



Township of Ocean Schools

Assistant Superintendent
Office of Teaching and Learning

SPARTAN MISSION:

Meeting the needs of all students with a proud tradition of academic excellence.

DEPARTMENT Mathematics

COURSE College Prep Math

Curriculum Development Timeline

School: Ocean Township High School

Course: College Prep Math

Department: Mathematics

Board Approval	Supervisor	Notes
September 2004	Jennifer Zavacky	Born Date
July 2012	Janet Bluefield	Born Date
August 2017	Nichole Kerney	Revisions
August 2018	Nichole Kerney	Revisions
August 2022	Gerard Marrone	Alignment to Standards
August 2025	Greg Colon	Alignment to Standards

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COURSE College Prep Math

Township of Ocean Pacing Guide			
Week	Marking Period 1	Week	Marking Period 3
1	Relations and Functions	21	Exponential and Logarithmic Functions
2	Relations and Functions	22	Exponential and Logarithmic Functions
3	Linear Equations and Functions	23	Exponential and Logarithmic Functions
4	Linear Equations and Functions	24	Exponential and Logarithmic Functions
5	Absolute Value Equations and Inequalities	25	Polynomials and Polynomial Functions
6	Absolute Value Equations and Inequalities	26	Polynomials and Polynomial Functions
7	Parent Graph Functions & Transformations	27	Polynomials and Polynomial Functions
8	Parent Graph Functions & Transformations	28	Polynomials and Polynomial Functions
9	Linear Systems and Matrices	29	Rational Functions and Relations
10	Linear Systems and Matrices	30	Rational Functions and Relations
Week	Marking Period 2	Week	Marking Period 4
11	Quadratic Functions	31	Rational Functions and Relations
12	Quadratic Functions	32	Rational Functions and Relations
13	Quadratic Functions	33	College Placement Test Prep
14	Quadratic Functions	34	College Placement Test Prep
15	Inverse and Radical Functions	35	Trigonometry

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16	Inverse and Radical Functions	36	Trigonometry
17	Inverse and Radical Functions	37	Trigonometry
18	Inverse and Radical Functions	38	Trigonometry
19	Exponential and Logarithmic Function	39	Trigonometry
20	Exponential and Logarithmic Function	40	Trigonometry

Core Instructional & Supplemental Materials including various levels of Texts

Core Instruction: College Algebra Textbook and Ebook (Cengage, 7th Edition) ©2016
Supplemental: IXL Math, PreCalculus Textbook, and Desmos
Special Education and ELL Supplemental:

Time Frame	2 cycles ~ 6 (56 minute) days
Topic	
Relations and Functions	
Alignment to Standards	
A-CED.A.2 Create equations that describe numbers or relationships Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. A-CED.A.3 Create equations that describe numbers or relationships Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. F-IF.A.1 Understand the concept of a function and use function notation Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$ F-IF.B.4 Interpret functions that arise in application in terms of the context For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship F-IF.B.5 Interpret functions that arise in application in terms of the context	

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Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.

F-IF.C.7 Analyze functions using difference representations

Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.

N-Q.A.1 Reason quantitatively and use unit to solve problems

Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

F-LE.A.2 Construct and compare linear and exponential models and solve problems

Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).

Learning Objectives and Activities

SWBAT answer the following questions:

- How do you interpret a graph given a situation?
- What is a function/relation?
- What are the different ways to represent a function?
- Can you write a rule from a table?
- How do you determine if a relation in a table or graph is a function?

SWBAT demonstrate understanding of the following:

- Function patterns can be represented in two variables.
- Functional relationship relates the value of one variable, such as y or $f(x)$, to another variable, such as x .
- Functional relationships can be related visually by graphs, as well as by sets, rules, tables, and mappings.

Learning Activities:

- To interpret, sketch and analyze graphs from various situations (ie time vs distance from home)
- To identify relations and functions
- To evaluate functions
- To determine range and domain
- To utilize function notation, $f(x)$, evaluate and construct tables
- To use the vertical line test to determine if a relation is a function
- To write function rules based on real world situations
- Video tutor – phschool.com
- Worksheets on $f(x)$, real life situations, writing function rules from words
- Discussions on graphs, worksheets
- TI 84 – table, table set up

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- Smartboard Files
- Desmos Activity on Domain and Range

Assessments

Formative:

- Classwork and Homework
- Teacher Observation
- Graphic Organizer
- Math Scavenger Hunt/Trail

Summative:

- Mid-unit Quizzes
- Topic Tests

Alternative:

- Individual or group productive struggle assessment during introductory lessons
- Partners or groups on graphs

Interdisciplinary Connections

Science: MS-PS3-1: In lessons on comparing distance-time graphs to speed-time graphs students will construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and the speed of an object

Career Readiness, Life Literacies, and Key Skills

9.1.8.CDM.1: When applying linear functions to variable rates and constant rates students will compare and contrast the use of credit cards and debit cards for specific purchases and the advantages and disadvantages of using each.

Technology Integration

All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.

- 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.

Students will access the online ebook to further investigate lesson concepts and demonstrate understanding of standards.

- 9.4.8.TL.3: Select appropriate tools to organize and present information digitally.
- 9.4.5.CT.3: Describe how digital tools and technology may be used to solve

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problems.

