A-G Courses Manager

Integrated Math 3 - CPM

Alameda City Unified School District

⚠ Forwarded awaiting submission

asic Course Information

hool(s) Offering This Course:

School Name	Course Learning Environment	Transcript Code(s)	Local Course Code(s)
lameda High School (050005)	Classroom Based	Int Math 3	
ncinal High School (050015)	Classroom Based	Int Math 3	
lameda Science and Technology Institute 050029)	Classroom Based	Int Math 3	

Title: Integrated Math 3 - CPM

Length of course: Full Year

Subject area: Mathematics (C) / Mathematics III

UC honors designation? No

Prerequisites: C or higher in Integrated 2 (Required)

Co-requisites: None

Integrated (Academics / CTE)? No

Grade levels: 9th, 10th, 12th

ourse Description

ourse overview:

Integrated Math 3 is the third of a three-year sequence of rigorous college preparatory mathematics courses. This course builds upon the mathematics students learned in earlier grades and continues the development of concepts in Algebra, Geometry, Functions, and Statistics. It aims to apply and extend what students have learned in previous courses by focusing on finding connections between multiple representations of functions, transformations of different function families, finding zeros of polynomials and connecting them to graphs and equations of polynomials, modeling periodic phenomena with trigonometry, and understanding the role of randomness and the normal distribution in making statistical conclusions.

The course is balanced between procedural fluency (algorithms and basic skills), deep conceptual understanding, strategic competence (problem solving), and adaptive reasoning (extension and transference). The lessons in the course meet all of the content standards of Appendix A of the *Common Core State Standards for Mathematics*. The course embeds the CCSS Standards for Mathematical Practice as an integral part of the lessons in the course.

Key concepts addressed in this course include:

- Visualize, express, interpret, describe, and graph functions (and their inverses, in many cases). Given a graph, students will be able to represent the function with an equation, and vice-versa, and transform the graph, including the following function families:
  - absolute value
  - exponential
  - linear
  - logarithmic
  - piecewise-defined
  - polynomial
  - quadratic

    - square root
    - trigonometric

- Use of variables and functions to represent relationships given in tables, graphs, situations, and geometric diagrams, and recognize the connections among these multiple representations.
- Application of multiple algebraic representations to model and solve problems presented as real world situations or simulations.
- Solving linear or quadratic equations in one variable, systems of equations in two variables, and linear systems of equations in three or more variables.
- Use of algebra to rewrite complicated algebraic expressions and equations in more useful forms.
- Rewriting rational expressions and arithmetic operations on polynomials.
- The relationship between zeros and factors of polynomials.
- Operations with complex numbers, and solving quadratics with complex solutions.
- Applications of the Law of Sines and Law of Cosines.
- Modeling periodic phenomena with trigonometric functions.
- Calculating the sums of arithmetic and geometric series, including infinite geometric series.
- Concepts of randomness and bias in survey design and interpretation of the results.
- Use of a normal distribution to model outcomes and to make inferences as appropriate.

- Use of computers to simulate and determine complex probabilities.
- Use of margin of error and sample-to-sample variability to evaluate statistical decisions.
- Solving trigonometric equations and proving trigonometric identities.
- Understand logarithms and their inverse relationship with exponentials.
- Use logarithms to solve exponential equations.

Extensive use of models/real-world situations, manipulatives, graphs, and diagrams will help students see the connections between different topics which will promote students' view that mathematics is a set of related topics as opposed to a set of discrete topics. In addition, students will learn to solve problems graphically, numerically, algebraically, and verbally and make connections between these representations. Students in this course will learn to use mathematical models to understand real world events and situations, and use algebraic reasoning to manipulate these models for deeper learning.

On a daily basis, students in Integrated Math 3 use problem-solving strategies, questioning, investigating, analyzing critically, gathering and constructing evidence, and communicating rigorous arguments justifying their thinking. Under teacher guidance, students learn in collaboration with others while sharing information, expertise, and ideas.

There will be various assessments in Integrated Math 3. There will be 1-3 small formal formative assessments throughout each unit. There will also be a team practice test before a cumulative summative individual test for each unit. Each semester will culminate with a comprehensive final exam.

ɔurse content:

UNIT 1: Investigations and Functions

In Unit 1 students will be introduced to exploring functions on Desmos. Students will be exploring team roles, collaboration and the importance of learning math with others. They will also be encouraged to persevere in problem-based learning. There will be multiple representations of organization techniques of mathematical concepts and moving towards the development of theorems and proofs.

