

Trigonometry Bypass Exam Outline

Exam Derived from **Michael Sullivan. Algebra & Trigonometry: Enhanced with Graphing Utilities. 7th ed., Upper Saddle River, NJ: Pearson/Prentice Hall, 2017**

- **Trigonometric Functions**
 - Angles and Their Measure
 - Right Triangle Trigonometry
 - Computing the Values of Trigonometric Functions of Acute Angles
 - Trigonometric Functions of Any Angle
 - Unit Circle Approach; Properties of the Trigonometric Functions
 - Graphs of the Sine and Cosine Functions
 - Graphs of the Tangent, Cotangent, Cosecant, and Secant Functions
 - Phase Shift; Sinusoidal Curve Fitting
- **Analytic Trigonometry**
 - The Inverse Sine, Cosine, and Tangent Functions
 - The Inverse Trigonometric Functions (Continued)
 - Trigonometric Equations
 - Trigonometric Identities
 - Sum and Difference Formulas
 - Double-angle and Half-angle Formulas
 - Product-to-Sum and Sum-to-Product Formulas
- **Applications of Trigonometric Functions**
 - Applications Involving Right Triangles
 - The Law of Sines
 - The Law of Cosines
 - Area of a Triangle
 - Simple Harmonic Motion; Damped Motion; Combining Waves
- **Polar Coordinates; Vectors**
 - Polar Coordinates
 - Polar Equations and Graphs
 - The Complex Plane, De Moivre's Theorem
 - Vectors
 - The Dot Product
- **Analytic Geometry**
 - Conics
 - The Parabola
 - The Ellipse
 - The Hyperbola
 - Rotation of Axes; General Form of a Conic
 - Polar Equations of Conics
 - Plane Curves and Parametric Equations