Supplemental instruction and math games will be presented using IXL Math.

- 9.4.12.TL.1: Assess digital tools based on features such as accessibility options, capacities, and utility for accomplishing a specified task

Students will use Google Classroom to collaborate, work towards solving authentic problems, or participate in an online classroom discussion utilizing pre-learned etiquette about blended learning platforms.

- 9.4.12.TL.4: Collaborate in online learning communities or social networks or virtual worlds to analyze and propose a resolution to a real-world problem.

Students will use graphing calculators to use math tools strategically and attend to precision and will use Desmos in order to discover new concepts involving graphing and functions.

- 9.4.8.IML.3: Create a digital visualization that effectively communicates a data set using formatting techniques such as form, position, size, color, movement, and spatial grouping

Career Education

CRP11: Use technology to enhance productivity.

Time Frame	2 cycles ~ 6 (56 minute) days
Topic	
Linear Equations and Functions	
Alignment to Standards	
F-IF.B.4 Interpret functions that arise in application in terms of the context For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship F-IF.B.5 Interpret functions that arise in application in terms of the context Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. F-IF.B.6 Interpret functions that arise in application in terms of the context Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph F-IF.C.7 Analyze functions using difference representations Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases	

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COURSE College Prep Math

F-IF.C.9 **Analyze functions using difference representations**

Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions)

A-SSE.A.1 **Interpret the structure of expressions**

Interpret expressions that represent a quantity in terms of its context.

A-SSE.A.2 **Interpret the structure of expressions**

Interpret complicated expressions by viewing one or more of their parts as a single entity

A-CED.A.2 **Create equations that describe numbers or relationships**

Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

A-CED.A.3 **Create equations that describe numbers or relationships**

Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.

F-BF.B.3 **Build new functions from existing functions**

Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them.

Learning Objectives and Activities

SWBAT answer the following questions:

- How can mathematical ideas be represented?
- How are equations, inequalities, and their graphs used to solve real-world problems?
- Why are relations and functions represented in multiple ways?
- How does the graph of a given function or relation reflect its characteristics?
- How is a scatter plot used to analyze trends?

SWBAT demonstrate understanding of the following:

- Linear functions can be used to model real-world situations.
- Linear functions can be represented, numerically, graphically, and analytically to understand patterns and relationships.
- Rates of change can be represented mathematically and graphically

Learning Activities:

- Analyze and use relations and functions.
- Identify linear relations and functions.
- Write linear equations in standard form.
- Find the rate of change.
- Write an equation of a line given the slope and a point on the line or two points.
- Write an equation of a line parallel or perpendicular to a given line.
- Use scatter plots and prediction equations.
- Model data using lines of regression.

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- Write and graph piecewise functions.
- Write and graph step and absolute value functions.
- Identify and use parent functions. Describe transformations of functions.
- Graph linear inequalities.
- Graph absolute value inequalities
- Desmos Card Sort Linear Functions
- Applications, constant rate of change

Assessments

Formative:

- Daily Practice Problems
- Class Debate of Approaches/Mathematical Methods
- Entrance/Exit Cards

Summative:

- Mid-unit Quizzes
- Topic Tests

Alternative:

- Piecewise Project

Interdisciplinary Connections

Career Readiness, Life Literacies, and Key Skills

9.3.ST.2: When determining a regression model that fits data students will use technology to acquire, manipulate, analyze and report data

Technology Integration

All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.

- 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.

Students will access the online ebook to further investigate lesson concepts and demonstrate understanding of standards.

- 9.4.8.TL.3: Select appropriate tools to organize and present information digitally.
- 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.

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Supplemental instruction and math games will be presented using IXL Math.

- 9.4.12.TL.1: Assess digital tools based on features such as accessibility options, capacities, and utility for accomplishing a specified task

Students will use Google Classroom to collaborate, work towards solving authentic problems, or participate in an online classroom discussion utilizing pre-learned etiquette about blended learning platforms.

- 9.4.12.TL.4: Collaborate in online learning communities or social networks or virtual worlds to analyze and propose a resolution to a real-world problem.

Students will use graphing calculators to use math tools strategically and attend to precision and will use Desmos in order to discover new concepts involving graphing and functions.

- 9.4.8.IML.3: Create a digital visualization that effectively communicates a data set using formatting techniques such as form, position, size, color, movement, and spatial grouping

Career Education

CRP8: Utilize critical thinking to make sense of problems and persevere in solving them.

CRP11: Use technology to enhance productivity.

Time Frame	2 cycles ~ 6 (56 minute) days
Topic	
Absolute Value Equations and Inequalities	
Alignment to Standards	
A-REI.B.3 Solve equations and inequalities in one variables Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. A-REI.D.10 Represent and solve equations and inequalities graphically Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line). A-REI.D.11 Represent and solve equations and inequalities graphically Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.	

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A-CED.A.2 **Create equations that describe numbers or relationships**

Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

A-CED.A.3 **Create equations that describe numbers or relationships**

Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.

F-IF.A.1 **Understand the concept of a function and use function notation**

Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x . The graph of f is the graph of the equation $y = f(x)$.

