

## 2019 Pacing Guide

Course: Honors Precalculus

Grade: 11-12

<u>Months/Days</u>	<u>UNITS</u>	<u>STANDARDS</u>	<u>CONTENT</u> Topics being covered? What do students need to know? ( <i>nouns</i> )	<u>ACTIVITIES</u> w/Integration of Technology & Career Ready Practices	<u>ASSESSMENTS</u> What evidence (formative/summative) is utilized to establish that the content, standards, & skills have been mastered?
September	Polynomial & Rational Functions	MA.9-12.F-IF.C MA.9-12.F-IF.C.7 MA.K-12.1	Determine roots of polynomials Remainder theorem Possible positive & negative rational roots Solve radical polynomials Solve Quadratics	Demonstrate zeroes of a function using graphing calculator	Midchapter Test Polynomial and Rational Functions  Quiz Solving Quadratics
October/November	Trig functions	MA.9-12.F-TF MA.9-12.F-TF.A MA.9-12.G-SRT MA.9-12.G-SRT.C MA.9-12.G-SRT.D MA.K-12.1 MA.K-12.4 MA.K-12.5 MA.K-12.6	Angles and their measures Trig ratios in right triangles Trig functions on unit circle Solve right triangles Law of sines Law of cosines	Develop and apply law of sines with video from youtube. Flipped lesson Utilizing Graphing calculator for formulas	Mid-chapter Test Law of Sines and Law of Cosines Quiz Area of Triangles Mid-Chapter Test Angles and their Measures
December/January	Graphs and inverses of all 6 trig functions	MA.9-12.F-LE.B MA.9-12.F-TF.A MA.9-12.F-TF.B MA.K-12.1 MA.K-12.4 MA.K-12.8	Convert degrees to radians Amplitude and period for sine & cosine Linear & angular velocity Phase shift and vertical translation for sine & cosine Graph trig functions Graph compound functions Graph inverse functions Principal value of inverse trig functions	Graph all 6 trig functions on chromebook using desmos software Graph functions on graphing calculator Graphing project students can use chromebook or graphing calculator	Mid-Chapter Test Graphing Sine and Cosine Functions Mid Chapter Test Principal Value and Inverse Functions Graphing Project

			Model real-world data using harmonic motion Area of a sector		
February	Trigonometric Identities and Equations	MA.9-12.F-TF.C	Fundamental trig Identities Simplify expressions using identities Use trig identities to verify other identities Sum & difference Identities Double and half angle Identities Solve trig equations Linear equations in normal form Distance between a point and line Distance between 2 parallel lines	Groupwork students will verify trig identities using the fundamental trig identities in a packet	Mid-chapter Test on Proving Identities Mid-Chapter Test Sum, Difference, Double and Half Angle Identities Group Packet Quiz Simplifying Identities
March	Polar Coordinates & Complex Numbers	MA.9-12.G-MG.A MA.K-12.4 MA.K-12.5 MA.K-12.6	Graph polar coordinates Graph simple polar equations Identify classical curves Convert between polar and rectangular coordinates Add,subtract,multiply and divide complex numbers	Polar design graphing project using Desmos	Polar Graph design project Mid-Chapter Test Polar Coordinates and Complex Numbers
April	Conics	MA.9-12.G-GPE.A MA.9-12.G-GPE.B MA.K-12.1 MA.K-12.2 MA.K-12.3 MA.K-12.4 MA.K-12.5	Graph conics on chromebook (Desmos) Identify all 4 conics Graph circles Graph ellipses Graph hyperbolas Graph parabolas Recognize characteristics of each conic Use analytical methods	Use chromebook to graph all 4 conics To develop a more hands approach to identifying characteristics of each one	Mid Chapter Test on Circles and Parabolas Mid Chapter test on Ellipses and Hyperbolas

			to prove geometric relationships		
May	Exponential & Logarithmic Functions	MA.9-12.F-IF.C MA.9-12.F-IF.C.7 MA.9-12.F-IF.C.8 MA.K-12.2 MA.K-12.4 MA.K-12.8	Groupwork on applying exponential growth and decay formulas Convert exponents into logarithms Solve logarithmic equations Apply logarithmic rules Apply exponential rules Common logarithms Natural logarithms Solve real world applications using common and natural logarithms	Use graphing calculator to solve problems with common and natural logs Explain exponential formulas on smartboard work thru real life applications	Midchapter Test Logarithmic Functions Quiz on Log Properties Mid Chapter Test on Common logs, Number e, and Natural Logs
June	Calculus Limits	MA.9-12.F-BF.B.3	Interpreting graphs of limits Understanding one sided limits Evaluating Limits with direct substitution or indeterminate form Evaluate piecewise functions algebraically.	Graphs of limits on desmos	Midchapter Test on Graphing and Evaluating Limits