A POSSIBLE "TRADITIONAL" PATHWAY *(to be included in the CA Framework)*

Geometry Algebra 1 & Algebra 2	"Algebra 1" (focus is on linear, quadratic, and exponential functions)	"Geometry"	"Algebra 2" (focus is on higher degree polynomial, simple rational, logarithmic, and sinusoidal functions)
Number & Quantity:	• Extend properties of exponents to rational exponents • Use properties of rational & irrational numbers • Reason quantitatively & use units to solve problems		• Perform arithmetic operations with complex numbers • Use complex numbers in polynomial identities & equations
Algebra:	• Interpret the structure of expressions • Write expressions in equivalent forms to solve problems • Perform arithmetic operations on polynomials • Create equations that describe numbers or relationships • Understand solving equations as a process of reasoning & explain the reasoning • Solve equations & inequalities in one variable • Solve systems of equations • Represent & solve equations and inequalities graphically		• Interpret the structure of expressions • Write expressions in equivalent forms to solve problems • Perform arithmetic operations on polynomials • Understand the relationship between zeros & factors of polynomials • Use polynomial identities to solve problems • Rewrite rational expressions • Create equations that describe numbers or relationships • Understand solving equations as a process of reasoning & explain the reasoning • Represent & solve equations and inequalities graphically
Functions:	• Understand the concept of function & use function notation • Interpret functions that arise in applications in terms of the context • Analyze functions using different representations • Build a function that models a relationship between two quantities • Build new functions from existing functions • Construct & compare linear, quadratic, & exponential models to solve problems • Interpret expressions for functions in terms of the situation they model • Apply quadratic equations to physical problems		• Interpret functions that arise in applications in terms of the context • Analyze functions using different representations • Build a function that models a relationship between two quantities • Build new functions from existing functions • Construct & compare linear, quadratic, & exponential models to solve problems • Extend the domain of trigonometric functions using the unit circle • Model periodic phenomena with trigonometric functions • Prove & apply trig identities
Geometry:		• Experiment with transformations in the plane • Understand congruence in terms of rigid motions • Prove geometric theorems & be able to use them • Make geometric constructions • Understand similarity in terms of transformations • Prove theorems involving similarity • Define trigonometric ratios & solve problems involving right triangles • Understand & apply theorems about circles • Find arc length & area of sectors of circles (define radian measure & convert between degrees & radians) • Translate between the geometric description & the equation for a conic section (circles & parabolas) • Use coordinates to prove simple geometric theorems algebraically • Explain volume formulas & use them to solve problems • Visualize relationships between 2D & 3D objects & identify 3D objects generated by rotation of 2D objects • Determine how changes in dimension affect perimeter, area, & volume • Apply geometric concepts in modeling situations	• Translate between the geometric description & the equation for a conic section (circles, parabolas, ellipses)
Statistics & Probability:	• Summarize, represent & interpret data on a single count or measurement variable (compare center & spread, account for effects of outliers) • Summarize, represent & interpret data on two categorical & quantitative variables (linear, quadratic & exponential models) • Interpret linear models (compute correlation coefficient of linear fit, distinguish between correlation & causation)	• Understand independence & conditional probability & use them to interpret data • Use rules of probability to compute probabilities of compound events in a uniform probability model. • Use probability to evaluate outcomes of decisions	• Summarize, represent & interpret data on a single count or measurement variable (mean & standard deviation of a data set to fit a normal distribution) • Understand & evaluate random processes underlying statistical experiments. • Make inferences & justify conclusions from sample surveys, experiments, & observational studies. • Use probability to evaluate the outcomes of decisions.