F-IF.A.2 **Understand the concept of a function and use function notation**

Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.

F-IF.B.4 **Interpret functions that arise in applications in terms of the context**

For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.

F-IF.B.5 **Interpret functions that arise in applications in terms of the context**

Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.

F-IF.C.7 **Analyze functions using different representations**

Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases

Learning Objectives and Activities

SWBAT answer the following questions:

- How can mathematical ideas be represented?
- How are equations, inequalities, and their graphs used to solve real-world problems?
- Why do absolute value equations and inequalities have two answers?
- How do the answers relate to the graph?

SWBAT demonstrate understanding of the following:

- Absolute Value functions can be represented numerically, graphically, and analytically to understand patterns and relationships

Learning Activities:

- Algebraically solve absolute value equations and inequalities. Graph inequalities.
- Identify, use, and describe transformation patterns on parent functions.
- Graph absolute value inequalities
- Graphing Absolute Value Functions Lab
- Discover graphically why most absolute value functions have 2 solutions.

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- When do these equations have no solution? Graphically how is this represented?

Assessments

Formative:

- Classwork and Homework
- Teacher Observation
- Class Debate of Approaches/Mathematical Methods
- Math Scavenger Hunt/Trail

Summative:

- Mid-unit Quizzes
- Topic Tests

Alternative:

- Individual or group productive struggle assessment during introductory lessons

Interdisciplinary Connections

Career Readiness, Life Literacies, and Key Skills

Technology Integration

All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.

- 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.

Students will access the online ebook to further investigate lesson concepts and demonstrate understanding of standards.

- 9.4.8.TL.3: Select appropriate tools to organize and present information digitally.
- 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.

Supplemental instruction and math games will be presented using IXL Math.

- 9.4.12.TL.1: Assess digital tools based on features such as accessibility options, capacities, and utility for accomplishing a specified task

Students will use Google Classroom to collaborate, work towards solving authentic problems, or participate in an online classroom discussion utilizing pre-learned

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etiquette about blended learning platforms.

- 9.4.12.TL.4: Collaborate in online learning communities or social networks or virtual worlds to analyze and propose a resolution to a real-world problem.

Students will use graphing calculators to use math tools strategically and attend to precision and will use Desmos in order to discover new concepts involving graphing and functions.

- 9.4.8.IML.3: Create a digital visualization that effectively communicates a data set using formatting techniques such as form, position, size, color, movement, and spatial grouping

Career Education

CRP6: Demonstrate creativity and innovation.

Time Frame	2 cycles ~ 6 (56 minute) days
Topic	
Parent Graph Functions & Transformations	
Alignment to Standards	
F-IF.A.1 Understand the concept of a function and use function notation Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$. F-IF.B.4 Interpret functions that arise in applications in terms of context For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. F-IF.C.7 Analyze functions using different representations Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases F-BF.B.3 Build new functions from existing functions Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology.	
Learning Objectives and Activities	
SWBAT answer the following questions:	

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- How are functions and their graphs related?
- How can technology be used to investigate properties of family functions and their graphs?
- What are some patterns in the manipulation or changes in functions?

SWBAT demonstrate understanding of the following:

- Identify patterns of transformations and how the same patterns relate to multiple functions.
- A variety of families of functions and methods can be used to model and solve real world situation

Learning Activities:

- Determine if a relationship represents a function.
- Determine the domain and range of each function.
- Determine 1-1 functions.
- Determine whether a function is odd, even or neither – algebraically or graphically.
- Graph the basic parent functions; including linear, absolute value, quadratic, square root, cube root, exponential, logarithmic and reciprocal with and without the use of technology.
- Identify the key characteristic of the parent functions using domain, range, local maxima and minima, global maxima and minima, and intervals of increasing and decreasing.
- Graph piecewise functions and describe domain and range.
- Identify key characteristics of a quadratic function; including vertex intercepts, and axis of symmetry, using both algebraic and graphical approaches.
- Solve real-world problems involving a variety of functions.
- Transform functions.
- CBL Activities – Matching the Graph, Time v. Distance, Modeling Step Functions.
- Graphing Calculator Discovery – Characteristics of Family of Curves, Effects of Transformations.

Assessments

Formative:

- Teacher Observation
- Graphic Organizer
- Math Scavenger Hunt/Trail
- Entrance/Exit Cards

Summative:

- Mid-unit Quizzes
- Topic Tests

Alternative:

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Interdisciplinary Connections

Career Readiness, Life Literacies, and Key Skills

Technology Integration

All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.

- 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.

Students will access the online ebook to further investigate lesson concepts and demonstrate understanding of standards.

- 9.4.8.TL.3: Select appropriate tools to organize and present information digitally.
- 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.

Supplemental instruction and math games will be presented using IXL Math.

- 9.4.12.TL.1: Assess digital tools based on features such as accessibility options, capacities, and utility for accomplishing a specified task

Students will use Google Classroom to collaborate, work towards solving authentic problems, or participate in an online classroom discussion utilizing pre-learned etiquette about blended learning platforms.

- 9.4.12.TL.4: Collaborate in online learning communities or social networks or virtual worlds to analyze and propose a resolution to a real-world problem.

