



GRADES K-8



GRADES 9-12



ADULT EDUCATION

SYLLABUS

COMPLETE INTERACTIVE FLEXIBLE LEARNING SYSTEM

Advanced Math

Set of 7 programs designed for advanced math high school students and college algebra students. The first four programs, Chapters 9 – 12, are a continuation of the Algebra By Chapter Series, (Chapters 1 - 8) and complete the high school Algebra 2 curriculum. Trigonometry 1 and 2 provide a complete Trig course (high school and college). Calculus Basics begins with comprehensive lessons on pre-calculus and then covers the calculus curriculum on derivatives.

Conic Sections

What is a Conic?
 How to Complete the Square
 Distance & Midpoint
 Circle
 Parabola
 Ellipse
 Hyperbola
 Identifying Conics
 Quadratic Systems - Geometry
 Systems in 3 Variables
 Problem Solving
 TEST

Sequences & Series

(1) What is a Sequence?
 (2) Arithmetic Sequences
 (3) Geometric Sequences
 (4) Series and Sums (Σ)
 (5) Sums
 (6) Infinite Series
 (7) Powers of Binomials
 (8) Binomial Theorem
 (9) Problem Solving
 TEST

Exponents & Logarithms

BEGINNING EXPONENTS ROOTS & RADICALS
 (0A) Definition
 (0B) Multiplication
 (0C) Division
 (0D) Power of a Power
 (0E) Review
 (0F) Roots & Radicals
 (0G) Roots & Radicals (1)
 (0H) Roots & Radicals (2)
 (0I) Roots & Radicals (3)
 (0J) Roots & Radicals (4)
 (0K) Roots & Radicals (5)

Exponents & Logarithms (continued)

NEGATIVE & FRACTIONAL EXPONENTS
 (1A) Negative Powers
 (1B) Fractional Powers
 (1C) Fractional Powers (2)
 (2) Fractional Exponents
 (3) Composites & Inverses
 LOGARITHMS
 (4) Introduction to Logs
 (5A) Logarithm Laws Menu
 (5B) Product of Logs
 (5C) Quotient of Logs
 (5D) Powers of Logs
 (5F) Logarithm Quiz
 (6) Application of Logs
 (7) Problem Solving
 (8) Natural Logs
 TEST

Matrices and Determinants

Definitions & Vocabulary
 Addition / Scalar Multiplication
 Multiplying Matrices
 Problem Solving
 Determinants
 Inverse Matrix
 Expanding by Minors
 Properties of Determinants
 Cramer's Rule
 TEST

Trigonometry (Part 1, Menu #1)

Right Triangle Review
 The Unit Circle
 Radians & Degrees
 Reference Angles
 sin, cos, tan
 csc, sec, cot
 Amplitude, Period, Phase Shift
 Inverses
 Vocabulary
 Test (Menu #1)

Trigonometry (Part 1, Menu #2)

Length of an Arc
 Conversion Factors
 Angular Velocity
 Linear Velocity
 Area of Circular Sector
 Area of Circular Segment
 Vocabulary
 Test (Menu #2)

Trigonometry (Part 2, Menu #1)

Trig Identities
 Trig Proofs
 Double Angle Formulas
 Half Angle Formulas
 Sum & Difference Formulas
 Expressions & Equations
 Test (Menu #1)

Trigonometry (Part 2, Menu #2)

Solving Right Triangles
 Law of Cosines
 Law of Sines
 Area of a Triangle
 Vectors
 Real World Problems
 Polar Coordinates
 DeMoivre's Theorem
 Test (Menu #2)

Calculus Basics™

PRE-CALCULUS REVIEW
 (001) Solving Inequalities
 (002) Combined Inequalities
 (003) Absolute Value
 (004) Graphic Solutions
 (005) Polynomial Inequalities
 (006) Negative Powers
 (007-008) Fractional Powers
 (009) Irrational Exponents
 (010) Functions & Relations
 (011A-011B) Distance & Midpoint
 (012) Factoring
 (013) Fractions
 CALCULUS BASICSTM
 (1) Limits
 (2) Continuity
 (3) Differentiation
 (4) Working with Derivatives

LEARNING FEATURES

- Easy to Use
- Plenty of Practice Screens with on-demand help
- Chapter Tests
- Each assessment is scored
- Bookmarking

PREREQUISITES

Algebra Series By Chapter

DELIVERY METHODS

- Online Subscription for all devices
- Downloadable for Windows
- CD for Windows