

**Open
Spreadsheet of
Goals**

Algebra I



Unit	Essential Standard #	Essential Standard Description	Proposed Goal
Unit 1 One Variable Statistics	S.ID.3	Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).	When given data sets in one variable, student will use statistics to interpret/explain/summarize differences in shape, center, and spread, by choosing appropriate measures of center and spread and accounting for outliers, increasing math calculation skills from correctly calculating measures of center and spread 0/5 times to correctly interpreting differences in shape, center, and spread x/5 times, as measured by student work samples, teacher observations and assessments.
Unit 2A Linear Equations and Inequalities	A.CED.A.2	Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.	When given a relationship between two or more quantities, student will create equations to represent the relationship and graph the equation on coordinate axis with labels and scales, increasing math skills from successfully creating equations 0/5 in opportunities to successfully creating and graphing equations x/5 times, as measured by student work samples, teacher observations and assessments.
Unit 2B Linear Systems	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.	When given a system of linear equations, student will solve the system of equations exactly (algebraically) and/or approximately (by graphing), increasing math calculation skills from successfully solving a system of equations in 0/5 opportunities to successfully solving a system of equations x/5 times, as measured by student work samples, teacher observations and assessments.
Unit 3 Two Variable Statistics		S.ID.B.5 Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.	When given categorical data for two categories in a two-way frequency table, student will find and interpret relative frequencies in the context of the data, (including joint, marginal, and conditional relative frequencies), and recognize possible associations and trends in the data, increasing math problem solving skills from successfully finding relative frequencies in 0/5 attempts to successfully finding and interpreting relative frequencies and finding trends in categorical data in x/5 attempts, as measured by student work samples, teacher observations and assessments.
Unit 3 Two Variable Statistics		S.ID.7 Interpret linear models. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.*	When given a linear model of data (scatterplot + line of best fit), student will interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data, increasing math problem solving skills from correctly interpreting a linear model in 0/5 opportunities to correctly interpreting a linear model in the context of the data x/5 times, as measured by student work samples, teacher observations and assessments.
Unit 5 Intro to Exponentials		F.LE.A.2 Construct linear and exponential functions given a graph, a description of a relationship, or two input-output pairs (including reading these from a table).	When given a graph, description of a relationship, or a table of input-output pairs, student will construct a linear or exponential function, increasing math calculation skills from successfully constructing linear/exponential functions in 0/5 opportunities to successfully constructing linear/exponential functions in x/5 opportunities, as measured by student work samples, teacher observations and assessments.
Unit 6 / 7 Quadratic		F.IF.7a Graph linear and quadratic functions and show intercepts, maxima, and minima.*	When given a quadratic function, student will precisely graph the function, being sure to include all intercepts and the minimum/maximum, increasing math calculation skills from accurately graphing a quadratic function 0/4 as measured by student work samples, teacher observations and assessments.
Unit 6 / 7 Quadratic		A.REI.4b Solve quadratic by inspection taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation.	When given a quadratic equation, student will solve the equation using an appropriate method (taking square roots, completing the square, using the quadratic formula, or factoring), increasing math problem solving skills from correctly solving a quadratic equation given 0/5 opportunities to correctly solving a quadratic equation using appropriate methods x/5 times, as measured by student work samples, teacher observations and assessments.

Unit	Essential Standard #	Essential Standard Description	Proposed Goal
Unit 1A Constructions	HSG-CO.D.12&13	Make formal geometric constructions with a variety of tools and methods (compass and straightedge, ..., dynamic geometric software, etc.). <i>Constructions include: copy a segment, copy an angle, bisect an angle, bisect a segment, construct a perpendicular line [given a line and a point on/off the line], construct a line parallel to a given a line through a point, construct an equilateral triangle, construct a square, construct a hexagon.</i>	When given step-by-step directions, student will make formal geometric constructions on their own using various tools and methods (compass and straightedge, dynamic geometric software, etc.), improving geometric skills from following directions to make a construction in 0/10 opportunities to independently making constructions in X/10 opportunities, as measured by student work samples and assessments.
Unit 1B Transformations	HSG-CO.A.5	Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g. graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.	When given a geometric figure and a rotation, reflection or translation, student will draw the transformed figure using graph/tracing paper or geometry software, improving geometric skills from 0/5 opportunities to X/5 opportunities as measured by teacher observation, student work samples and assessments.
Unit 1C and Unit 2 Congruence and Proof	HSG-CO.B.8	Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.	When given a pair of triangles student will identify and prove triangle congruence (ASA, SAS, or SSS), improving geometric problem solving from identifying and providing triangle congruence in 0/5 opportunities to identifying and providing triangle congruence x/5 opportunities as measured by teacher observation, student work samples and assessments.
Unit 3 Dilations and Similarity	HSG-SRT.A.2	Understand similarity in terms of similarity transformations. Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.	When given a geometric figure and scale factor, student will use given information and the definition of similarity to create a similar figure and prove the two figures are similar, improving geometric problem solving from creating dilations and showing similarity in 0/5 opportunities to creating dilations and showing similarity x/5 opportunities as measured by teacher observation, student work samples and assessments.
Unit 4 Trig	HSG-SRT.C.6	Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.	When given side ratios and/or angles in a right triangle, student will use their knowledge of similarity and trigonometric ratios to calculate the missing side lengths of the triangle, improving math calculation skills from X/5 successfull opportunities to X/5 successfull opportunities as measured by teacher obeservation, student work samples, and assessments.
Unit 4 Trig	HSG-SRT.C.8	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. (Modeling)	When given a situation (e.g. finding the height of a tree using the length of its shadow), student will use their knowledge of similarity and trigonometry to create a model of the situation, and use their model to correctly solve the problem, improving geometric problem solving skills from X/5 successful opportunities to X/5 successful opportunities as measured by teacher obeservation, student work samples, and assessments.
Unit 5 Solid Geometry	HSG-GMD.A.	Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. (Modeling)	When given a situation involving 3D objects (cylinders, pyramids, cones, and spheres), students will create a model of the situation and use the volume formulas to correctly solve for volumes, side lengths, etc to solve, improving problem solving / calculation skills from X/5 successful attempts to X/5 successful attempts.

