

Trigonometry (Algebra 2, year 2 of 2) Curriculum Map Template, 2018-19

Subject: Trigonometry (Algebra 2, year 2 of 2)

Textbook: [Emathinstruction](#) (Supplementary Text: McGraw Hill 2018)

Marking Periods	Unit Title (Big Idea/Major Focus)	Topics/Skills	Evidence of Learning (Assessments)	Resources (texts, online tools, etc.)
<p>Marking Period 1</p>	<p>Unit 0: Factoring and Polynomials Review</p>	<p>Factoring:</p> <ul style="list-style-type: none"> • Factoring • Factoring Trinomials • Complete Factoring • Factoring by Grouping • Factoring Trinomials Using the AC Method • Using Structure to Factor <p>Polynomials:</p> <ul style="list-style-type: none"> • Simplifying Rational Expressions • Multiplying and Dividing Rational Expressions • Combining Rational Expressions Using Addition and Subtraction • Complex Fractions • Solving Rational Equations 	<ul style="list-style-type: none"> • Summer Assignment • Pre-Assessment Check • Performance Tasks • Quizzes • Castle Learning • Exit Tickets • Do Nows • Class Discussion • Daily Handouts • Unit Review and Re-engagement Activities • Unit Exam 	
	<p>Unit 1: Exponential and Logarithmic Functions</p> <p>Enduring Understanding:</p> <ul style="list-style-type: none"> • Exponential functions describe a common ratio at which variables change. • Expressions with exponents can be written in multiple, equivalent ways. • A logarithm is the inverse of an exponential function. • Logarithms can be written in multiple, equivalent ways. • Mathematical models illustrate the behavior of real-world situations. <p>Essential Questions:</p> <ul style="list-style-type: none"> • How do you model a quantity that changes regularly over time by the same percentage? • How are exponents and logarithms related? • How are logarithmic and exponential functions related? 	<ul style="list-style-type: none"> • Integer Exponents • Rational Exponents • Exponential Function Basics • Finding Equations of Exponentials • The Method of Common Bases • Exponential Modeling with Percent Growth and Decay • Mindful Percent Manipulations • Exponential Modeling Revisited • Introduction to Logarithms • Graphs of Logarithms • Logarithm Laws • Solving Exponential Equations Using Logarithms • The Number e and the Natural Logarithm • Compound Interest • Newton's Law of Cooling • Asymptotes of Exponential and Log Functions • Unit Review <p>Vocabulary: Exponential Function, Logarithm, Natural Log, Newton's Law of Cooling, Asymptotes</p>	<ul style="list-style-type: none"> • Pre-Assessment Check • Performance Tasks • Quizzes • Castle Learning • Exit Tickets • Do Nows • Class Discussion • Daily Handouts • Unit Review and Re-engagement Activities • Unit Exam 	<p>Emath - Unit 4</p> <p>McGraw Hill 2018 - Chapter 6</p>
<p>Marking Period 2</p>	<p>Unit 2: Sequences and Series</p> <p>Enduring Understanding:</p> <ul style="list-style-type: none"> • Sequences are discrete functions defined by their rates of change. • Sequences and series can model many mathematical ideas and realistic situations. • Sequences help us recognize and apply patterns to familiar and unfamiliar situations. <p>Essential Questions:</p> <ul style="list-style-type: none"> • How can you determine the rule for a pattern? • What is the difference between a sequence and a series? • How much should your monthly payment be for 	<ul style="list-style-type: none"> • Sequences • Arithmetic and Geometric Sequences • Summation Notation • Arithmetic Series • Geometric Series • Mortgage Payments* • Unit Review <p>Vocabulary: Sequence, Series, Sigma, Arithmetic, Geometric, Compound, Interest, Mortgage,</p>	<ul style="list-style-type: none"> • Pre-Assessment Check • Performance Tasks • Quizzes • Castle Learning • Exit Tickets • Do Nows • Class Discussion • Daily Handouts • Unit Review and Re-engagement Activities • Unit Exam 	<p>Emath - Unit 5</p> <p>McGraw Hill 2018 - Chapter 6</p>

