odds against and odds in favor
- Ratios and proportions, scale drawings
- Simple interest, compound interest
- Writing and solving proportions

Lessons 81-120

- Adjacent, complementary, and supplementary angles, transversals
- Congruent triangles and polygons, symmetry
- Functions, graphs of functions
- Graphing coordinate points, linear equations, and inequalities
- Mass, density, velocity, weight
- Nets of solid figures
- Parts of a circle, tangents
- Perimeter and area of circle, square, rectangle, triangle, rhombus, parallelogram, trapezoid
- Slope, y-intercept, slope-intercept form
- Solving one-variable equations and inequalities
- Solving two-variable equations, adding and subtracting equations
- Two-variable equations with dependent and independent variables
- Volume, surface area, and lateral area of prism, cube, cylinder, cone, pyramid, sphere

Lessons 121-160

- Adding and subtracting polynomials
- Algebra tiles
- Binomials, FOIL method, trinomials
- Dividing monomials and polynomials
- Dividing polynomials by monomials and binomials
- Multiplying monomials and polynomials
- Polynomial expressions
- Pythagorean formula, right triangles
- 30-60-90 and 45-45-90 triangles
- Compressions, dilations, reflections, rotations, translations
- Cosine, sine, tangent