Students will use graphing calculators to use math tools strategically and attend to precision and will use Desmos in order to discover new concepts involving graphing and functions.

- 9.4.8.IML.3: Create a digital visualization that effectively communicates a data set using formatting techniques such as form, position, size, color, movement, and spatial grouping

Career Education

CRP4: Communicate clearly and effectively with reason.

CRP6: Demonstrate creativity and innovation.

CRP11: Use technology to enhance productivity.

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Time Frame	2 cycles ~ 6 (56 minute) days
Topic	
Linear Systems and Matrices	
Alignment to Standards	
A-REI.C.5 Solve systems of equations Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions. A-REI.C.6 Solve systems of equations Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables A-REI.C.8 Solve systems of equations Represent a system of linear equations as a single matrix equation in a vector variable. A-REI.C.9 Solve systems of equations Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension 3×3 or greater). A-REI.D.10 Represent and solve equations and inequalities graphically Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line). A-REI.D.11 Represent and solve equations and inequalities graphically Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.★ A-REI.D.12 Represent and solve equations and inequalities graphically Graph the solutions to a linear inequality in two variables as a half plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes. N-VM.C.6 Perform operations on matrices and use matrices in applications. Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network. N-VM.C.7 Perform operations on matrices and use matrices in applications. Multiply matrices by scalars to produce new matrices, e.g., as when all of the payoffs in a game are doubled. N-VM.C.8 Perform operations on matrices and use matrices in applications. Add, subtract, and multiply matrices of appropriate dimensions. N-VM.C.9 Perform operations on matrices and use matrices in applications. Understand that, unlike multiplication of numbers, matrix multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties.	

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N-VM.C.10 Perform operations on matrices and use matrices in applications.

Understand that the zero and identity matrices play a role in matrix addition and multiplication similar to the role of 0 and 1 in the real numbers. The determinant of a square matrix is nonzero if and only if the matrix has a multiplicative inverse.

N-VM.C.11 Perform operations on matrices and use matrices in applications.

Multiply a vector (regarded as a matrix with one column) by a matrix of suitable dimensions to produce another vector. Work with matrices as transformations of vectors.

N-VM.C.12 Perform operations on matrices and use matrices in applications.

Work with 2×2 matrices as a transformations of the plane, and interpret the absolute value of the determinant in terms of area.

Learning Objectives and Activities

SWBAT answer the following questions:

- How do you solve systems of linear equations by graphing?
- How do you graph systems of linear inequalities?
- How do you solve systems of equations by substitution?
- How do you use relationships between the slopes of parallel and perpendicular lines?
- How do you solve systems of equations using addition-or-subtraction and choose a method for solving a system of equations?
- How do you use matrices to represent data sets and use matrix operations?
- How to use matrices to represent changes in the size or position of a polygon?
- How do you recognize when matrices can be multiplied and find the product of the two matrices?
- How do you use technology to find the inverses of matrices?
- How to use inverse matrices to solve systems of equations using the TI-84?

SWBAT demonstrate understanding of the following:

- Students understand and choose the best method of solving systems of linear equations.

Learning Activities:

- How to choose between different methods for solving linear systems.
- Linear systems can be used to solve real-world applications.

Assessments

Formative:

- Classwork and Homework
- Daily Practice Problems
- Class Debate of Approaches/Mathematical Methods
- Entrance/Exit Cards

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Summative:

- Mid-unit Quizzes
- Topic Tests

Alternative:

- Decoding Matrix Project

Interdisciplinary Connections

Career Readiness, Life Literacies, and Key Skills

Technology Integration

All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.

- 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.

Students will access the online ebook to further investigate lesson concepts and demonstrate understanding of standards.

- 9.4.8.TL.3: Select appropriate tools to organize and present information digitally.
- 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.

Supplemental instruction and math games will be presented using IXL Math

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Students will use Google Classroom to collaborate, work towards solving authentic problems, or participate in an online classroom discussion utilizing pre-learned etiquette about blended learning platforms.

- 9.4.12.TL.4: Collaborate in online learning communities or social networks or virtual worlds to analyze and propose a resolution to a real-world problem.

Students will use graphing calculators to use math tools strategically and attend to precision and will use Desmos in order to discover new concepts involving graphing and functions.

- 9.4.8.IML.3: Create a digital visualization that effectively communicates a data set using formatting techniques such as form, position, size, color, movement, and spatial grouping

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DEPARTMENT Mathematics

COURSE College Prep Math

Career Education

CRP2: Apply appropriate academic and technical skills.
CRP6: Demonstrate creativity and innovation.
CRP11: Use technology to enhance productivity.

Time Frame	4 cycles ~ 12 (56 minute) days
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Topic

Quadratic Functions

Alignment to Standards

F-IF.C.7 **Analyze functions using difference representations**

Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases

F-IF.C.8 **Analyze functions using difference representations**

Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function

A-APR.A.1 **Perform arithmetic operations on polynomials**

Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials

A-APR-B.3 **Understand the relationship between zeros and factors of polynomials**

Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.

