CURRICULUM MAP – ALGEBRA I

INTRODUCE

Mathematical skill	Conceptual Framework	Subset
Change irrational numbers to their simplest form	Number Sense	Relationship
Add/subtract vectors	Number Sense	COMPUTATION without calculator
Divide irrational numbers	Number Sense	COMPUTATION without calculator
Calculate the value of a trigonometric expression with and without a calculator	Number Sense	COMPUTATION without calculator
Determine the value of cube roots	Number Sense	COMPUTATION without calculator
Graph conics (circle, ellipse, parabola, hyperbola)	Patterns and Functions	Relationship
Recognize inductive and deductive reasoning	Patterns and Functions	Logic
Compute the distance and midpoint of a segment with the appropriate formula	Geometry	Geometry

INTRODUCE / DEVELOP

Mathematical skill	Conceptual Framework	Subset
Solve quadratic or second degree equations by various methods	Patterns and Functions	Relationship
Apply and solve a system of linear equations by elimination, graphing, and substitution methods	Patterns and Functions	Relationship
Solve problems by writing & graphing systems of inequalities	Patterns and Functions	Relationship
Identify domain and range	Patterns and Functions	Relationship
Determine the slope and intercepts of a line through a pair of given points	Patterns and Functions	Relationship
Recognize slope & y-intercept from a given linear equation	Patterns and Functions	Relationship
Recognize & describe exponential growth & decay	Patterns and Functions	Relationship
Identify direct and indirect variations	Patterns and Functions	Relationship
Determine the shape, position, and line of symmetry of a quadratic function	Patterns and Functions	Relationship

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CURRICULUM MAP – ALGEBRA I

DEVELOP

Mathematical skill	Conceptual Framework	Subset
Recognize and name irrational numbers	Number Sense	Number Sets
Write and evaluate square roots	Number Sense	COMPUTATION without calculator
Write and evaluate powers 0 and negative	Number Sense	COMPUTATION without calculator
Recognize and use the properties to simplify a numeric or algebraic expression	Number Sense	COMPUTATION without calculator
Use scientific notation	Number Sense	COMPUTATION without calculator
Multiply and divide to simplify polynomial expressions	Patterns and Functions	Relationship
Use the Pythagorean theorem to find the length of any side in a right triangle	Geometry	Geometry
Use special right triangle relationships to find sides in a right triangle	Geometry	Geometry
Use the basic trigonometric ratios of sine, cosine, and tangent to solve for sides and angles in a right triangle	Geometry	Geometry
Use the counting principle to find the number of different arrangements of a group of terms	Probability	Chance
Recognize and calculate permutation and combination situations	Probability	Chance
Develop simulations to predict an event	Probability	Chance
Recognize and use representative samples	Probability	Data Collection
Collect a random sample from a population	Probability	Data Collection
Differentiate and select methods of data collection according to efficiency	Probability	Data Collection
Differentiate and select methods of data collection according to validity	Probability	Data Collection
Determine credibility of data using a variety of strategies	Probability	Data Interpretation
Determine measures of variation (range, standard deviation, outliers of a data set)	Probability	Data Interpretation
Use indirect measurement	Measurement	Types

CURRICULUM MAP – ALGEBRA I

DEVELOP / TEST

Mathematical skill	Conceptual Framework	Subset
Approximate an irrational number	Number Sense	Estimation
Solve multiple step linear equations and inequalities	Number Sense	Relationship
Solve for a variable in a formula with more than 1 step	Number Sense	Relationship
Name ordered paired values that are solutions to a linear equation and plot those values	Number Sense	Relationship
Graph the line representing the solution of a linear equation	Number Sense	Relationship
Graph an inequality	Number Sense	Relationship
Recognize factoring patterns of first and second degree polynomials	Number Sense	Relationship
Identify and recognize linear and non linear relationships expressed in tables and graphs	Number Sense	Relationship
Use dimensional analysis to find rates conversion factors	Number Sense	Relationship
Use matrices and grids to display and interpret data	Statistics	Data Organization

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