E. Fraser, Oceanside Unified Schools

A POSSIBLE "INTEGRATED" PATHWAY *(to be included in the CA Framework)*

Model Math: (x)	Model Math 1 (Focus is on linear & exponential functions)	Model Math 2 (Focus is on quadratic functions)	Model Math 3 (Focus is on higher degree polynomial, trigonometric, simple rational, and logarithmic functions)
Number & Quantity:	• Reason quantitatively & use units to solve problems	• Extend properties of exponents to rational exponents • Use properties of rational & irrational numbers • Perform arithmetic operations with complex numbers • Use complex numbers in polynomial identities & equations	• Use complex numbers in polynomial identities & equations
Algebra:	• Interpret the structure of expressions • Create equations that describe numbers or relationships • Understand solving equations as a process of reasoning & explain the reasoning • Solve equations & inequalities in one variable (including those with absolute value) • Solve systems of equations • Represent & solve equations and inequalities graphically	• Interpret the structure of expressions • Write expressions in equivalent forms to solve problems • Perform arithmetic operations on polynomials • Create equations that describe numbers or relationships • Solve equations & inequalities in one variable (including those with absolute value) • Solve systems of equations	• Interpret the structure of expressions • Write expressions in equivalent forms to solve problems • Understand the relationship between zeros & factors of polynomials • Use polynomial identities to solve problems • Rewrite rational expressions • Create equations that describe numbers or relationships • Understand solving equations as a process of reasoning & explain the reasoning • Represent & solve equations and inequalities graphically
Functions:	• Understand the concept of function & use function notation • Interpret functions that arise in applications in terms of the context • Analyze functions using different representations • Build a function that models a relationship between two quantities (integer inputs) • Build new functions from existing functions • Construct & compare linear, quadratic, & exponential models to solve problems • Interpret expressions for functions in terms of the situation they model	• Interpret functions that arise in applications in terms of the context • Analyze functions using different representations • Build a function that models a relationship between two quantities • Build new functions from existing functions • Construct & compare linear, quadratic, & exponential models to solve problems • Apply quadratic equations to physical problems • Prove & apply trig identities ($\sin^2 T + \cos^2 T = 1$)	• Interpret functions that arise in applications in terms of the context • Analyze functions using different representations • Build a function that models a relationship between two quantities (Composition of functions & Inverse functions) • Build new functions from existing functions • Construct & compare linear, quadratic, & exponential models to solve problems • Extend the domain of trigonometric functions using the unit circle (define radian measure & convert between degrees & radians) • Model periodic phenomena with trigonometric functions
Geometry:	• Experiment with transformations in the plane • Understand congruence in terms of rigid motions • Make geometric constructions • Use coordinates to prove simple geometric theorems algebraically	• Prove geometric theorems & be able to use theorems (vertical angle theorem, theorems about angles on parallel lines, triangle sum theorem, isosceles triangle theorem, midsegment theorem, triangle inequality theorem, theorems about parallelograms) • Understand similarity in terms of transformations • Prove theorems involving similarity • Define trigonometric ratios & solve problems involving right triangles • Understand & apply theorems about circles • Find arc length & area of sectors of circles • Translate between the geometric description & the equation for a conic section (circles & parabolas) • Use coordinates to prove simple geometric theorems algebraically • Explain volume formulas & use them to solve problems • Determine how changes in dimension affect perimeter, area, & volume.	• Visualize relationships between 2D & 3D objects & identify 3 D objects generated by rotation of 2D objects • Apply geometric concepts in modeling situations • Translate between the geometric description & the equation for a conic section (circles, parabolas, ellipses) • Apply trigonometry to general triangles
Statistics & Probability:	• Summarize, represent, & interpret data on a single count or measurement variable (compare center & spread, account for effects of outliers) • Summarize, represent, & interpret data on two categorical & quantitative variables (linear, quadratic & exponential models) • Interpret linear models (compute correlation coefficient of linear fit, distinguish between correlation & causation)	• Understand independence & conditional probability & use them to interpret data • Use rules of probability to compute probabilities of compound events in a uniform probability model. • Use probability to evaluate outcomes of decisions	• Summarize, represent, & interpret data on a single count or measurement variable (mean & standard deviation of a data set to fit a normal distribution) • Understand & evaluate random processes underlying statistical experiments. • Make inferences & justify conclusions from sample surveys, experiments, & observational studies. • Use probability to evaluate the outcomes of decisions.

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