

2019 Pacing Guide

Course: Trig/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	Linear Relations and Functions	MA.9-12.A-CED.A MA.9-12.A-REI MA.9-12.A-REI.D MA.9-12.F-BF.A MA.9-12.F-BF.B MA.9-12.F-IF.A MA.9-12.F-IF.B MA.9-12.F-IF.C MA.9-12.F-LE MA.K-12.7	Relations and Functions Composition of functions Add, subtract, multiply & divide functions Graphing linear functions Writing linear functions Writing equations of parallel & perpendicular lines Graphs of Linear inequalities	Use Desmos graphing software to graph linear functions on chromebook Use desmos graphing software to show relationships of parallel & perpendicular lines on chromebook	Mid Chapter Test Relations and Functions Assessment on Piecewise Functions Mid Chapter Test on Writing Equations of Lines
October	The Nature of Graphs	MA.9-12.A-REI.B MA.9-12.A-REI.D MA.9-12.F-IF.C.7 MA.9-12.F-LE.A MA.9-12.G-CO.A MA.K-12.4 MA.K-12.5 MA.K-12.6	Symmetry and coordinate graphs Families of graphs Translation, reflection, transformation of algebraic graphs Inverse functions and relations Rational functions and asymptotes	Desmos discovery activity on parent graphs and their transformations	Mid-chapter Test on Families of Graphs Mid Chapter Test on Inverse and Rational Functions
November/December	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

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 Model real-world data using harmonic motion Area of a sector	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
February/March	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
April	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	Polar design graphing project using Desmos	Polar Graph design project Mid-Chapter Test Polar Coordinates and Complex Numbers

			numbers		
May	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 to prove geometric relationships	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
June	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