Learning Objectives and Activities

SWBAT answer the following questions:

- How do the coefficients of a quadratic function influence its graph: the direction it opens, its vertex, its line of symmetry, and its y-intercept?
- How does the equation of a quadratic function determine the translation of a parabola?
- How do you solve simple quadratic equations by graphing and undoing?
- How do you solve quadratic equations by factoring?
- How do you use the quadratic formula to solve quadratic equations?
- How do you use the discriminant to find the number of real solutions of a quadratic equation?
- How do you add, subtract and multiply complex numbers?
- How do you solve problems using quadratic systems?

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SWBAT demonstrate understanding of the following:

- Students should be able to graph and describe the properties of quadratic functions.
- Students should be able to solve quadratic equations through multiple methods - factoring, graphing, square root, completing the square, quadratic formula
- Students should be able to find the discriminant, the vertex, zeros of the quadratic function.

Learning Activities:

- Students should be able to understand how the coefficients of a quadratic function influence its graph: the direction it opens, its vertex, its line of symmetry, and its y-intercept.
- Students should be able to solve quadratic equations by factoring, quadratic formula and calculator.
- Students should be able to add, subtract and multiply complex numbers (calculator in complex mode).
- Graphing Activity in Vertex Form
- Desmos - Will it hit the hoop?
- Desmos - Match my Parabola
- Quizlet live review

Assessments

Formative:

- IXL Practice
- Class Debate of Approaches/Mathematical Methods
- Graphic Organizer
- Math Scavenger Hunt/Trail
- Entrance/Exit Cards

Summative:

- Mid-unit Quizzes
- Topic Tests

Alternative:

- Observation Assessment with Problem-solving
- Individual or group productive struggle assessment during introductory lessons

Interdisciplinary Connections

Science: HS-ETS1-2: In this quadratics unit students will design a solution to a complex real-world problem involving maximum/minimum/projectile motion by breaking it down into smaller, more manageable problems that can be solved through

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DEPARTMENT Mathematics

COURSE College Prep Math

engineering.

Career Readiness, Life Literacies, and Key Skills

Technology Integration

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Career Education

CRP6: Demonstrate creativity and innovation.

CRP8: Utilize critical thinking to make sense of problems and persevere in solving them.

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DEPARTMENT Mathematics

COURSE College Prep Math

Time Frame	4 cycles ~ 12 (56 minute) days
Topic	
Inverse and Radical Functions	
Alignment to Standards	
F-IF.B.4 Interpret functions that arise in application in terms of the context For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship F-IF.C.7 Analyze functions using difference representations Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases F-IF.C.9 Analyze functions using difference representations Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). F-BF-A.1 Build a function that models a relationship in two quantities Write a function that describes a relationship between two quantities F-BF-B.3 Build new functions from existing functions Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology F-BF-B.4 Build new functions from existing functions Find inverse functions. A-SSE.A.2 Interpret the structure of expressions Use the structure of an expression to identify ways to rewrite it A-REI.A.2 Understand solving equations as a process of reasoning and explain the reasoning Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise A-REI.D.11 Represent and solve equations and inequalities graphically Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions	
Learning Objectives and Activities	
SWBAT answer the following questions: How can you choose a model to represent a set of data?	

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DEPARTMENT Mathematics

COURSE College Prep Math

- How do we apply mathematical principles?
- What makes an algebraic algorithm both effective and efficient?
- How do operations affect numbers?

SWBAT demonstrate understanding of the following:

- Algebraic representations can be used to generalize patterns in mathematics
- Patterns and relationships can be represented graphically, numerically, symbolically, or verbally

Learning Activities:

- Find the sum, difference, product, quotient, and composition of functions.
- Find the inverse of a function or relation.
- Determine whether two functions or relations are inverses algebraically and graphically.
- Graph and analyze square root functions.
- Graph square root inequalities.
- Simplify radicals.
- Use a calculator to approximate radicals.
- Use a graphing calculator to graph nth root functions.
- Simplify radical expressions.
- Add, subtract, multiply, and divide radical expressions.
- Write expressions with rational exponents in radical form and vice versa.
- Simplify expressions in exponential or radical form.
- Solve equations and inequalities containing radicals.
- Use a graphing calculator to solve radical equations and inequalities.
- Miras to show inverse is the reflection over $y=x$
- Green Globes activity- square root function.
- Sketch and graph a given function - state domain and range.
- Quizzes - radical functions
- Desmos Polygraph - radical functions

Assessments

Formative:

- Classwork and Homework
- Teacher Observation
- Math Scavenger Hunt/Trail
- Entrance/Exit Cards

Summative:

- Mid-unit Quizzes
- Topic Tests

Alternative:

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DEPARTMENT Mathematics

COURSE College Prep Math

- Individual or group productive struggle assessment during introductory lessons

Interdisciplinary Connections

Career Readiness, Life Literacies, and Key Skills

Technology Integration

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Career Education

CRP4: Communicate clearly and effectively with reason.

