TOWNSHIP OF UNION PUBLIC SCHOOLS

**Algebra III/Trigonometry
Adopted June 17, 2015
Updated February 18, 2020**

District Mission Statement

The Township of Union Board of Education believes that every child is entitled to an education, designed to meet his or her individual needs, in an environment that is conducive to learning. State standards, federal and state mandates, and local goals and objectives, along with community input, must be reviewed and evaluated on a regular basis to ensure that an atmosphere of learning is both encouraged and implemented. Furthermore, any disruption to or interference with a healthy and safe educational environment must be addressed, corrected, or, when necessary, removed, in order for the district to maintain the appropriate educational setting.

District Philosophy Statement

The Township of Union Public School District, as a societal agency, reflects democratic ideals and concepts through its educational practices. It is the belief of the Board of Education that a primary function of the Township of Union Public School System is the formulation of a learning climate conducive to the needs of all students in general, providing therein for individual differences. The school operates as a partner with the home and community.

Course Description

Algebra III/Trigonometry has three fundamental goals:

1. To reinforce and extend upon Algebra II concepts thereby preparing students for other courses such as pre-calculus, calculus, and finite mathematics.
2. To show students how Algebra can model and solve authentic real-world problems.
3. To enable students to develop problem-solving skills while fostering critical thinking, within an interesting setting.

To this end, students will model and solve algebraic problems that involve the study of polynomial, quadratic, radical, rational, exponential and logarithmic functions. Students will model and solve basic trigonometry, trigonometric identities, equations and application problems. Each unit of student will include the use of group explorations, and scientific and graphing calculators.

Recommended Textbook:

College Algebra Essentials 4e
George Blitzer

Units of Study:
Unit 1: Exponents and Polynomial Functions
Unit 2 Factoring and Quadratics
Unit 3 Rational Expressions and Functions
Unit 4 Roots and Radicals
Unit 5 Inverse, Exponential and Logarithmic Functions
Unit 6 Trigonometry

Pacing Guide

Unit 1	Exponents and Polynomial Function	20 days
Unit 2	Factoring and Quadratics	30 days
Unit 3	Rational Expressions and Functions	20 days
Unit 4	Roots and Radicals	20 days
Unit 5	Inverse, Exponential and Logarithmic Functions	30 days
Unit 6	Trigonometry	40 days

Allowances given for additional review days, if necessary, and assessments.

Course Proficiencies

EACH STUDENT WILL BE ABLE TO:

- Simplify, graph, solve and apply exponential and radical functions.
- Simplify, graph, solve and apply logarithmic functions.
- Simplify, graph, solve and apply rational equations.
- Simplify and apply composite functions.
- Graph and solve functions and extract information from multiple forms.
- Perform all operations with polynomials, and to factor polynomials.
- To determine if a function has an inverse, and if it has one, find its equation.
- Use algebraic expressions as models of real-life situations.
- Use all methods of factoring polynomials.
- Examine and solve quadratic models involving objects, parabolic shaped regions and quantities related to time
- Find values of trigonometric functions for acute and general angles.
- Find exact and approximate values for the six trigonometric functions.
- Verify trigonometric identities, simplify/evaluate expressions and solve trigonometric equations.
- Identify graphs of the basic trigonometric functions
- Understand and apply trigonometric functions to solve real-life problems about measurement.
- Choose the appropriate trigonometric function to find missing parts of right and oblique triangles.
- Use identities to find values of trigonometric functions and to solve trigonometric equations.

Curriculum Units

Unit 1: Exponents and Polynomial Functions

NJSLS	NJSLS Content	Learning Activities
HSN.RN.A-1	Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. For example, we define $5^{1/3}$ to be the cube root of 5 because we want $\left(5^{1/3}\right)^3 = 5^{\frac{3}{3}}$ to hold, so $\left(5^{1/3}\right)^3$ must equal 5.	Homework review
HSF-LE-A-1.c	Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.	Direct instruction (board notes/presentations)
HAS.APR.A-1	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.	Guided and independent practice
HSF.IF.C.7-c	Graph polynomial functions, identifying zeros when suitable factorizations are available, and showing end behavior.	Investigation activities
HSF-BF-B-4.b	Verify by composition that one function is the inverse of another.	Flipped classroom

Students will be able to:
- Use rules of exponents
- Recognize exponential functions
- Use Operations with polynomials
- Graph polynomial functions
- Find composite functions