Mathematically students will begin with learning how to use graphing utilities to create multiple representations of a function and review how to fully describe the graph of a function using precise mathematical language. Students will be introduced to the way a parent function defines a family of functions and explore the results of combining linear functions.

Students will learn to:

- **Evaluate f(x) when given x, and solve for x when given a value for f(x)**
- **Sketch graphs of functions and completely describe the graphs**

- **Incorporate different models of a situation (equation, graph, and table)**
- **Model a geometric relationship**

Unit Assignment(s):

Representative Assignment: Students will use Desmos to graph and fully describe a square root function given an equation. The descriptions will include shape, symmetry, opening up or down, asymptotes, increasing/decreasing, x/y-intercepts, domain/range, endpoints, max/min, continuous/discrete, and whether it is a function. Students will create a table, draw the graph, describe it, and present their function to the class. There will be a discussion of similarities and differences so that students can begin to make conjectures about what changes in the equation create changes to the graphs.

- Daily Classwork/ Homework using the review and preview at the end of each day's assignment
- 2-3 formal formative assessments throughout the unit
- Team Assessment (To encourage collaboration, explore more demanding problems and review for the individual assessment)
- Individual Cumulative Assessment

UNIT 2: Transformations of Parent Graphs

In Unit 2, students will review how to shift, stretch, compress, and reflect the graph of f(x)= x^2. Students will write an equation in graphing form for the family of quadratic functions. Students will also apply concepts of transformation to other parent functions, and will learn that transforming each parent function creates a family of functions. Students will write an equation in graphing form for a family of functions. Students will learn how the graphing form of a function allows you to determine the transformations needed to graph the function. Students will review a method for rewriting a quadratic equation in standard form into graphing form, both for parabolas and circles.

Students will learn to:

- **Graph a parabola by identifying intercepts and vertex**
- **Model and solve everyday problems using quadratic functions**
- **Write equations of transformed functions**
- **Distinguish between odd or even functions**
- **Calculate the average rate of change**

- Rewriting the equation of a parabola or circle from standard form into graphing form.

Unit Assignment(s):

Students will review how to shift, stretch, compress, and reflect the graph of $f(x)= x^2$. They will write an equation in graphing form for the family of quadratic functions. Students will use Desmos to graph several quadratics in the form $y= a(x - h)^2 +$ They will need to investigate and decide what parameters make the graph of $f(x)= x^2$ translate left, translate right, translate up, translate down, stretch vertically, compress vertically, and reflect across the x-axis.

Students will be given a situation in which a rabbit is jumping over a 3-ft fence, with a horizontal jumping distance of 8 ft. They will be told "The jackrabbit is jumping along and encounters a brick wall that is 2.5 feet high and 1 foot wide," and students decide if the rabbit can clear the wall. If so, they will need to say how close to or far away from the wall should the jackrabbit be when he jumps? They will need to draw and create their own model of situation and use it to justify their answer.

Students will determine how they can translate a graph of any function left, right, up, and down; how you can stretch or compress it vertically; and how you can reflect it over the x- They will work in groups, and each member will investigate one of the following parent functions: They will first need to graph the parent functions then compare the graphs as a group to determine the domain and range and if the function has any asymptotes. Then they will use Desmos to apply how to transform quadratics to see if those same transformations apply to other functions. They will then summarize their findings and write the graphing form of each function investigated.

- Daily Classwork/ Homework (Unit 2 will require students to complete 10 assignments using the review and preview at the end of each day's assignment)
- 2-3 formal formative assessments throughout the unit
- Team Assessment (To encourage collaboration, explore more demanding problems and review for the individual assessment)
- Individual Cumulative Assessment

UNIT 3: Solving and Inequalities

In Unit 3, students will write and solve equations and systems of equations. Students will develop algebraic and graphical methods for solving and gain a broader understanding of the meaning of solutions, and transform one representation into another. Students will learn multiple ways to determine and represent solutions and understand that some equations or systems have no solution or extraneous solutions. Students will extend their understanding of solving and solutions to inequalities and systems of inequalities.

Students will learn to:

- Solve a variety of equations and inequalities including equations with extraneous solutions.
- Solve systems of equations algebraically or graphically.
- Write equations and inequalities

Unit Assignment(s):

Students will solve the equation $(x+3)^2 - 5 = 4$ by graphing, undoing, looking inside, and rewriting. There will be a discussion with their group weighing the pros and cons of each method. Afterward, students will be asked to solve a wide array of equations by the method they think is best. They will justify why they chose that method, and share what methods they tried to do first but changed their mind (and why) as they worked through the equation.