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DEPARTMENT Mathematics

COURSE College Prep Math

Time Frame	6 cycles ~ 18 (56 minute) days
Topic	
Exponential and Logarithmic Function	
Alignment to Standards	
F-IF.A.1 Understand the concept of a function and use function notation Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$ F-IF.A.2 Understand the concept of a function and use function notation Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context F-IF.C.7 Analyze functions using difference representations Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases F-LE.A.4 Construct and compare linear and exponential models and solve problems Understand the inverse relationship between exponents and logarithms. For exponential models, express as a logarithm the solution to $abct = d$ where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology.	
Learning Objectives and Activities	
SWBAT answer the following questions: • How can an exponential function represent a real-world scenario? • How can the properties of logarithms be used to solve equations? • Why does simplifying or expanding a logarithmic expression help solve problems? SWBAT demonstrate understanding of the following: • Solving exponential and logarithmic equations • Applicable applications for exponential functions, compound interest, continuous compound interest, growth/decay • Applications for natural logarithm and its uses in finance Learning Activities: • Evaluate exponential functions and solve logarithmic functions • Define the number "e" • Use exponential and logarithmic functions to describe real world scenarios including growth and decay. Ex: Interest money problems, population growth, radioactive decay (half-life)	

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DEPARTMENT Mathematics

COURSE College Prep Math

- Self discovery on properties of logarithms
- Quizzes and Quizlet Live activities

Assessments

Formative:

- Teacher Observation
- Class Debate of Approaches/Mathematical Methods
- Graphic Organizer
- Entrance/Exit Cards

Summative:

- Mid-unit Quizzes
- Topic Tests

Alternative:

- Individual or group productive struggle assessment during introductory lessons

Interdisciplinary Connections

Career Readiness, Life Literacies, and Key Skills

9.1.12.CDM.8: In the logarithmic unit students will compare and compute interest and compound interest and develop an amortization table using business tools.

9.1.12.CDM.6: When learning exponential equations students will compute and assess the accumulating effect of interest paid over time when using a variety of sources of credit (e.g., student loans, credit cards, auto loans, mortgages, etc.)

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COURSE College Prep Math

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Career Education

CRP6: Demonstrate creativity and innovation.

CRP8: Utilize critical thinking to make sense of problems and persevere in solving them.

Time Frame	4 cycles ~ 12 (56 minute) days
Topic	
Polynomials and Polynomial Functions	
Alignment to Standards	
A-CED.A.1 Create equations that describe numbers or relationships Create equations and inequalities in one variable and use them to solve problems. A-REI.D.11 Represent and solve equations and inequalities graphically Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions. A-APR-B.2 Understand the relationship between zeros and factors of polynomials Know and apply the Remainder Theorem: For a polynomial $p(x)$ and a number a, the remainder on division by $x - a$ is $p(a)$, so $p(a) = 0$ if and only if $(x - a)$ is a factor of $p(x)$ A-APR-B.3 Understand the relationship between zeros and factors of polynomials	

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DEPARTMENT Mathematics

COURSE College Prep Math

Identify zeros of polynomials when suitable factorizations are available, and use the zeros to construct a rough graph of the function defined by the polynomial.

A-APR-C.4 **Use polynomial identities to solve problem**

Prove polynomial identities and use them to describe numerical relationships.

F-IF.C.7 **Analyze functions using difference representations**

Graph functions expressed symbolically and show key features

N-CN.C.9 **Use complex numbers in polynomial identities and equations**

Know the Fundamental Theorem of Algebra; show that it is true for quadratic polynomials.

Learning Objectives and Activities

SWBAT answer the following questions:

- Why is math used to model real-world situations?
- How do we use polynomial patterns to make real-world predictions?
- How can I use the remainder and factor theorems to solve polynomials?

SWBAT demonstrate understanding of the following:

- The arithmetic of rational expressions is governed by the same rules as the arithmetic of rational numbers.
- Defining and solving the problem begins by selecting the appropriate procedural tool.
- The characteristics of polynomial functions and their representations are useful in solving real-world problems.
- The domain and range of polynomial functions can be extended to include the set of complex numbers.

Learning Activities:

- Factor polynomial expressions and solve polynomial equations.
- Evaluate functions by using synthetic substitution.
- Determine whether a binomial is a factor of a polynomial by using synthetic substitution.
- Determine the number and type of roots of a polynomial equation.
- Find the zeros of a polynomial function.
- Use a graphing calculator to analyze polynomial functions.
- Identify possible rational zeros of a polynomial function.
- Find all the rational zeros of a polynomial function
- Dividing Polynomials Lab
- Graphing Polynomials Lab
- Quizlet Live - Solving polynomial equations

Assessments

Formative:

- Daily Practice Problems

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DEPARTMENT Mathematics

COURSE College Prep Math

- Teacher Observation
- Entrance/Exit Cards

Summative:

- Mid-unit Quizzes
- Topic Tests

Alternative:

- Observation Assessment with Problem-solving

Interdisciplinary Connections

Career Readiness, Life Literacies, and Key Skills

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DEPARTMENT Mathematics

COURSE College Prep Math

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Career Education
CRP2: Apply appropriate academic and technical skills. CRP6: Demonstrate creativity and innovation.

