Real numbers and number operations

Linear Equations and Functions
- **Solving and graphing:** linear equations and inequalities, absolute value equations and inequalities, systems of linear equations and inequalities (2 and 3 variables)

Quadratic equations and Functions
- Solving and graphing: factoring, quadratic formula, discriminant, inequalities

Complex Numbers
- Operations, graphing, standard form

Graphing in the x-y-z coordinate system

Piecewise Functions
- Graphing, evaluating

Matrices
- Operations, determinants, Cramer’s Rule, identity, inverses, solving matrix equations, solving systems of equations

Polynomials
- Properties of exponents, operations, factoring and solving (including trinomials, sum/difference of 2 cubes, by grouping, quadratic form)

Rational Exponents and nth Roots

Function Operations
- Operations, composition, domain
- Inverses

Solving Radical Equations

Exponential Functions
- Graphing, growth vs. decay, end behavior, natural exponential base, solving basic exponential equations

Logarithmic Functions
- Logarithmic form and exponential form, common log, natural log, solving basic logarithmic equations
Rational Functions and Equations
  • Operations, simplify, solve

Conic Sections
  • Graphing, writing equations of and classifying: parabolas, circles, ellipses, hyperbolas

Sequences and Series
  • Using and writing a finite or infinite sequence
  • Sigma notation
  • Arithmetic and geometric sequences and series

Statistics
  • Measures of central tendency/ measures of dispersion
  • Best fit curves (linear and quadratic)

Direct, Inverse and Joint Variation

Modeling
  • Writing and simplifying a model
  • Solving word problems

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