Suggested Differentiation for Unit 1

- **Tier 1 Learners:**
    - Have guided notes filled out at different levels according to ability.
    - Give assignments that contain tasks of varying difficulty. Each task should focus on essential learning that all students should master, but the tasks will vary in difficulty.
    - Group students by similar interest when working on application problems.
    - Use mini lessons to reteach to those having difficulty.
    - Group students so that each group contains all level learners. The tier 3 learners can serve as peer helpers.
    - Assign a basic homework assignment. Require students to spend a set amount of time to work (showing effort) on the assignment rather than completing the entire assignment.
    - Allow students to choose a method for completing a project: video, PowerPoint, paper, or presentation.
- **Tier 2 Learners:**
    - Utilize foldables creating tangible products to help students digest information while incorporating several of the multiple intelligences.
- **Tier 3 Learners:**
    - Have problems posted around the room. Have students loop to specific questions based on difficulty.

Curriculum Resources

- Textbook - College Algebra Essentials 4e
- Desmos: https://teacher.desmos.com/exponential
- Desmos: https://teacher.desmos.com/quadratic
- Math literacy resources (e.g., Sir Cumference series, Scholastic MATH Magazine)
- Internet based resources - videos, interactive manipulative, online tutors

    - Khan Academy
    - Virtual Nerd
    - BuzzMath
    - Kuta Software
    - YouTube

Formative Assessments	Summative Assessments

Homework
Classroom whiteboard problem solving
Exit tickets
Review Games
Teacher Observations
Use of technology (Google Suite)
Do nows
Oral questioning
Short constructed responses
	Quiz
	Chapter Test
	Projects
	
	Simplify the expression $\frac{(2x^2)^{3/2}}{2^{1/2}x^{1/4}}$
	The approximate number of fruit flies in an experimental population after t hours is given by the function:
	$Q(t) = 20e^{0.03t}$, where $t \geq 0$
	  a. Find the initial number of fruit flies in the population.
	  b. How large is the population of fruit flies after 72 hours?

c. Graph Q

A candy factory needs a box that has a volume of 30 cubic inches. The width should be 2 inches less than the height and the length should be 5 inches greater than the height. What should the dimensions of the box be?

One zero of $f(x) = x^3 - 2x^2 - 9x + 18$ is $x = 2$. Find the other zeroes of the function. Use synthetic division and factoring. Verify the zeroes by graphing the function.

Verify that the function $f(x) = \frac{x-5}{2}$ and $g(x) = 2x + 5$ are inverse functions of each other numerically.

Use $f(g(x)) = x$ and $g(f(x)) = x$

Global Perspectives: Real data that describes different nations' economies and populations will be used as examples of linear growth, exponential growth, exponential decay, and periodic functions

Unit 2 Factoring and Quadratics

NJSLS	NJSLS Content	Learning Activities
HAS.SSE.A-2	Use the structure of an expression to identify ways to rewrite it. For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2) = (x + y)(x - y)(x^2 + y^2)$	Homework review Direct instruction (board notes/presentations)
HAS.REI.B.4-b	Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as a ± bi for real numbers a and b.	Guided and independent practice
HSF.BF.A.1	Write a function that describes a relationship between two quantities.	Investigation activities
HAS.CED.A.1	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.	Flipped classroom

Unit 2 Proficiencies
Students will be able to: • Determine all methods of factoring polynomials • Solve polynomial equations by factoring

- Solve quadratic equations by the following methods: zero-product property, square root property, completing the square, quadratic formula and graphing.
- Use quadratic equations to solve real-life problems
- Solve quadratic inequalities algebraically

- **Tier 1 Learners:**
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  - Group students by similar interest when working on application problems.
  - Use mini lessons to reteach to those having difficulty.
  - Group students so that each group contains all level learners. The tier 3 learners can serve as peer helpers.
  - Assign a basic homework assignment. Require students to spend a set amount of time to work (showing effort) on the assignment rather than completing the entire assignment.
  - Allow students to choose a method for completing a project: video, PowerPoint, paper, or presentation.
- **Tier 2 Learners:**
  - Utilize foldables creating tangible products to help students digest information while incorporating several of the multiple intelligences.
- **Tier 3 Learners:**
  - Have problems posted around the room. Have students loop to specific questions based on difficulty.

