

## **McKeague, Trigonometry, TOC**

### **1. THE SIX TRIGNONMETRIC FUNCTIONS.**

Angles, Degrees, and Special Triangles. The Rectangular Coordinate System. Definition I: Trigonometric Functions. Introduction to Identities. More on Identities. Summary. Test. Projects.

### **2. RIGHT ANGLE TRIGONOMETRY.**

Definition II: Right Triangle Trigonometry. Calculators and Trigonometric Functions of an Acute Angle. Solving Right Triangles. Applications. Vectors: A Geometric Approach. Summary. Test. Projects.

### **3. RADIAN MEASURE.**

Reference Angle. Radians and Degrees. Definition III: Circular Functions. Arc Length and Area of a Sector. Velocities. Summary. Test. Projects. Cumulative Test.

### **4. GRAPHING AND INVERSE FUNCTIONS.**

Basic Graphs. Amplitude, Reflection, and Period. Vertical and Horizontal Translations. The Other Trigonometric Functions. Finding an Equation From its Graph. Graphing Combinations of Functions. Inverse Trigonometric Functions. Summary. Test. Projects.

### **5. IDENTITIES AND FORMULAS.**

Proving Identities. Sum and Difference Formulas. Double-Angle Formulas. Half-Angle Formulas. Additional Identities. Summary. Test. Projects.

### **6. EQUATIONS.**

Solving Trigonometric Equations. More on Trigonometric Equations. Trigonometric Equations Involving Multiple Angles. Parametric Equations and Further Graphing. Summary. Test. Projects. Cumulative Test.

### **7. TRIANGLES.**

The Law of Sines. The Law of Cosines. The Ambiguous Case. The Area of a Triangle. Vectors: An Algebraic Approach. Vectors: The Dot Product. Summary. Test. Projects.

### **8. COMPLEX NUMBERS AND POLAR COORDINATES.**

Complex Numbers. Trigonometric Form for Complex Numbers. Products and Quotients in Trigonometric Form. Roots of a Complex Number. Polar Coordinates. Equations in Polar Coordinates and Their Graphs. Summary. Test. Projects. Cumulative Test.

### **Appendix A: REVIEW OF FUNCTIONS.**

Introduction to Functions. The Inverse of a Function.

Answers to Selected Exercises.

Index.