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## Semester 1

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### Term 1

- **Graphs**
    - Distance and Midpoint Formulas
    - Intercepts; Symmetry
    - Lines and Circles
  - **Functions and Their Graphs**
    - Properties of Functions
    - Composition of Functions
    - Piecewise Functions
    - Transformations and Mathematical Models
  - **Linear and Quadratic Functions**
    - Properties of Linear and Quadratic Functions
    - Models of Linear and Quadratic Functions
    - Inequalities Involving Quadratic Functions
  - **Polynomial and Rational Functions**
    - Polynomial Functions and Models
    - Fundamental Theorem of Algebra
    - Properties and Graphs of Rational Functions
    - Polynomial and Rational Inequalities
  - **Exponential and Logarithmic Functions**
    - Composite, Inverse, Exponential, Logarithmic Functions
    - Exponential and Logarithmic Functions
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### Term 2

- **Exponential and Logarithmic Functions**
  - Exponential and Logarithmic Equations
  - Exponential and Logarithmic Models
- **Sequences, Inductions, and Binomial Theorem**
  - Arithmetic and Geometric Sequences
  - Mathematical Induction
  - Binomial Theorem
- **Applications of Trigonometric Functions**
  - Right Triangles
  - Law of Sines
  - Law of Cosines
  - Area of a Triangle
  - Converting degree measurements and radians
  - Unit Circle

### **Semester Review and Exam**



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## Semester 2

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### Term 3

- **Analytic Trigonometry**
    - Unit Circle
    - Trigonometric Identities
    - Sum and Difference Formulas
    - Trigonometric Equations
    - Trig Function Properties
  - **Trigonometric Functions**
    - Properties of Trigonometric Functions
    - Graphs (Sine, Cosine, Tangent, Cotangent, Secant, and Cosecant)
    - Arc Graphs (ArcSin & ArcCos)
  - **Polar Coordinates and Vector**
    - Polar Coordinates
    - Converting between Polar and Rectangular
    - Polar Equations of Conics
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### Term 4

- **Polar Coordinates and Vectors**
  - Vector Addition & Multiplication
  - Magnitude and Direction
- **Analytic Geometry**
  - Conics
  - Parametric Equations
  - Polar Curves
- **Systems of Equations and Inequalities**
  - Substitution, Elimination,
  - Matrices, Determinants, Solving Systems
  - Systems of Nonlinear Equations

### Semester Review and Exam

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