Curriculum Resources

- Textbook - College Algebra Essentials 4e
- Desmos: https://teacher.desmos.com/quadratic
- Desmos: https://teacher.desmos.com/functions

- Math literacy resources (e.g., Sir Cumference series, Scholastic MATH Magazine)
- Internet based resources - videos, interactive manipulative, online tutors

    - Khan Academy
    - Virtual Nerd
    - BuzzMath
    - Kuta Software
    - YouTube

Formative Assessments	Summative Assessments
Homework Classroom whiteboard problem solving Exit tickets Review Games Teacher Observations Use of technology (Google Suite) Do nows Oral questioning Short constructed responses	Quiz Chapter Test Projects - Write a paragraph explaining why $(x+y)^2 \neq x^2 + y^2$ - Given the equation $6x^2 + 7x = 3$ use three different methods of solving quadratic equations to find the solutions. Compare and discuss the methods used. - Maurice Daniels wants to buy a rug for a room that is 12 ft wide and 15 ft long. He wants to leave a uniform strip of floor around the rug. He can afford to buy 108 square feet of carpeting. What dimensions should the rug have? - If a projectile is launched from ground level with an initial velocity of 96 ft/sec, its height *s* in feet *t* seconds after launching is given by the

following equation: $s = -16t^2 + 96t$. When will the projectile be greater than 80 feet above ground level?

Interdisciplinary Connections:.
From 1960 to 1990, the total government payroll in the US can be modeled by P = 35t^2 + 115t + 3410, where P is in millions of dollars and t = 0 corresponds to 1960. Judging from the payroll between 1960 and 1990, is it possible that the government payroll will reach 70 billion dollars a year?

Global Perspective:
The Arecibo Observatory is a radio telescope located in Puerto Rico. The observatory's 1,000 ft radio telescope is the world's largest single–aperture telescope. The shape of the dish used can be modeled with a quadratic equation. Research the dimensions of the telescope and write an equation that closely models the telescope and describe some of the research done by radio telescopes.

Unit 3 Rational Expressions and Functions

NJSLS	NJSLS Content	Learning Activities
HAS.APR.D.7	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.	Homework review
HAS.APR.D.6	Rewrite simple rational expressions in different forms	Direct instruction (board notes/presentations)
HSF.IF.B.5	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.	Guided and independent practice
HAS.CED.A.1	Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.	Investigation activities
HAS.REI.D.11	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.*	Flipped classroom

Unit 3 Proficiencies

Students will be able to:
- Simplify and perform operations with rational expressions
- Simplify complex fractions
- Determine domain of rational expressions/equations
- Solve rational equations and apply to real-life settings
- Graph rational equations

Suggested Differentiation for Unit 3

- **Tier 1 Learners:**
  - Have guided notes filled out at different levels according to ability.
  - Give assignments that contain tasks of varying difficulty. Each task should focus on essential learning that all students should master, but the tasks will vary in difficulty.
  - Group students by similar interest when working on application problems.
  - Use mini lessons to reteach to those having difficulty.
  - Group students so that each group contains all level learners. The tier 3 learners can serve as peer helpers.
  - Assign a basic homework assignment. Require students to spend a set amount of time to work (showing effort) on the assignment rather than completing the entire assignment.
  - Allow students to choose a method for completing a project: video, PowerPoint, paper, or presentation.
- **Tier 2 Learners:**
  - Utilize foldables creating tangible products to help students digest information while incorporating several of the multiple intelligences.
- **Tier 3 Learners:**
  - Have problems posted around the room. Have students loop to specific questions based on difficulty.

- Textbook - College Algebra Essentials 4e
- Desmos: https://teacher.desmos.com/functions
- Math literacy resources (e.g., Sir Cumference series, Scholastic MATH Magazine)
- Internet based resources - videos, interactive manipulative, online tutors

    o Khan Academy
    o Virtual Nerd
    o BuzzMath
    o Kuta Software
    o YouTube

Formative Assessments

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Summative Assessments

Quiz
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Projects

Write the rational expression in lowest terms: $\frac{a^2-a-6}{a^2+5a+6}$

Simplify: $\frac{\frac{2y+1}{y}}{\frac{3y-2}{y}}$

Graph and determine the domain: $f(x) = \frac{1}{x}$

Letitia and Kareem are working on a neighborhood cleanup. Kareem can clean up all the trash in the area in 7 hours, while Letitia can do the same job in 5 hours. How long will it take them if they work together?

