IRVINE UNIFIED SCHOOL DISTRICT

Year at a Glance - Math III

Link to Math III Standards

What Students Learn
Math III is the third course in the college preparatory math sequence that IUSD offers. Building upon previous work with linear, exponential, quadratic, and absolute value functions, students will learn about new function families: polynomial, rational, radical, logarithmic, and trigonometric. Students will identify and interpret key features, graph transformations of parent functions, rewrite expressions in equivalent forms, and solve equations. Students will use these function families to model everyday situations and interpret solutions in context. Students recognize solving equations as a process of reasoning and build on their fluency in solving linear and quadratic equations to expand their repertoire of strategies to include solving power, radical, polynomial, exponential, and logarithmic equations. Students will extend their study of trigonometry to include the unit circle, radian measure, and trigonometric functions. Students will be introduced to statistical analysis including the normal distribution, simulation, and inference. The topics covered in Math III will prepare students for courses in Math IV, Precalculus, and/or Statistics.

Unit Titles (Time Frame*)	All Students Will Demonstrate Proficiency in These Essential Standards
1. Functions and their Inverses (5 weeks)	**Essential (High Priority) Standards:** ● Understanding inverse relationships [F-BF.4] ● Solving equations using inverse operations [F-BF.4a] ● Identifying and interpreting key features of functions [F-IF.4] ● Graphing transformations of functions [F-BF.3] *Function families include: linear and exponential (introduced in Math I), quadratic and absolute value (introduced in Math II), polynomial, rational, radical, logarithmic, trigonometric (introduced in Math III)*
2. Polynomial Functions (5 weeks)	
3. Rational Functions (5 weeks)	
4. Exponential and Logarithmic Functions (5 weeks)	
5. Trigonometry (6 weeks)	**Students Will Work Toward Proficiency in These Supporting Standards**
	Supporting Standards: ● Solving polynomial, exponential, and logarithmic equations [F-IF.7.c,e, A-REI.11] ● Understanding and applying the unit circle [F-TF.2] ● Graphing and understanding key features of trigonometric functions [F-TF.2.1] ● Using normal distribution, simulation, and inference [S-ID.4, S-IC.4,5] ● Modeling with geometry [G-MG.1-3] ● Modeling with functions [F-BF.1, F-LE.4]
6. Generalizing Functions (4 weeks)	
7. Statistics (3 weeks)	
8. Geometric Modeling (3 weeks)	

*All time frames are approximations based on student progress and understanding.   **Revised August 2022**