



Southmoreland School District FST Curriculum Overview

FUNCTIONS- STATISTICS- TRIGONOMETRY (FST) Overview

This course will review topics from Algebra I, Geometry, and Algebra II. Topics reviewed will include the real number system, linear functions, exponents, scientific notation, radicals, factoring, and graphing functions. FST will introduce standards of Precalculus, Statistics, and Trigonometry. Students will learn to analyze and model real world data.

Module Titles:

- Module 1: Functions and Properties**
- Module 2: Exponents and Logarithms**
- Module 3: Statistics and Probability**
- Module 4: Trigonometric Functions**
- Module 5: Graphs of Trigonometric Functions**
- Module 6: Trigonometric Equations**

Module Overviews:

Module 1: Functions and Properties

Students will be able to evaluate and simplify expressions. Solve linear equations, write equations of lines, and graph. Solve quadratic equations by factoring, quadratic formula, or completing the square. Use the Pythagorean Theorem to solve right triangles. Students will determine whether a relation is a function and identify the domain and range. Determine the inverse of a function and graph the inverse function. Investigate the parts of a quadratic function and graph. Analyze piecewise and power functions.

Module 2: Exponents and Logarithms

Students will be able to change from radical to exponential form. Students will solve n th root problems. Evaluate and graph exponential functions. Evaluate logarithms using basic logarithmic properties and graph logarithmic functions. The students will use logarithms to solve exponential equations. Model exponential growth and decay functions in real world problems.

Module 3: Statistics and Probability

Students will analyze one variable data. Students will use dot plots, stemplots, histograms, circle graphs, and box plots to display data. Students will use permutations and combinations to compute probabilities of compound events and solve real world problems. Use probability to make fair decisions.



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Module 4: Trigonometric Functions

Students will find values of six trigonometric functions using trig ratios and the unit circle. Students will solve triangles using trigonometric functions, Pythagorean Theorem, Law of Sines, and Law of Cosines.

Module 5: Graphs of Trigonometric Functions

Students will be able to graph the sine, cosine, and tangent functions using the period, amplitude, mapping, phase shift, vertical shift, domain and range. Students will describe each transformation in relation to the parent function.

Module 6: Trigonometric Equations

Students will solve trigonometric equations using various trigonometric identities.