Graph: $g(x) = \frac{-2}{x-3}$ and determine the asymptotes, domain and range

Technology
- Students will be encouraged to use calculators and other technology to validate solutions found using "pencil and paper", particularly when manipulating expressions with rational exponents.

http:// www.mrperezonlinemathtutor.com/A2/4_2_Radicals_Rational_Exponents.html

- The above link is a good resource for students to use when simplifying rational expressions.

Interdisciplinary Connections: Students will learn that complex numbers are widely used in the fields of physics and engineering, as well as in advanced mathematics. Students will learn the history of complex numbers, as well as the connections between complex numbers and fractal geometry, which appears in both art and nature.

Unit 4 Roots and Radicals

NJSLS	NJSLS Content	Learning Activities
HSN.RN.A.2	Rewrite expressions involving radicals and rational exponents using the properties of exponents.	Homework review
HSN.RN.A.1	Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents.	Direct instruction (board notes/presentations) Guided and independent practice
HAS.REI.A.2	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.	Investigation activities Flipped classroom

Unit 4 Proficiencies

Students will be able to:
- Find the n-th root of an expression
- Convert radicals to rational exponents and vice versa
- Use rules of exponents with rational exponents to simplify rational expressions
- Operations with radicals (including use of the conjugate to rationalize the denominator)
- Solve radical/rational exponential equations

Suggested Differentiation for Unit 4

- **Tier 1 Learners:**
  - Have guided notes filled out at different levels according to ability.
  - Give assignments that contain tasks of varying difficulty. Each task should focus on essential learning that all students should master, but the tasks will vary in difficulty.
  - Group students by similar interest when working on application problems.
  - Use mini lessons to reteach to those having difficulty.
  - Group students so that each group contains all level learners. The tier 3 learners can serve as peer helpers.
  - Assign a basic homework assignment. Require students to spend a set amount of time to work (showing effort) on the assignment rather than completing the entire assignment.
  - Allow students to choose a method for completing a project: video, PowerPoint, paper, or presentation.
- **Tier 2 Learners:**
  - Utilize foldables creating tangible products to help students digest information while incorporating several of the multiple intelligences.
- **Tier 3 Learners:**
  - Have problems posted around the room. Have students loop to specific questions based on difficulty.

Curriculum Resources

- Textbook - College Algebra Essentials 4e
- Desmos: https://teacher.desmos.com/functions
- Khan: https://www.khanacademy.org/math/algebra2/radical-equations-and-functions
- Internet based resources - videos, interactive manipulative, online tutors

  - Khan Academy
  - Virtual Nerd
  - BuzzMath
  - Kuta Software
  - YouTube

Formative Assessments	Summative Assessments
Homework Classroom whiteboard problem solving Exit tickets Review Games Teacher Observations Use of technology (Google Suite) Do nows Oral questioning Short constructed responses	Quiz Chapter Test Projects Simplify: $\sqrt[3]{-81x^5y^4}$ Rewrite in rational form: $\sqrt{x^3}$. Rewrite in radical form: $(2y)^{3/4}$ Simplify: $\frac{2}{\sqrt{2}+5}$ Solve: $\sqrt{9-x}=x+3$; Solve $(2w-1)^{2/3}-w^{1/3}=0$

Technology – Use Graphing Calculator to simplify radicals.

Interdisciplinary Connection: https://sciencing.com/how-are-radical-expressions-rational-exponents-used-in-real-life-12751906.html

Unit 5 Inverse, Exponential and Logarithmic Functions

NJSLS	NJSLS Content	Learning Activities
HSF-IF-A.1	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).	Homework review
HSF-BF-B.4	Find inverse functions. Solve an equation of the form f(x) = c for a simple function f that has an inverse and write an expression for the inverse. For example, f(x) =2 x3 or f(x) = (x+1)/(x-1) for x ≠ 1. Verify by composition that one function is the inverse of another. Read values of an inverse function from a graph or a table, given that the function has an inverse. Produce an invertible function from a non-invertible function by restricting the domain	Direct instruction (board notes/presentations) Guided and independent practice
HSF-IF-C.7.e	Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.	Investigation activities
HSF-BF-B.5	Understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.	Flipped classroom
HSF-LE-A.1	Distinguish between situations that can be modeled with linear functions and with exponential functions.	
HSF-LE-A.4	For exponential models, express as a logarithm the solution to $ab^{ct} = d$ where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology.	

