Topic	Lesson	Objective1	Objective2	Objective3	Objective4	Objective5
Equations and Inequalities						
	Graphing Linear Equations	Graph linear equations.	Find the x- and y-intercepts of a line.	Find the slope of a line through two points.	Find zeros of linear functions.	
	Writing Linear Equations	Write linear equations.				
	Writing Equations of Parallel and Perpendicular Lines	Write equations of parallel and perpendicular lines.				
	Solving Equations Graphically	Solve equations using the intersect method.	Solve equations using the x-intercept method.			
	Solving Quadratic Equations Algebraically	Solve equations by: factoring, square root of both sides, completing the square, quadratic formula.	Solve equations in quadratic form.			
	Applications of Equations	Solve application problems.				
	Inequalities	Use interval notation.	Solve linear inequalities and compound linear inequalities.	Find exact solution of quadratic and factorable inequalities.		
	Graphing Linear Inequalities	Graph linear inequalities.				
Systems of Equations and Inequalities						
	Solving Systems of Equations in Two Variables	Solve systems of equations graphically.	Solve systems of equations algebraically.			
	Solving Systems of Equations in Three Variables	Solve systems of equations involving three variables algebraically.				

Topic	Lesson	Objective1	Objective2	Objective3	Objective4	Objective5
	Matrices	Represent systems of equations by augmented matrices.	Solve systems of equations by row reduction.	Solve systems by using a calculator to obtain reduced row echelon form matrices.	Solve applications by using matrices.	
	Matrix Operations	Add and subtract matrices.	Multiply a matrix by a scalar factor.	Multiply two matrices.	Use matrix multiplication to solve problems.	Use matrices to represent directed networks.
	Modeling Motion with Matrices	Use Matrices to determine the coordinates of polygons under a given transformation.				
	Determinants and Multiplicative Inverses of Matrices	Evaluate determinants.	Find inverses of matrices.	Solve systems of equations by using inverse of matrices.		
	Solving Systems of Linear Inequalities	Graph systems of inequalities.	Find the maximum or minimum value of a function defined for a polygonal convex set.			
	Linear Programming	Use linear programming procedures to solve applications.	Recognize situations where exactly one solution to a linear programming application may not exist.			
Functions and Graphs						
	Functions and Their Properties	Represent functions numerically.	Represent functions algebraically.	Represent functions graphically.	Determine range and domain of functions.	Analyze function characteristics.
	Operations with Functions	Perform operations with functions.	Find composite functions.	Iterate functions using real numbers.		

Topic	Lesson	Objective1	Objective2	Objective3	Objective4	Objective5
	Twelve Basic Functions	Recognize graphs of twelve basic functions, determine domains of functions related to the twelve basic functions and combine the twelve basic functions in various ways to create new functions.				
	Piecewise Functions	Identify and graph piecewise functions including greatest integer, step, and absolute value functions.				
	Graphs and Transformations	Define parent functions.	Transform graphs of parent functions.			
The Nature of Graphs						
	Symmetry and Coordinate Graphs	Use algebraic tests to determine whether the graph of a relation is symmetrical.	Classify functions as even or odd.			
	Families of Graphs	Identify transformations of simple graphs.	Sketch graphs of related functions.			
	Graphs of Nonlinear Inequalities	Graph polynomial, absolute value, and radical inequalities in two variables.	Solve absolute value inequalities.			
	Inverse Functions and Relations	Determine inverses of relations and functions.	Graph functions and their inverses.			

Topic	Lesson	Objective1	Objective2	Objective3	Objective4	Objective5
	Graphs of Rational Functions	Solve problems involving direct, inverse, and joint variations.				
	Direct, Inverse, and Joint Variation	Solve problems involving direct, inverse and joint variations.				
Polynomial and Rational Functions						
	Polynomial Division	Define a polynomial.	Divide polynomials.	Apply the Remainder Theorem, the Factor Theorem, and the connections between remainders and factors.	Determine the maximum number of zeros of a polynomial.	
	The Remainder and Factor Theorems	Determine the maximum number of zeros of a polynomial.	Identify connections between zeros, x-intercepts, solutions and factors of polynomials.			
	Fundamental Polynomial Connections	Find the factors of polynomials using the Remainder and Factor Theorems.				
	The Rational Root Theorem	Identify all possible rational roots of a polynomial equation by using the Rational Root Theorem.	Determine the number of positive and negative real roots a polynomial function has.			
	Locating Zeros of a Polynomial Function	Approximate the real zeros of a polynomial function.				

