

1 Fundamentals

- 1.1 Real Numbers
- 1.2 Exponents and Radicals
- 1.3 Algebraic Expressions
- 1.4 Rational Expressions
- 1.5 Equations
- 1.6 Modelling with Equations
- 1.7 Inequalities
- 1.8 Coordinate Geometry
- 1.9 Graphing Calculators; Solving Equations and Inequalities

2 Functions

- 2.1 What is a Function?
- 2.2 Graphs of Functions
- 2.3 Increasing and Decreasing Functions; Average Rate of Change
- 2.4 Transformations of Functions
- 2.5 Quadratic Functions; Maxima and Minima
- 2.6 Modelling with Functions
- 2.7 Combining Functions
- 2.8 One-to-One Functions and Their Inverses

3 Polynomial and Rational Functions

- 3.1 Polynomial Functions and Their Graphs
- 3.2 Dividing Polynomials
- 3.3 Real Zeros of Polynomials
- 3.4 Complex Numbers
- 3.5 Complex Zeros and the Fundamental Theorem of Algebra
- 3.6 Rational Functions

4 Exponential and Logarithmic Functions

- 4.1 Exponential Functions
- 4.2 Logarithmic Functions
- 4.3 Laws of Logarithms
- 4.4 Exponential and Logarithmic Equations
- 4.5 Modelling with Exponential and Logarithmic

5 Trigonometric Functions of Real Numbers

- 5.1 The Unit Circle
- 5.2 Trigonometric Functions of Real Numbers
- 5.3 Trigonometric Graphs
- 5.4 More Trigonometric Graphs
- 5.5 Modelling Harmonic Motion

6 Trigonometric Functions of Angles

- 6.1 Angle Measure
- 6.2 Trigonometry of Right Triangles
- 6.3 Trigonometric Functions of Angles
- 6.4 The Law of Sines
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7 Analytic Trigonometry

- 7.1 Trigonometric Identities
- 7.2 Addition and Subtraction Formulas
- 7.3 Double-Angle, Half-Angle, and Sum-Product Formulas
- 7.4 Inverse Trigonometric Functions
- 7.5 Trigonometric Equations

8 Polar Coordinates and Vectors

- 8.1 Polar Coordinates
- 8.2 Graphs of Polar Equations
- 8.3 Polar Form of Complex Numbers; DeMoivre's Theorem
- 8.4 Vectors
- 8.5 The Dot Product

9 Systems of Equations and Inequalities

- 9.1 Systems of Equations
- 9.2 Systems of Linear Equations in Two Variables
- 9.3 Systems of Linear Equations in Several Variables
- 9.4 Systems of Linear Equations: Matrices
- 9.5 The Algebra of Matrices
- 9.6 Inverses of Matrices and Matrix Equations
- 9.7 Determinants and Cramer's Rule
- 9.8 Partial Fractions
- 9.9 Systems of Inequalities

10 Analytic Geometry

- 10.1 Parabolas
- 10.2 Ellipses
- 10.3 Hyperbolas
- 10.4 Shifted Conics
- 10.5 Rotation of Axes
- 10.6 Polar Equations of Conics
- 10.7 Plane Curves and Parametric Equations

11 Sequences and Series

- 11.1 Sequences and Summation Notation
- 11.2 Arithmetic Sequences
- 11.3 Geometric Sequences
- 11.4 Mathematics of Finance
- 11.5 Mathematical Induction
- 11.6 The Binomial Theorem

12 Limits: A Preview of Calculus

- 12.1 Finding Limits Numerically and Graphically
- 12.2 Finding Limits Algebraically
- 12.3 Tangent Lines and Derivatives
- 12.4 Limits at Infinity: Limits of Sequences
- 12.5 Areas