Students will be able to:

- One-to-one functions
- Find the equation of the inverse and graph the inverse
- Define, graph and apply exponential functions
- Define, graph and apply logarithmic functions
- Use properties of logarithms
- Solve and apply exponential and logarithmic equations

Suggested Differentiation for Unit 5

- **Tier 1 Learners:**
  - Have guided notes filled out at different levels according to ability.
  - Give assignments that contain tasks of varying difficulty. Each task should focus on essential learning that all students should master, but the tasks will vary in difficulty.
  - Group students by similar interest when working on application problems.
  - Use mini lessons to reteach to those having difficulty.
  - Group students so that each group contains all level learners. The tier 3 learners can serve as peer helpers.
  - Assign a basic homework assignment. Require students to spend a set amount of time to work (showing effort) on the assignment rather than completing the entire assignment.
  - Allow students to choose a method for completing a project: video, PowerPoint, paper, or presentation.
- **Tier 2 Learners:**
  - Utilize foldables creating tangible products to help students digest information while incorporating several of the multiple intelligences.
- **Tier 3 Learners:**
  - Have problems posted around the room. Have students loop to specific questions based on difficulty.

- Textbook - College Algebra Essentials 4e
- Desmos: https://teacher.desmos.com/functions
- Desmos: https://teacher.desmos.com/exponential
- Internet based resources - videos, interactive manipulative, online tutors

  - Khan Academy
  - Virtual Nerd
  - BuzzMath
  - Kuta Software
  - YouTube

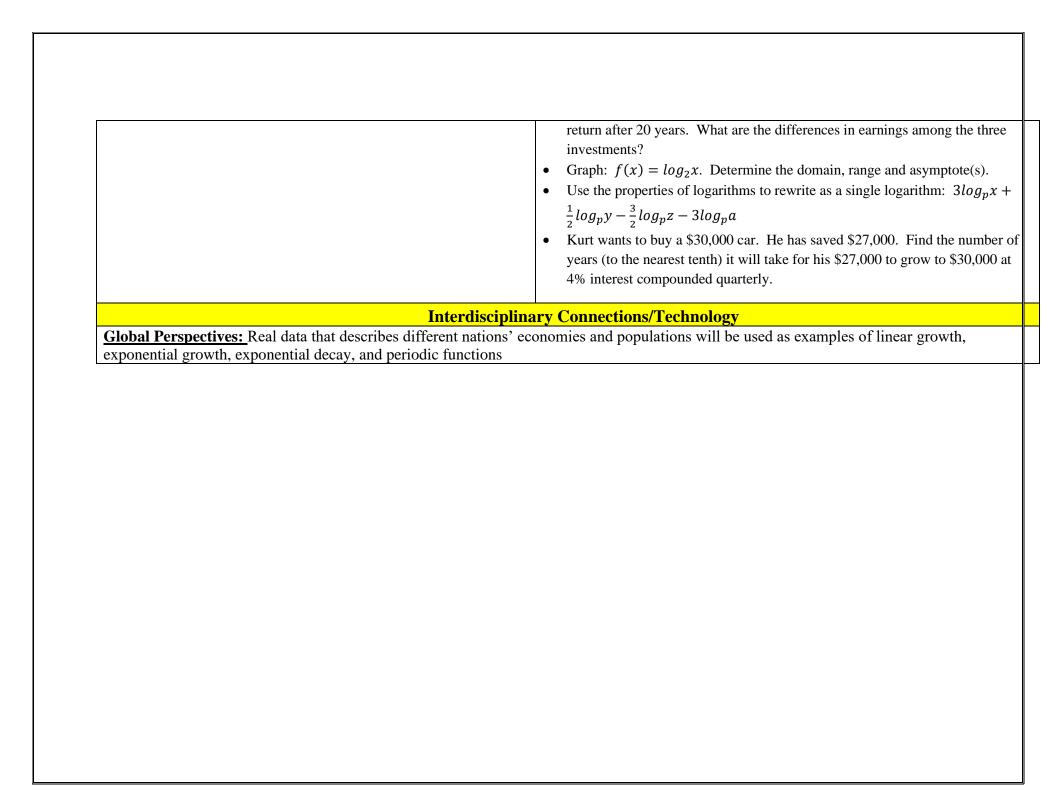| **Formative Assessments**	**Summative Assessments**
Homework Classroom whiteboard problem solving Exit tickets Review Games Teacher Observations Use of technology (Google Suite) Do nows Oral questioning Short constructed responses	Quiz Chapter Test Projects • Is the function $f(x) = \sqrt{x} + 1$ one-to-one? Find the solution graphically and algebraically. • Verify that the functions $f(x) = 2x^3 - 1$ and $g(x) = \sqrt[3]{\frac{x+1}{2}}$ are inverses of each other, both graphically and algebraically. • There are three options for investing \$500. The first earns 7% compounded annually, the second earns 7% compounded quarterly and the third earns 7% compounded continuously. Find the equations that model the growth of each investment and use a graph to determine which investment yields the highest