Topic	Lesson	Objective1	Objective2	Objective3	Objective4	Objective5
	Complex Numbers	Add, subtract, multiply, and divide complex numbers; and find complex zeros of quadratic functions.				
	Rational Equations and Partial Fractions	Solve rational equations and inequalities.	Decompose a fraction into partial fractions.			
	Radical Equations and Inequalities	Solve radical equations and inequalities.				
Exponential and Logarithms Functions						
	Properties of Exponents	Use the properties of exponents.	Evaluate and simplify expressions containing rational exponents.	Solve equations containing rational exponents.		
	Radicals and Rational Exponents	Define and apply rational and irrational exponents.	Simplify expressions containing radicals or rational exponents.			
	Exponential and Logistic Functions	Evaluate exponential expressions and identify and graph exponential and logistic functions.				
	The Number e	Use the exponential function $y = e^x$.				

Topic	Lesson	Objective1	Objective2	Objective3	Objective4	Objective5
	Logarithmic Functions and Their Graphs	Convert equations between logarithmic form and exponential form, evaluate common and natural logarithms, and graph common and natural logarithmic functions.				
	Properties and Laws of Logarithms	Use properties and laws of logarithms to simplify and evaluate expressions.				
	Solving Exponential and Logarithmic Equations	Solve exponential and logarithmic equations.	Solve a variety of application problems by using exponential and logarithmic equations.			
Trigonometric Functions						
	Angles and Degree Measure	Convert decimal degree measures to degrees, minutes, and seconds and vice versa.	Find the number of degrees in a given number or rotations.	Identify angles that are conterminal with a given angle.		
	Trigonometric Ratios in Right Triangles	Find the values of trigonometric ratios for acute angles of right triangles.				
	Angles and Radian Measure	Change from radian measure to degree measure, and vice versa.	Find the length of an arc given the measure of the central angle.	Find the area of a sector.		

Topic	Lesson	Objective1	Objective2	Objective3	Objective4	Objective5
	Trigonometric Functions on the Unit Circle	Find the values of six trigonometric functions using the unit circle.	Find the values of six trigonometric functions of an angle in standard position given a point on its terminal side.			
	Applying Trigonometric Functions	Use trigonometry to find the measures of the sides of right triangles.				
	Solving Right Triangles	Evaluate inverse trigonometric functions.	Find missing angle measurements.	Solve right triangles.		
Trigonometric Graphs						
	Graphs of Sine and Cosine: Sinusoids	Generate graphs of the sine and cosine functions and explore various transformations of these graphs.				
	Graphs of Tangent, Cotangent, Secant, and Cosecant	Lean tangent, cotangent, secant, and cosecant functions.				
	Graphs of Composite Trigonometric Functions	Graph sums, differences, and other combinations of trigonometric and algebraic functions.				

Topic	Lesson	Objective1	Objective2	Objective3	Objective4	Objective5
	Periodic Graphs and Amplitude	State the period and amplitude (if any) given the function rule or the graph of a sine, cosine, or tangent function.	Use the period and amplitude (if any) to sketch the graph of a sine, cosine, or tangent function.			
	Periodic Graphs and Phase Shifts	State the period, amplitude vertical shift, and phase shift given the function rule or graph of a sine or cosine function.	Use graphs to determine whether an equation could possibly be an identity.			
	Trigonometric Inverses and Their Graphs	Graph inverse trigonometric functions.	Find principal values of inverse trigonometric functions.			
Trigonometric Identities						
	The Law of Sines	Solve triangles by using the Law of Sines if the measures of two angles and a side are given.	Find the area of a triangle if the measures of two sides and the included angle or the measures of two angles and a side are given.			
	The Ambiguous Case for the Law of Sines	Determine whether a triangle has zero, one, or two solutions.	Solve triangles using the Law of Sines.			
	The Law of Cosines	Solve triangles by using the Law of Cosines.	Find the area of triangles if the measures of the three sides are given.			

Topic	Lesson	Objective1	Objective2	Objective3	Objective4	Objective5
	Basic Trigonometric Identities	Identify and use reciprocal identities, quotient identities, Pythagorean identities, symmetry identities, and opposite-angle identities.				
	Verifying Trigonometric Identities	Use the basic trigonometric identities to verify other identities.	Find numerical values of trigonometric functions.			
	Sum and Difference Identities	Use the sum and difference identities for the sine, cosine, and tangent functions.				
	Double-Angle and Half-Angle Identitites	Use the double- and half-angle identities for the sine, cosine, and tangent functions.				
	Solving Trigonometric Equations	Solve trigonometric equations and inequalities.				
	Normal Form of a Linear Equation	Write the standard form of a linear equation given the length of the normal and the angle it makes with the x-axis.	Write linear equations in normal form.			