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	<p>a mortgage?</p> <p>Unit 3: Probability</p> <p>Enduring Understanding:</p> <ul style="list-style-type: none"> The accuracy of a prediction of a random event increases with the number of events considered. Probability calculations can be applied to solve problems and make decisions. <p>Essential Questions:</p> <ul style="list-style-type: none"> How likely are random events to occur? What is the difference between theoretical and experimental probability? 	<ul style="list-style-type: none"> Introduction to Probability Sets and Probability Adding Probabilities Conditional Probability* Independent Events* Multiplying Probabilities* Unit Review <p>Vocabulary: Likelihood, Change, Probability, Set, Conditional, Independent, event</p>	<ul style="list-style-type: none"> Pre-Assessment Check Performance Tasks Quizzes Castle Learning Exit Tickets Do Nows Class Discussion Daily Handouts Unit Review and Re-engagement Activities Unit Exam 	<p>Emath - Unit 12</p> <p>McGraw Hill 2018 - Chapter 8</p>
<p>Marking Period 3</p>	<p>Unit 4: Statistics</p> <p>Enduring Understanding:</p> <ul style="list-style-type: none"> Measures of center are used to interpret univariate data. Visual models illustrate the correlation of bivariate data. Statistical data from random processes can be predicted using probability calculations. <p>Essential Questions:</p> <ul style="list-style-type: none"> How do we compare different data sets? How can we represent data? Why do we conduct simulations? What is bias? Is all data “created equal”? 	<ul style="list-style-type: none"> Variability and Sampling Population Parameters The Normal Distributions The Normal Distributions and Z-Scores Sampling a Population Samples Means Sample Proportions The Difference in Sample Means The Distribution of Sample Means The Distribution of Sample Proportions Margin of Error Linear Regression and Lines of Best Fit Other Types of Regression Unit Review <p>Vocabulary: Normal Distribution, bell curve, bias, variability, population, sample, mean, quartile, inter-quartile range, median, box-and-whisker plot, census, proportion, placebo, randomization, outcome, standard deviation, z-score</p>	<ul style="list-style-type: none"> Pre-Assessment Check Performance Tasks Quizzes Castle Learning Exit Tickets Do Nows Class Discussion Daily Handouts Unit Review and Re-engagement Activities Unit Exam 	<p>Emath - Unit 13</p> <p>McGraw Hill 2018 - Chapter 8</p>
	<p>Unit 5: The Circular Functions</p> <p>Enduring Understanding:</p> <ul style="list-style-type: none"> The Unit Circle illustrates properties of trigonometric functions. The features of a periodic function repeat over a constant interval. Trigonometric functions are characterized by the period and amplitude. <p>Essential Questions:</p> <ul style="list-style-type: none"> How can we model periodic behavior? What are the historical and current uses of trigonometry? Why do we use radians versus degrees? Which situations call for trigonometric equations and how are these equations solved? How are the trigonometric identities useful? What is unique about sinusoidal and trigonometric curves? 	<ul style="list-style-type: none"> Rotations and Angle Terminology Radian and Angle Measurement The Unit Circle The Definition of the Sine and Cosine Functions More Work with the Sine and Cosine Functions Basic Graphs of Sine and Cosine Vertical Shifting of Sinusoidal Graphs The Frequency and Period of a Sinusoidal Graph More work graphing Sine and Cosine Functions <i>Horizontal Phase Shift</i> Sinusoidal Modeling The Tangent Function The Reciprocal Functions Unit Review <p>Vocabulary: Unit circle, radian, reference angle, Trigonometric Functions, Sine, Cosine, Tangent, Reciprocal, Cosecant, Secant, Cotangent, phase, frequency, altitude, period, shift</p>	<ul style="list-style-type: none"> Pre-Assessment Check Performance Tasks Quizzes Castle Learning Exit Tickets Do Nows Class Discussion Daily Handouts Unit Review and Re-engagement Activities Unit Exam 	<p>Emath - Unit 11</p> <p>McGraw Hill 2018 - Chapter 9 McGraw Hill 2018 - Chapter 10</p>
	<p>Unit 6: Trigonometric Identities and Equations</p>	<ul style="list-style-type: none"> Trigonometric Identities 	<ul style="list-style-type: none"> Pre-Assessment Check Performance Tasks 	<p>Chapter 13 McGraw Hill 2014</p>

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Marking Period 4	Enduring Understanding: <ul style="list-style-type: none">• Fundamental identities can be used to verify more complicated trigonometric identities• We can use formulas to find exact values of angles that are combinations of unit circle angles	<ul style="list-style-type: none">• Verifying Trigonometric Identities• Sum of Angles Identities• Difference of Angles Identities• Double-Angle Identities• Half-Angle Identities• Solving Trigonometric Equations	<ul style="list-style-type: none">• Quizzes• Castle Learning• Exit Tickets• Do Nows• Class Discussion• Daily Handouts• Unit Review and Re-engagement Activities• Unit Exam	
Summer	Summer Assignment:			