	return after 20 years. What are the differences in earnings among the three investments? • Graph: $f(x) = log_2 x$. Determine the domain, range and asymptote(s). • Use the properties of logarithms to rewrite as a single logarithm: $3log_p x + \frac{1}{2}log_p y - \frac{3}{2}log_p z - 3log_p a$ • Kurt wants to buy a $30,000 car. He has saved $27,000. Find the number of years (to the nearest tenth) it will take for his $27,000 to grow to $30,000 at 4% interest compounded quarterly.

Interdisciplinary Connections/Technology

Global Perspectives: Real data that describes different nations' economies and populations will be used as examples of linear growth, exponential growth, exponential decay, and periodic functions

Unit 6 Trigonometry

NJSLS	NJSLS Content	Learning Activities
HSF.TF.A.3	Use special triangles to determine geometrically the values of sine, cosine, tangent for $\pi/3$, $\pi/4$ and $\pi/6$, and use the unit circle to express the values of sine, cosine, and tangent for x, π + x, and 2π – x in terms of their values for x, where x is any real number.	Homework review
HSF.TF.A.1	Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.	Direct instruction (board notes/presentations)
HSF.TF.C	Prove and apply trigonometric identities.	Guided and independent practice
HSF.TF.B.7	Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.	Investigation activities
HSG.SRT.C	High School right triangles and Trigonometry; To solve problems involving right triangles.	Flipped classroom

Unit 6 Proficiencies
Students will be able to: • Solve Angles and the Unit Circle • Identify Degree and Radian Measure • Identify Trigonometric Functions and Trigonometric Identities • Solve trigonometric equations using inverses and identities

- Solve a right triangle and applications

- **Tier 1 Learners:**
  - Have guided notes filled out at different levels according to ability.
  - Give assignments that contain tasks of varying difficulty. Each task should focus on essential learning that all students should master, but the tasks will vary in difficulty.
  - Group students by similar interest when working on application problems.
  - Use mini lessons to reteach to those having difficulty.
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  - Assign a basic homework assignment. Require students to spend a set amount of time to work (showing effort) on the assignment rather than completing the entire assignment.
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Curriculum Resources

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- Internet based resources - videos, interactive manipulative, online tutors

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  - Virtual Nerd
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  - Kuta Software

o YouTube

Formative Assessments	**Summative Assessments**
Homework Classroom whiteboard problem solving Exit tickets Review Games Teacher Observations Use of technology (Google Suite) Do nows Oral questioning Short constructed responses	Quiz Chapter Test Projects • Find the least positive coterminal angle of 690° and graph the angle. • Convert $\frac{-3\pi}{4}$ radians to degrees; Convert 245° to radian measure. • Simplify: $cos\theta + sin\theta tan\theta$ • $cosx = \frac{\sqrt{3}}{2}$, find the value of x • Solve the right triangle, given: $B = 46.2°$, $C = 90°$, and $c = 29.7$m.

Interdisciplinary Connections/Technology

Physics: Rates of change can be applied to motion, electricity, heat, light, and astronomy.

Additional Suggested Modifications for Units

Below is an additional list of modifications and accommodations opportunities. This includes, but is not limited to,:

1. English Language Learners.
   a. Read written instructions.
   b. Model and provide examples
   c. Extended time on assessments when needed.
   d. Establish a non-verbal cue to redirect student when not on task.
   e. Students may use a bilingual dictionary.

English Language Development Standard 3: Language of Mathematics: English language learners communicate information, ideas and concepts necessary for academic success in the content area of mathematics.

2. Special Education/504 Students.
   a. Extended time on assessments when needed.
   b. Preferred seating to be determined by student and teacher.
   c. Provide modified assessments when necessary.
   d. Student may complete assessments in alternate setting when requested.
   e. Establish a non-verbal cue to redirect student when not on task.
   f. Maintain strong teacher / parent communication.
   g. Conversion chart

New Jersey Student Learning Standards - Technology

8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

   A. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations

B. Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.

C. Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning.

E: Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.

F: Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

*See Guide for Technology Integration.

Career Readiness Practices

- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- 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.