## College Algebra Forevers

## Definitions, Statement of Theorems, and Proofs

Each of the following definitions, statement of theorems, and proofs is essential to your understanding of College Algebra. You are expected to reproduce them exactly as they are given, so you should commit these to memory.

### [CHAPTER P](file:///%5C%5CBJANLABS%5CSYS2%5Cma103%5CPublic_html%5CTheory%5CChapter1.pdf)

Absolute Value

Principal *n*th root

Polynomial in one variable (Standard Form of a Polynomial)

Rational Expression

Complex Number

### CHAPTER 1

Quadratic Equation

Zero Product Principle

Statement and Derivation of the Quadratic Formula

Direct Variation

Inverse Variation

### CHAPTER 2

Statement and Derivation of the Distance formula

Function

Slope of a non-vertical line

One-to-one function

Quadratic function

### CHAPTER 3

Statement and proof of the Remainder Theorem

Statement and proof of the Factor Theorem

Statement of the Intermediate Value Theorem

Statement of the Rational Zero (Roots) Theorem

Statement of the Fundamental Theorem of Algebra

### CHAPTER 4

Inverse Function

Exponential Function

Logarithmic Function

Statement of the Product, Quotient, and Power Property of Logarithms

Statement of the Change of Base Formula