

PARENT MASTERY GUIDE
ADVANCED ALGEBRA & TRIGONOMETRY

FIRST TERM

SECOND TERM

During the first nine weeks of Advanced Algebra and Trigonometry, the students will study and apply the following concepts.

- β Represent and analyze a variety of functions and their characteristics in numerous ways.
- β Solve a variety of equations and inequalities using appropriate methods.
- β Model and solve real-world problems using functions.
- β Use data analysis to model real-world situations.
- β Demonstrate an understanding of operations on matrices.
- β Use matrices to solve real-world problems.
- β Recognize the differences between continuous and discrete sequences and series.
- β Demonstrate an understanding of recursive functions and sequences.
- β Apply sigma notation with arithmetic and geometric series.
- β Represent a sequence using a list, graph, symbols, and words.

During the second nine weeks of Advanced Algebra and Trigonometry the students will study and apply the following concepts:

- β Understand and appropriately use both degree and radian measures.
 - β Define and determine values of the trigonometric functions for special angles.
 - β Graph the trigonometric functions utilizing the concepts of amplitude, period, phase displacement, and vertical shift.
 - β Model real-world periodic functions using trigonometry and appropriate technology.
 - β Derive the Pythagorean identities.
 - β Verify trigonometric identities graphically and by substitution.
 - β Solve trigonometric equations graphically and algebraically.
 - β Solve real-world problems applying the trigonometric ratios, the Law of Sines, and Law of Cosines.
- Apply the trigonometric formulas for finding the area of triangles.