Geometry Goals

Unit	Essential Standard #	Essential Standard Description	Proposed Goal
Unit 1 Sequences & Functions	F.BF.A.2 and F.LE.A.2	F.BF.A.2 Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms. F.LE.A.2 Construct arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).	when given a situation the student will use recursive and explicit formulae to solve geometric and arithmetic sequences improving math calculation or problem solving from correctly using recursive and explicit formulae in 0/5 opportunities to correctly using recursive and explicit formulae in X/5 opportunities as measured by teacher observation, student work samples and assessments.
Unit 2A Polynomials	A.APR.A.1	Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, multiplication; add, subtract, and multiply polynomials.	when given two polynomials, the student will demonstrate understanding of the idea that if they add/subtract/multiply polynomials, they will get another polynomial, improving algebraic calculation skills from correctly adding, subtracting, or multiplying polynomials in 0/5 opportunities to correctly adding, subtracting, or multiplying polynomials in X/5 opportunities as measured by student work samples, teacher observations and assessments.
Unit 2A Polynomials	A.APR.B3	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.	when given a polynomial, student will compare and contrast end behaviors and use zeros and multiplicities to sketch a graph of the polynomials, improving math calculation skills from correctly identifying end behaviors in 0/5 opportunities to correctly sketching a graphing including end behaviors, zeros and multiplicities in X/5 opportunities as measured by student work samples, teacher observations and assessments.
Unit 2B Rational Functions	F.IF.B.4	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. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*	when given the graph of a polynomial function that models a situation the student will identify and interpret the meaning of key features in the context of the situation (including intercepts, intervals of increasing improving math calculation skills from correctly identifying key features of the graph 0/5 opportunities to correctly identifying and interpreting key features in the context of the situation X/5 opportunities. as measured by student work samples, teacher observation and assessments.
Unit 3 Complex Numbers and Rational Exponents	A.REI.A.2	Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.	when given a rational or radical equation with one variable, the student will solve the equation and explain how extraneous solutions may arise, improving math problem solving skills from correctly solving rational or radical equations in 0/5 opportunities to correctly solving rational or radical equations and explaining potential extraneous solutions in X/5 opportunities as measured by student work samples, teacher observation and assessments.
Unit 3 Complex Numbers and Rational Exponents	N.CN.A.2	Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.	when given complex (imaginary) numbers, the student will use the relation $i^2 = -1$ and the commutative/associative/distributive properties to add/subtract/multiply complex numbers, improving math calculation skills from correctly adding/subtracting/multiplying complex numbers 0/5 opportunities to correctly adding/subtracting/multiplying complex numbers X/5 opportunities as measured by student work samples, teacher observation and assessments.
Unit 4 Exponential Functions & Equations	?		
Unit 4 Exponential Functions & Equations	?		
Unit 4 Exponential Functions & Equations	?		
Unit 4 Exponential Functions & Equations	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.	When given an exponential model in the form $ab^{(ct)}=d$, students will solve for a given variable (using a logarithm, technology, or another method) and interpret the solution in the context of the situation, improving math problem solving skills from successfully solving 0/5 exponential equations, to successfully solving x/5 exponential equations and interpreting the solutions with the context of the problem as measured by student work samples, teacher observations and assessments.
Unit 5: Transformations of Functions	HSF-BF.B.3	Identify the effect on the graph of replacing $f(x)$ by $f(x)+k$, $kf(x)$, $f(kx)$, 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.	When given the function $f(x)$ or its graph, students will identify and illustrate the effect on the graph when transforming the function to $f(x)+k$, $kf(x)$, $f(kx)$, and $f(x+k)$ with a sketch or using technology, improving math calculation skills from correctly identifying the function transformation in 0/5 opportunities, to correctly identifying and illustrating the function transformation in x/5 opportunities as measured by student work samples, teacher observations and assessments.