Students will apply systems of equations to answer questions and create mathematical models to answer questions. For example, they will determine the height of a student after he was hit with two object simultaneously, after they took different flight paths described. They will also be given two different job options with differing pay descriptions, one growing linearly and one exponentially, and students need to model the description to determine which job offer is best.

Students will be introduced to linear programming as an application of systems of inequalities to decide how many of each type of toy a company should make. They will be given a written description of the constraints on the materials it takes to build the toys and the profit of each toy. They will need to write the system of inequalities to model the constraints, find the intersection of the inequalities, and then write a production recommendation to the company.

- **Daily Classwork/ Homework (Unit 3 will require students to complete 11 assignments using the review and preview at the end of each day's assignment)**
- **2-3 formal formative assessments throughout the unit**
- **Team Assessment (To encourage collaboration, explore more demanding problems and review for the individual assessment)**
- **Individual Cumulative Assessment**

UNIT 4: Normal Distribution and Geometric Modeling

In Unit 4 students create surveys and learn how to avoid bias in creating survey questions. Students will learn the importance of randomness in observational studies. Students will perform an experiment with observational studies such as opinion surveys. They learn why randomness is a cornerstone of statistical studies and how to create histograms with percentages using relative frequency histograms. They will also learn how to describe the shape of a normal distribution and use it to model certain distributions. Students will use the model to calculate the proportion of the sample (or population) with certain characteristics.

At the end of the unit, students revisit geometric relationships, visualizing the cross-sections of different objects, and exploring where different two-dimensional shapes occur within three dimensional figures. Students will also explore the three-dimensional shapes that occur when two-dimensional objects are revolved about an axis. Finally, students will use geometric modeling to solve problems.

Students will learn to:

- **Create a survey, avoid bias in creating survey questions, and know the importance of randomness in observational studies.**
- **Perform an experiment and contrast other experiments with observational studies such as opinion surveys and know the importance of randomness for experiments.**
- **Construct relative frequency histograms, model the relative frequency histogram with a normal distribution, and use the model to find the proportion of the sample (or population) with certain characteristics.**
- **Visualize the cross-sections of different objects, explore where different two-dimensional shapes occur within three-dimensional figure, explore the three-dimensional shapes that occur when two-dimensional objects are revolved about an axis, and use geometric modeling to solve problems.**

Unit Assignment(s):

Students will learn about different types of bias that are created in the questioning for a survey. They will develop their own topic they wish to answer a question about. They will then create a survey to gather data to answer the question. They will need to consider how to conduct the survey, decide if a population or sample is more appropriate, and write their survey questions to avoid bias. Students will trade survey questions with one another and critique the survey questions, providing feedback and suggestions on how to make them less bias.

Students will construct relative frequency histograms to determine the number of each size of hats and shirts to buy for the participants in a marathon. They are given a data on a sample of runners who have registered. Students will use technology to build a histogram and change it to a relative frequency histogram. They will use this data to determine how many of each size to order given that the marathon coordinator anticipates approximately 5,000 runners.

Students will practice visualizing and drawing cross-sections and cuts needed to produce certain shapes as the cross-section. They will start with shapes they have probably seen cut such as the cross-section of an apple, tree trunk, etc. Then, they will be given a cube and they will need to figure out where the cut needs to go to produce a cross-section that is a square, rectangle, triangle, and hexagon.

- Daily Classwork/ Homework (Unit 4 will require students to complete 9 assignments using the review and preview at the end of each day's assignment)
- 2-3 formal formative assessments throughout the unit
- Team Assessment (To encourage collaboration, explore more demanding problems and review for the individual assessment)
- Individual Cumulative Assessment

UNIT 5: Inverses and Logarithms

In this unit students investigate some new functions that "undo" each other. They will learn about inverse relationships and investigate the relationships between functions and their inverses. They will also determine the inverses of many parent graphs and add them to the tools they have for working with parent graphs. Students will use their knowledge of an inverse function to determine inverses for exponential functions (logarithms). They will then investigate the logarithm family of functions and transform its graphs.

Students will learn to:

- Examine inverse relationships to undo function operations
- Investigate multiple representations of inverse functions.
- Compose functions and compose functions with their inverses.
- Find the inverse of an exponential function (logarithms).
- Investigate logarithmic functions to transform their graphs.