Topic	Lesson	Objective1	Objective2	Objective3	Objective4	Objective5
	Distance from a Point to a Line	Find the distance from a point to a line.	Find the distance between two parallel lines.	Write equations of lines that bisect angles formed by intersecting lines.		
Vectors, Parametric Equations and Polar Equations						
	Geometric Vectors	Find equal, opposite, and parallel vectors.	Add and subtract vectors geometrically.			
	Algebraic Vectors	Find ordered pairs that represent vectors.	Add, subtract, multiply, and find the magnitude of vectors algebraically.			
	Dot Products of Vectors	Calculate dot products and projections of vectors.				
	Vectors in Three-Dimensional Space	Add and subtract vectors in three-dimensional space.	Find the magnitude of vectors in three-dimensional space.			
	Perpendicular Vectors	Find the inner and cross products of two vectors.	Determine whether two vectors are perpendicular.			
	Vectors and Parametric Equations	Write vector and parametric equations of lines.	Graph parametric equations.			
	Polar Coordinates	Convert points and equations from polar to rectangular coordinates and vice versa.				

Topic	Lesson	Objective1	Objective2	Objective3	Objective4	Objective5
	Graphs of Polar Equations	Graph polar equations and determine the maximum r-value and the symmetry of a graph.				
	De Moivre's Theorem and nth Roots	Represent complex numbers in trigonometric form and perform operations on them.				
Conics						
	Circles and Parabolas	Find the standard form equation, focus, and directrix of a parabola.				
	Ellipses	Define an ellipse.	Write the equation of an ellipse.	Identify important characteristics of ellipses.	Graph ellipses.	
	Hyperbolas	Define a hyperbola.	Write the equation of a hyperbola.	Identify important characteristics of hyperbolas.	Graph hyperbolas.	
	Classifications and Rotations of Conics	Write the equation of a translated conic.	Graph a translated conic.	Determine the shape of a translated conic without graphing.	Apply translated conics to real-world problems.	
	Polar Equations of Conics	Understand the general focus-directrix definition of a conic section and will be able to write equations of conic sections in polar form.				

Topic	Lesson	Objective1	Objective2	Objective3	Objective4	Objective5
	Three-Dimensional Cartesian Coordinate System	Draw three-dimensional figures and analyze vectors in space.				
Statistics and Probability						
	Basic Statistics	Identify data types.	Create displays of qualitative and quantitative data.	Describe the shape of a distribution.		
	Measures of Center and Spread	Calculate measures of center.	Calculate measures of spread.	Choose the most appropriate measure of center or spread.	Create and interpret a box plot.	
	Basic Probability	Define probability and use properties of probability.	Find the expected value of a random variable.	Use probability density functions to estimate probabilities.		
	Determining Probabilities	Estimate probability using experimental methods.	Estimate probability using theoretical methods.			
	Normal Distributions	Calculate the probability of a binomial experiment.				
Sequences and Series						
	Arithmetic Sequences and Series	Find the nth term and arithmetic means of an arithmetic sequence.	Find the sum of n terms of an arithmetic series.			
	Geometric Sequences and Series	Find the nth term and geometric means of a geometric sequence.	Find the sum of n terms of a geometric series.			
	Infinite Sequences and Series	Find the limit of the terms of an infinite sequence.	Find the sum of an infinite geometric series.			

Topic	Lesson	Objective1	Objective2	Objective3	Objective4	Objective5
	Convergent and Divergent Series	Determine whether a series is convergent or divergent.				
	Sigma Notation and the nth Term	Use sigma notation.				
	The Binomial Theorem	Use the Binomial Theorem to expand binomials.				
	Special Sequences and Series	Approximate e x, trigonometric values, and logarithms of negative numbers by using series.	Use Euler's Formula to write the exponential form of a complex number.			
	Sequences and Iteration	Iterate functions using real and complex numbers.				
	Mathematical Induction	Use mathematical induction to prove the validity of mathematical statements.				
Introduction to Calculus						
	Limits of Functions	Use the informal definition of limit.				
	Properties of Limits	Find the limit of the constant function the identity function.	Use the properties of limits.	Find the limit of polynomial functions rational functions.	Use the Limit Theorem.	
	Continuity	Define limits involving infinity.	Use properties of limits at infinity.	Use the Limit Theorem.		
	Limits Involving Infinity	Determine if a function is continuous at a point.	Determine if a function is continuous on an interval.	Apply properties of continuous functions.		

Topic	Lesson	Objective1	Objective2	Objective3	Objective4	Objective5
	Derivatives and Antiderivatives	Find derivatives and antiderivatives of polynomial functions.	Use derivatives and antiderivatives in applications.			
	Area Under a Curve	Find values of integrals of polynomial functions.	Find areas under graphs of polynomial functions.			
	The Fundamental Theorem of Calculus	Use the Fundamental Theorem of Calculus to evaluate definite integrals of polynomial functions.	Find indefinite integrals of polynomial functions.			