Time Frame	4 cycles ~ 12 (56 minute) days
Topic	
Rational Functions and Relations	
Alignment to Standards	
A-APR.D.6 Rewrite rational expressions Rewrite simple rational expressions in different forms; write $a(x)/b(x)$ in the form $q(x) + r(x)/b(x)$, where $a(x)$, $b(x)$, $q(x)$, and $r(x)$ are polynomials with the degree of $r(x)$ less than the degree of $b(x)$, using inspection, long division, or, for the more complicated examples, a computer algebra system. A-APR.D.7 Rewrite rational expressions Understand that rational expressions form a system analogous to the rational numbers, closed under addition, subtraction, multiplication, and division by a nonzero rational expression; add, subtract, multiply, and divide rational expressions. A-CED.A.1 Create equations that describe numbers or relationships Create equations and inequalities in one variable and use them to solve problems. A-CED.A.2 Create equations that describe numbers or relationships Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. F-BF-B.3 Build new functions from existing functions Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. F-IF.C.9 Analyze functions using difference representations Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). A-REI.A.2 Understand solving equations as a process of reasoning and explain the reasoning Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise A-REI.D.11 Represent and solve equations and inequalities graphically	

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DEPARTMENT Mathematics

COURSE College Prep Math

Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions.

Learning Objectives and Activities

SWBAT answer the following questions:

- Why are graphs useful?
- How do we decide which method is most appropriate when solving rational equations?
- When are asymptotes used to graph rational functions?

SWBAT demonstrate understanding of the following:

- Multiplying and Dividing Rational Expressions
- Adding and Subtracting Rational Expressions
- Solving rational equations
- Simplified expressions are essential in being able to solve equations.
- Domain restrictions affect graphing and solving of rational functions.

Learning Activities:

- Multiply and divide rational expressions, including simplifying complex fractions.
- Add and subtract rational expressions.
- Determine properties of reciprocal functions.
- Graph transformations of reciprocal functions.
- Use a graphing calculator to explore the graphs of rational functions.
- Graph rational functions with vertical and horizontal asymptotes.
- Graph rational functions with oblique asymptotes and point discontinuity.
- Recognize and solve direct and joint variation problems.
- Recognize and solve inverse and combined variation problems.
- Solve rational equations.
- Solve rational inequalities.
- Use a graphing calculator to solve rational equations by graphing or by using the table feature.
- Quizizz Practice - dividing, add/subtract, and solving
- Desmos - Polygraph Rational Functions
- Graphing Rational Functions

Assessments

Formative:

- Classwork and Homework

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DEPARTMENT Mathematics

COURSE College Prep Math

- Teacher Observation
- Entrance/Exit Cards

Summative:

- Mid-unit Quizzes
- Topic Tests

Alternative:

- Individual or group productive struggle assessment during introductory lessons

Interdisciplinary Connections

Career Readiness, Life Literacies, and Key Skills

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DEPARTMENT Mathematics

COURSE College Prep Math

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Career Education

CRP4: Communicate clearly and effectively with reason.

Time Frame	2 cycles ~ 6 (56 minute) days
Topic	
College Placement Test Prep	
Alignment to Standards	
<u>.F.IF.4, F.IF.2, N.Q.2</u> A-REI.A 2 Understand solving equations as a process of reasoning and explain the reasoning Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise A-REI.B.3 Solve equations and inequalities in one variables Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. A-REI.B.4 Solve equations and inequalities in one variables Solve quadratic equations in one variable A-REI.C.5 Solve systems of equations Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions. A-REI.C.6 Solve systems of equations Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables F-IF.A.2 Understand the concept of a function and use function notation Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context F-IF.B.4 Interpret functions that arise in application in terms of the context For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship N-Q.A.2 Reason quantitatively and use units to solve problems. Define appropriate quantities for the purpose of descriptive modeling	
Learning Objectives and Activities	

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DEPARTMENT Mathematics

COURSE College Prep Math

SWBAT answer the following questions:

- Why are you taking this test?
- What does passing/failing mean for your academic career?
- How can you prepare yourself for the exam/
- When will you take the exam?
- Why can't you use a calculator?

SWBAT demonstrate understanding of the following:

- Test Prep for future exams.
- Test taking strategies

Learning Activities:

- Test Taking Strategies
- What to concentrate your time on in order to be prepared
- How to contact your future college to schedule exam
- Main topics on most exams:
 - Basic Algebra:
 - Adding and subtracting fractions
 - Multiplying and dividing fractions
 - Percentages
 - Dividing decimals
 - Long division
 - Intermediate Algebra:
 - Quadratics
 - Polynomial Operations
 - Exponent Rules
 - Logarithms
 - Rational Expressions
 - Complex Fractions
 - Trigonometry
- Preparedness for College Placements
- Game to practice skills in a group setting
- Practice tests

Assessments

Formative:

- Daily Practice Problems
- IXL Practice
- Teacher Observation
- Class Debate of Approaches/Mathematical Methods
- Graphic Organizer

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COURSE College Prep Math

- Entrance/Exit Cards

Summative:

- Mid-unit Quizzes
- Topic Tests

Alternative:

- Observation Assessment with Problem-solving

Interdisciplinary Connections

Career Readiness, Life Literacies, and Key Skills

Technology Integration

All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.

- 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.

Students will access the online ebook to further investigate lesson concepts and demonstrate understanding of standards.

- 9.4.8.TL.3: Select appropriate tools to organize and present information digitally.
- 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.

Supplemental instruction and math games will be presented using IXL Math.

