

What you need to know when finishing College Algebra

What is a polynomial?

Operations with polynomials

What is a rational expression?

What is an algebraic equation?

What are the rules of exponents and radicals?

What is a graphical model?

Numbers of mathematics

What is an absolute value?

How to evaluate an algebraic expression?

Steps to solve and graph linear equations and inequalities?

Solving and graphing linear inequalities with one variable

Literal equations

The algebra of complex numbers

What is a function

What is a one to one function

What is an inverse function

The algebra of functions

Common functions and their translations

Polynomial functions (the zeros of the polynomials fundamental theorem of Algebra

Descartes' rule of sign, turning points, upper and lower bounds, graph's behaviors, real and complex solutions, x and y intercepts, domain and range)

Rational functions (domain, range, asymptotes)

Piece-wise defined functions

Polynomial inequalities

Exponential and logarithmic functions (intercepts, asymptotes, domain and range)

Properties of logarithms

Solving and graphing exponential and logarithmic functions

Methods of solving systems of equations and inequalities

Algebra of matrices

Determinants and their applications

Conic sections:(circle, ellipse, hyperbola, parabolas)

(general equation, standard equation, completing the square, vertices, foci, asymptotes)

Sequences and series (arithmetic and geometric), mathematical induction, counting technique, binomial theorem, combination and permutation, introduction to probability

Applications for word problems using all learned concepts, and different solving strategies.