Unit Assignment(s):

Students will use their understanding of reversing a process and undoing to write the inverse of functions. They will start with needing to guess a number. They will be told a description such as *"When I add 4 to my number and then multiply the sum by 10, I get –70. What is my number?*" They will need to determine the number and explain their reasoning as to how they figured it out. They will then apply this idea to function machines. Instead of being given the input, they will be given

the output and the function that defines the machine. They will then work backward to figure out the input value. After this, they will build new inverse function machines. They will stack the function and inverse function machines to make the connection that with inverses, the inputs and outputs switch and that an inverse function undoes the original function.

Students develop the log function by creating the inverse of an exponential function. They will graph an exponential function and apply what they previously learned about inverses to create an inverse graph. They will use function machines as well to figure out inputs given the outputs of exponential functions. They will then be introduced to logarithms and use the idea that logs are inverses of exponential functions to evaluate logarithms.

- Daily Classwork/ Homework (Unit 5 will require students to complete 8 assignments using the review and preview at the end of each day's assignment)
- 2-3 formal formative assessments throughout the unit
- Team Assessment (To encourage collaboration, explore more demanding problems and review for the individual assessment)
- Individual Cumulative Assessment

Unit 6: Simulating Sampling Variability

In Unit 6 students will perform simulations to determine complex probabilities and to explore sample-to-sample variability. They will use the variability to put a margin of error on characteristics predicted about a population. Students will use what they know about sample-to-sample variability and margin of error to conduct a statistical hypothesis test and observe the effect of sample size on sample-to-sample variability. Students will then use a hypothesis test to determine whether two results in an experiment are truly different. They will learn how statistics are use in both quality control and process control in manufacturing. Lastly students will evaluate decisions and strategies based on area models of probability. Students will use probability to solve problems whose solutions are counterintuitive.

Unit Assignment(s):

Mr. Smith takes great pride in his difficult final exam, which has 60 multiple choice questions with four possible answers for each question. He tells his students they should study because last year the mean score was 15 correct, but students who score 20 or more correct will earn an A. Jose wants to investigate and runs a simulation for 100 students guessing blindly for each question. Students given a table with the amount correct for the 100 simulated students need to determine if guessing blindly will produce a better or worse result than the class last year.

- Daily Classwork/ Homework (Unit 5 will require students to complete 8 assignments using the review and preview at the end of each day's assignment)
- 2-3 formal formative assessments throughout the unit
- Team Assessment (To encourage collaboration, explore more demanding problems and review for the individual assessment)
- Individual Cumulative Assessment

UNIT 7: Logarithms and Triangles

Overview:

Unit 7 furthers student understanding of logarithms. They look for patterns to develop the properties of logarithms. Students will then construct exponential functions to model situations and use logarithms to solve problems with exponential applications. Students will also expand their knowledge of triangle tools to include solving for the sides and the angles of non-right triangles.

Students will learn to:

- Develop and use important properties of logarithms.
- Use their knowledge of exponential functions, inverses, and logarithms to solve exponential application problems.
- Solve for side lengths and angle measures in triangles given different types of information about a triangle.
- Develop tools to calculate missing side lengths and angle measures in any triangle.

Unit Assignment(s):

Students solve a murder case by modeling the body temperature of a corpse given a few pieces of information. They work backward and solve the equation they create to model the body temperature to calculate the time of death. This will incorporate the use of solving exponential equations by using logarithms. They will then cross reference the "sign in sheet" of all visitors to conclude the murderer. They will need to write a report explaining their investigation and why they are confident in who is the killer.

Students will be given various right, acute, and obtuse triangles, each with some information given and some information missing. They will work in groups to determine all missing sides and angles by either cutting the triangles into right triangles or directly applying trig ratios to solve for the missing parts. For triangles that are deemed "impossible" to solve, they will need to state why. This assignment sets up the foundation for the development of Law of Sines and Law of Cosines. The same triangles will be referenced to summarize students' work to develop the Law of Sines and Law of Cosines formulas.

- Daily Classwork/ Homework (Unit 6 will require students to complete 13 assignments using the review and preview at the end of each day's assignment)
- 2-3 formal formative assessments throughout the unit
- Team Assessment (To encourage collaboration, explore more demanding problems and review for the individual assessment)
- Individual Cumulative Assessment

UNIT 8: Polynomials

Unit 8 will apply students' knowledge of families of functions to include polynomial functions. They investigate the equation to graph connection for polynomials, and learn how to write factors of polynomials, and write equations from graphs. Students will further explore the complex number system, their properties, and how they are used to represent solutions when polynomial graphs do not intersect the x-axis. Students will also learn how to divide polynomials, connecting to area models and factoring, to find additional factors. Students investigate systems of polynomials and learn to model situations using polynomials.