- 9.4.12.TL.1: Assess digital tools based on features such as accessibility options, capacities, and utility for accomplishing a specified task

Students will use Google Classroom to collaborate, work towards solving authentic problems, or participate in an online classroom discussion utilizing pre-learned etiquette about blended learning platforms.

- 9.4.12.TL.4: Collaborate in online learning communities or social networks or virtual worlds to analyze and propose a resolution to a real-world problem.

Students will use graphing calculators to use math tools strategically and attend to precision and will use Desmos in order to discover new concepts involving graphing and functions.

- 9.4.8.IML.3: Create a digital visualization that effectively communicates a data set using formatting techniques such as form, position, size, color, movement,

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and spatial grouping
Career Education
CRP6: Demonstrate creativity and innovation. CRP8: Utilize critical thinking to make sense of problems and persevere in solving them. CRP11: Use technology to enhance productivity.

Time Frame	6 cycles ~ 18 (56 minute) days
Topic	
Trigonometry	
Alignment to Standards	
F-TF.A.1 Extend the domain of trigonometric functions using the unit circle Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle. F-TF.A.2 Extend the domain of trigonometric functions using the unit circle Explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle F-TF.B.5 Model periodic phenomena with trigonometric functions Choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline F-TF.C.8 Prove and apply trigonometric identities Prove the Pythagorean identity $\sin^2(\theta) + \cos^2(\theta) = 1$ and use it to find $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ given $\sin(\theta)$, $\cos(\theta)$, or $\tan(\theta)$ and the quadrant of the angle.	
Learning Objectives and Activities	
SWBAT answer the following questions: - How can I make connections to angles to determine basic trigonometric values? - How can I evaluate trigonometric functions at any domain value by connecting experiences with special right triangles gained in Geometry? - How can I select and apply trigonometric functions to solve problems in contexts that model cyclical behavior? SWBAT demonstrate understanding of the following: - Solving Trigonometric Equations with and without the unit circle	

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- Model periodic phenomena with trigonometric functions
- Extend the domain of trigonometric functions using the unit circle

Learning Activities:

- Draw and find angles in standard position
- Convert between degree measure and radian measures
- Find values of trigonometric functions for general angles
- Find values of trigonometric functions by using reference angles
- Find the values of trigonometric functions based on the unit circle
- Use the properties of periodic functions to evaluate trigonometric functions
- Use trigonometric identities to find trigonometric values
- Use trigonometric identities to simplify expressions
- Construct a color coded unit circle
- Define trigonometric functions using x , y , and r
- Ferris Wheel Problem
- Tide Problem
- Spaghetti Lab
- Graphing calculator activity discovering properties of periodic functions
- Quizizz solving equations

Assessments

Formative:

- Classwork and Homework
- Teacher Observation
- Class Debate of Approaches/Mathematical Methods
- Graphic Organizer
- Math Scavenger Hunt/Trail
- Entrance/Exit Cards

Summative:

- Mid-unit Quizzes
- Topic Tests

Benchmark:

- Cumulative final exam with multiple choice, short answer, and extended constructed response questions.

Alternative:

- Observation Assessment with Problem-solving
- Individual or group productive struggle assessment during introductory lessons

Interdisciplinary Connections

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ELA: W.11-12.1: When students are justifying their reasoning on short answer and extended constructed response questions they write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

Career Readiness, Life Literacies, and Key Skills

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CRP8: Utilize critical thinking to make sense of problems and persevere in solving them.

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Modifications (ELL, Special Education, At-Risk Students, Gifted & Talented, & 504 Plans)

ELL:

- Work toward longer passages as skills in English increase
- Use visuals
- Introduce key vocabulary before lesson
- Teacher models reading aloud daily
- Provide peer tutoring
- Use of Bilingual Dictionary
- Guided notes and/or scaffold outline for written assignments
- Provide students with English Learner leveled readers.

Supports for Students With IEPs:

- Allow extra time to complete assignments or tests
- Guided notes and/or scaffold outline for written assignments
- Work in a small group
- Allow answers to be given orally or dictated
- Use large print books, Braille, or books on CD (digital text)
- Follow all IEP modifications

At-Risk Students:

- Guided notes and/or scaffold outline for written assignments
- Introduce key vocabulary before lesson
- Work in a small group
- Lesson taught again using a differentiated approach
- Allow answers to be given orally or dictated
- Use visuals / Anchor Charts
- Leveled texts according to ability

Gifted and Talented:

- Create an enhanced set of introductory activities (e.g. advance organizers, concept maps, concept puzzles)
- Provide options, alternatives and choices to differentiate and broaden the curriculum
- Organize and offer flexible small group learning activities
- Provide whole group enrichment explorations
- Teach cognitive and methodological skills

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- Use center, stations, or contracts
- Organize integrated problem-solving simulations
- Propose interest-based extension activities
- Expose students to beyond level texts.

Supports for Students With 504 Plans:

- Follow all the 504 plan modifications
- Text to speech/audio recorded selections
- Amplification system as needed
- Leveled texts according to ability
- Fine motor skill stations embedded in rotation as needed
- Modified or constrained spelling word lists
- Provide anchor charts with high frequency words and phonemic patterns

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