

Advanced Functions, University Preparation

Course Outline

Unit #1 - Polynomials

Factoring, Polynomial Long Division, Remainder Theorem, Factor Theorem, Solving Polynomial Equations, Graphing Polynomial Functions, Degree of Functions, Leading Coefficient, Odd & Even Functions, Polynomial Inequalities

Unit #2 - Rational Functions

Graphing Rational Functions, Rate of Change, Asymptotes, Solving Rational Equations, Solving Rational Inequalities

Unit #3 - Trigonometric Functions

Radians, Graphing Trig Functions, Equation of a Trig Function, Trigonometric Equations & Identities, Exact Values of Trig Ratios, Solving Trig Equations, Trig Identities

Unit #4 - Exponential & Logarithmic Functions

Solving Exponential Equations, Graphing Exponential Functions, Simplifying Logarithmic Functions, Change of Base, Solving Logarithmic Equations, Graphing Logarithmic Functions

Unit #5 - Combinations of Functions

Graphing Sum & Difference Functions, Graphing Product & Quotient Functions, Composite Functions, Inverse Functions, Inequalities

Unit #6 - Functions and Rate of Change

Average and instantaneous rate of change, compare the characteristics of functions, and solve problems by modelling and reasoning with functions, including problems with solutions that are not accessible by standard algebraic techniques.

Unit #7 - Summative

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Note: The order of the units of study may change due to student needs and resources available during the course. Homework is assigned on a regular basis. Homework completion and regular attendance are key to being successful in this course.

Textbooks and Resources:

- Advanced Functions, McGraw-Hill Ryerson
- Printed Packages provided by the teacher

Tutoring Club