Students will learn to:

- Investigate polynomial functions.

- Sketch their graphs without using a graphing calculator.
- Write equations of polynomials from graphs
- Use imaginary and complex numbers and their properties (included conjugates).
- Use complex numbers to represent solutions when graphs do not intersect.
- Divide polynomial expressions by applying knowledge of area models and factoring.
- Use polynomial division as a tool in writing polynomials in factored form.
- Identify special cases of factoring.

Unit Assignment(s):

Students will develop connections between the factors, x-intercepts, and behavior of polynomial graphs at the x-intercepts by investigating a section of a roller coaster. They will first investigate more simple polynomials in factored form. The information they collect by graphing more basic polynomials will help them write the equation of the roller coaster. They will then fully describe the polynomial graph.

Students will use an area model similar to what was used to factor quadratics in order to divide polynomials and find all roots. They will be given a polynomial in standard form and one of the roots of the polynomial. They will then try to determine the other roots of the polynomial by factoring the polynomial down to at least quadratic factors and applying the zero product property or quadratic formula. They will use the roots to sketch the graphs of polynomials that are written in standard form.

- Daily Classwork/ Homework (Unit 7 will require students to complete 10 assignments using the review and preview at the end of each day's assignment)
- 1-2 formal formative assessments throughout the unit
- Team Assessment (To encourage collaboration, explore more demanding problems and review for the individual assessment)
- Individual Cumulative Assessment

UNIT 9: Trigonometric Functions

Unit 9 begins with an investigation that will generate a sine and cosine curve. Students will then explore the relationship between right-triangle trigonometry and this new curve and discover the relationships between the unit circle and the graphs of these functions. Students will also learn how to use radians instead of degrees to describe angle measures.

Students transform trigonometric functions and write general equations for them. They will learn about the period and amplitude of periodic functions. Then, they will write equations for the curves that were generated in the investigation at the beginning of the chapter.

Students will learn to:

- Use their understanding of the trigonometric ratios in right triangles to build an understanding of sine and cosine functions.
- Recognize and create multiple representations of the functions $y = \sin(\theta)$ and $y = \cos(\theta)$.
- Discover relationships between the unit circle and the graphs of these functions.
- Measure angles using radians.
- Apply their skill of transforming parent graphs to graph a function family whose parent function is $y = \sin(x)$.

- Develop general equations for trigonometric functions.
- Use periods and amplitude to describe a periodic function

Unit Assignment(s):

Students will apply the concept of a Ferris Wheel that rotates and goes below ground to develop an understanding of the unit circle. They will be given their angle of rotation about the wheel and be tasked with determining the height they are sitting above/below the ground. They will use the sine ratio to determine this calculation. They will also determine where others are positioned to be seated the same distance above/below ground. They will use this concept to establish the sine function as the y-coordinate of the points on the unit circle. They will then construct the graph by calculating various heights above/below ground as they rotate around the Ferris Wheel. A similar assignment will be done to connect the x-coordinates of the unit circle to the cosine function.

Students will brainstorm what they remember of special right triangles and determine how those right triangles apply to the unit circle. They will use the special right triangles to determine coordinates of points rotated by multiples of 30 or 45 degrees about the circle. They will then use the coordinates to determine sine and cosine values of a certain angle measure without using calculators.

- Daily Classwork/ Homework (Unit 8 will require students to complete 9 assignments using the review and preview at the end of each day's assignment)
- 1-2 formal formative assessments throughout the unit
- Team Assessment (To encourage collaboration, explore more demanding problems and review for the individual assessment)
- Individual Cumulative Assessment

UNIT 10: Series

Unit 10 has students revisit and add to what they already know about arithmetic and geometric sequences. They will use what you know about sequences and multiple representations to write series and determine their sums for defined and infinite series. Students will learn about Pascal's Triangle and they will connect it to their knowledge of combinations to develop the Binomial Theorem, which can be used to expand binomials such as and to solve probability problems.

