**Sault Area Middle School Algebra 1 Content Syllabus**

**Marking Period 1 (Linear Equations and inequalities)**

**Unit 1**

1. Operations with real numbers
2. Solving linear equations
3. Solving equations with a variable on both sides
4. Literal equations and formulas
5. Solving inequalities in on variable
6. Compound inequalities

**Key Vocabulary:** Compound inequality, Element of a set, Formula, identity, literal equation, set, subset

**Unit 2**

1. Slope intercept form
2. Point slope form
3. Standard Form
4. Parallel and perpendicular lines

**Key Vocabulary:** Parallel lines, perpendicular lines, point-slope form, reciprocal, slope-intercept form, standard form of a linear equation, y-intercept

**Marking Period 2 (Systems of Equations/Inequalities and Linear Functions)**

**Unit 3**

1. Relations and functions
2. Linear functions
3. Transforming linear functions
4. Scatter plots and lines of fit
5. Analyzing lines of fit

**Key Vocabulary:** Causation, common difference, continuous, correlation coefficient, discrete, domain, extrapolation, function, function notation, interpolation, lines of best fit, linear function, linear regression, negative association, negative correlation, no association, one-to-one, positive association, positive correlation, range, relation, residual, transformation, translation, trend line

**Unit 4**

1. Solving systems of equations by graphing
2. Solving systems of equations by substitution
3. Solving systems of equations by elimination
4. Linear inequalities in two variables
5. Systems of linear inequalities

**Key Vocabulary:** Linear inequality in two variables, solution of an inequality in two variables, solution to a system of linear inequalities, system of linear inequalities

**Marking Period 3 (Exponential, Piecewise, and Absolute Value Functions)**

**Unit 5**

1. The absolute value function
2. Piecewise defined functions
3. Step functions
4. Transformations of piecewise defined functions

**Key Vocabulary:** Absolute value function, axis of symmetry, ceiling function, floor function, piecewise-defined function, step function, vertex

**Unit 6**

1. Rational exponents and properties of exponents
2. Exponential functions
3. Exponential growth and decay
4. Transformations of exponential functions

**Key Vocabulary:** Asymptote, constant ratio, decay factor, exponential decay, exponential function, exponential growth, growth factor, rational exponent

**Unit 7**

1. Adding and subtracting polynomials
2. Multiplying polynomials
3. Multiplying special cases

**Key Vocabulary:** Closure property, degree of a monomial, degree of a polynomial, monomial, polynomial, standard form of a polynomial, binomial, closure, polynomial, term, trinomial, square of a binomial

**Marking Period 4 (Quadratic Functions of the form f(x) = a(x – h)2 + k and f(x) = ax2 + bx + c)**

**Unit 7**

1. Factoring Polynomials
2. Factoring x2 + bx + c
3. Factoring ax2 + bx + c
4. Factoring special cases

**Key Vocabulary:** Coefficient, factor, greatest common factor, polynomial, binomial factor, distributive property, quadratic trinomial, difference of two squares

**Unit 8**

1. Key features of graphs of quadratic functions
2. Quadratic functions in vertex form
3. Quadratic functions in standard form
4. Modeling with quadratic functions
5. Comparing linear, exponential, and quadratic models

**Key Vocabulary:** Parabola, quadratic parent function, quadratic regression, standard form of a quadratic function, vertex form of a quadratic function, vertical motion model,

**Unit 9**

1. Solving quadratic equations using graphs and tables
2. Solving quadratic equations by factoring
3. Rewriting radical expressions
4. Solving quadratic equations using square roots
5. Completing the square
6. The quadratic formula and the discriminant
7. Solving Nonlinear systems of equations

**Key Vocabulary:** Completing the square, discriminant, linear-quadratic system, product property of square roots, quadratic equation, quadratic formula, root, standard form of a quadratic equation, zero-product property, zeros of a function