Students will learn to:

- Revisit arithmetic sequences to learn about arithmetic series
- Devise methods for determining sums of series.
- Recognize the difference between a series and a sum.
- Prove by induction.
- Revisit geometric sequences to learn about geometric series and their sums.
- Determine sums of finite and infinite geometric series.
- Construct Pascal's Triangle
- Develop the Binomial Theorem

Unit Assignment(s):

Students will be introduced to arithmetic series by determining how much their uncle has saved for their college education. They will be presented with the situation that when they were one month old their uncle had put $50 into a safe deposit box and the month following he had added $53. He continued adding money like this, each month putting in $3 more than he had the previous month. They will then determine how much money they have for college on their 18^{th} birthday. They will first make guesses at how much of their college expenses will be covered. (Will it just be enough for the first year? Just books? Etc.). They will justify their hypothesis and then determine if they were correct. They will write functions to model how much their uncle will deposit on the nth month and construct a way to determine the total.

Students will be introduced to geometric series by deciding the best way to choose their lottery winnings: a lump sum or pay out over time with interest. They will write functions to model the geometric sequences that describes the amount they get after n years. Then they will try to figure out a how to apply a method similar to Euler's method for arithmetic series in order to determine the sum of the geometric series described. Similar to their investigation of arithmetic series, there will be a class debate about which method is better before any investigation begins. Then, students will report back on any surprises they came across and where their thinking was off when they were first making their hypothesis.

- Daily Classwork/ Homework (Unit 9 will require students to complete 11 assignments using the review and preview at the end of each day's assignment)
- 2-3 formal formative assessments throughout the unit
- Team Assessment (To encourage collaboration, explore more demanding problems and review for the individual assessment)
- Individual Cumulative Assessment

UNIT 11: Rational Expressions and Three Variable Systems

Unit 10 focuses on learning how to combine rational expressions and expressions with exponents. By using the special properties of the number 1 and the meaning of exponent, students will be rewrite expressions in simpler forms. Students will then use their understanding of fractions to multiply, divide, add, and subtract rational expressions. In the second part of Unit 11, students will expand their understanding of graphing equations and systems of equations to three variables. They will broaden their understanding of solutions to include solutions to systems in three variables.

Students will learn to:

- Rewrite and simplify rational expressions.
- Add, subtract, multiply, and divide rational expressions.
- Graph points, equations, and systems of equations in three variables.
- Solve three-variable systems of equations.
- Use systems of three equations in three variables to solve problems, including writing the equation of a parabola passing through three points.

Assignments:

- Daily Classwork/ Homework (Unit 10 will require students to complete 10 assignments using the review and preview at the end of each day's assignment)
- 2-3 formal formative assessments throughout the unit
- Team Assessment (To encourage collaboration, explore more demanding problems and review for the individual assessment)

Individual Cumulative Assessment

Unit Assignment(s):

- **Students will use the concept of the number 1 to simplify rational expressions by finding values of 1 within the fraction. They will extend this idea into multiplying and dividing rational expressions. This will include factoring numerators and denominators before or after multiplying and dividing. This work will be done as groups using a red light green light teaching strategy so that students cannot move on until they have shown they understand the problem they are presented with and everyone in the group can answer questions about the process.**
- **Students will read situations that relate 3 different items. They will write a 3 variable system of equations to model each situation. They will then solve the system using substitution or elimination. They will discuss as a group which method would be best based on the set up of the equations. They will then answer the question in a complete sentence with work shown.**

Unit 12: Analytic Trigonometry

In Unit 12 students will solve trigonometric equations, and learn about inverse and reciprocal trigonometric functions. They will understand solutions to trigonometric equations in multiple representations: algebraically, from the graphs of the functions, and based on the unit circle. Students will identify trigonometric identities (statements that are always true). These identities will allow students to rewrite trigonometric equations, which will enable them to solve a broader range of equations.

Unit Assignment(s):

Example: Solve each of the following equations in the domain $0 \le x \le 2\pi$.

1. $2\cos(x)=1$
2. $4\tan(x)+4=0$
3. $2\sin 2(x)-\sin(x)-1=0$
4. $\csc(x)=-2$

Students will use their knowledge of trigonometric functions to solve the above equations. Their solutions should be in radians and each equation has two solutions with part c having three solutions.

- **Daily Classwork/ Homework (Unit 7 will require students to complete 10 assignments using the review and preview at the end of each day's assignment)**
- **1-2 formal formative assessments throughout the unit**
- **Team Assessment (To encourage collaboration, explore more demanding problems and review for the individual assessment)**

- Individual Cumulative Assessment

ourse Materials

Textbooks

itle	Author	Publisher	Edition	Website	Primary
ore Conections Integrated III	Dietlker, Kysh, Sallee, Hoey	CPM	1/2016	www.cpm.org	Yes

dditional Information

urse Author:

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