SYLLABUS

Course: Honors Algebra E-mail: lzabloski@amherst.k12.va.us **Grading Period: Complete Course**

Instructor: Mrs. Zabloski Planning: 12-1pm

Standards of Learning:

A.1 The student will a) represent verbal quantitative situations algebraically; and b) evaluate algebraic expressions for given replacement values of the variables.

A.2 The student will perform operations on polynomials, including a) applying the laws of exponents to perform operations on expressions; b) adding, subtracting, multiplying, and dividing polynomials; and c) factoring completely first- and second-degree binomials and trinomials in one variable.

A.3 The student will simplify a) square roots of whole numbers and monomial algebraic expressions; b) cube roots of integers; and c) numerical expressions containing square or cube roots.

A.4 The student will solve a) multistep linear equations in one variable algebraically; b) quadratic equations in one variable algebraically; c) literal equations for a specified variable; d) systems of two linear equations in two variables algebraically and graphically; and e) practical problems involving equations and systems of equations.

A.5 The student will a) solve multistep linear inequalities in one variable algebraically and represent the solution graphically; b) represent the solution of linear inequalities in two variables graphically; c) solve practical problems involving inequalities; and d) represent the solution to a system of inequalities graphically.

A.6 The student will a) determine the slope of a line when given an equation of the line, the graph of the line, or two points on the line; b) write the equation of a line when given the graph of the line, two points on the line, or the slope and a point on the line; and c) graph linear equations in two variables.

A.7 The student will investigate and analyze linear and quadratic function families and their characteristics both algebraically and graphically, including a) determining whether a relation is a function; b) domain and range; c) zeros; d) intercepts; e) values of a function for elements in its domain; and f)connections between and among multiple representations of functions using verbal descriptions, tables, equations, and graphs.

A.8 The student, given a data set or practical situation, will analyze a relation to determine whether a direct or inverse variation exists, and represent a direct variation algebraically and graphically and an inverse variation algebraically.

A.9 The student will collect and analyze data, determine the equation of the curve of best fit in order to make predictions, and solve practical problems, using mathematical models of linear and quadratic functions.

Grading Policy: Mastery of Content 60%: Measure of Progress*40% *Measure of Progress assignments will be graded on accuracy and completion. --Quizzes will be given throughout the unit.Quizzes and tests can be retaken to improve the grade. However, it is the student's responsibility to schedule this time with me. --Classwork will consist of Warm-up exercises (students will keep these in notebook; to be checked once a week) and in-class assignments

Materials: <u>1 ½ inch binder</u>, <u>notebook paper</u>,; <u>pencils (no pens, except a</u> red pen for grading); We will be using the Desmos program for calculator operations; this is available on line, <u>graph paper</u> (students will be told when to bring this in)

Absences and Make Up Work:

Algebra is a subject that builds and builds on itself throughout the school year, therefore, it is important to master the content that we are working on before we move onto the next material. Attendance and completion of work are critical to student success.

High School Credit:

This class is a high school credit class, which means that the grade earned in this class will follow you throughout your high school career and will be on your high school transcripts upon entering college. It is imperative that you take the class seriously beginning the first day you enter the classroom.

Expectations:--Come to class prepared with materials--Begin warm up --Respect teachers and students

I know that every student can be successful if they put forth the effort and hard work that is needed and if the parent/guardians are aware of the responsibilities for this class. I am extremely excited to teach Algebra this year and am looking forward to getting to know each family. Mrs. Zabloski

Standards of Learning:

https://cdn5-ss12.sharpschool.com/UserFiles/Servers/Server_123 80906/File/Administration/Academics/Eighth%20Grade/Algebra 1_Curriculum_Pacing.pdf

Quarter 1

A.1 The student will a) represent verbal quantitative situations algebraically; andb) evaluate algebraic expressions for given replacement values of the variables.(Algebra Language and Order of Operations)

A.4 The student will solve a) multistep linear equations in one variable algebraically; c) literal equations for a specified variable e) practical problems involving equations

(Solving Equations; Apply Properties)

A.5 The student will a) solve multistep linear inequalities in one variable algebraically and represent the solution graphically (Solving Inequalities; Apply Properties)

Quarter 2

A.7 The student will investigate and analyze linear and quadratic function families and their characteristics both algebraically and graphically, including a) determining whether a relation is a function; b) domain and range; c) zeros; d) intercepts; e) values of a function for elements in its domain; and f)connections between and among multiple representations of functions using verbal descriptions, tables, equations, and graphs.

(Domain,Range, Functions, Graphs)

A.6 The student will a) determine the slope of a line when given an equation of the line, the graph of the line, or two points on the line; b) write the equation of a line when given the graph of the line, two points on the line, or the slope and a point on the line; and c) graph linear equations in two variables. **(Slope)**

A.8 The student, given a data set or practical situation, will analyze a relation to determine whether a direct or inverse variation exists, and represent a direct variation algebraically and graphically and an inverse variation algebraically. **(Direct and Inverse Variation)**

Quarter 3

A.4 The student will solve d) systems of two linear equations in two variables algebraically and graphically;

(Systems(2) of equations)

A.5 The student will b) represent the solution of linear inequalities in two variables graphically; c) solve practical problems involving inequalities; and d) represent the solution to a system of inequalities graphically.

(Systems of inequalities)

A.2 The student will perform operations on polynomials, including a) applying the laws of exponents to perform operations on expressions; b) adding, subtracting, multiplying, and dividing polynomials;

(Exponents, Combining Like Terms with Polynomial Operations)

A.3 The student will simplify a) square roots of whole numbers and monomial algebraic expressions; b) cube roots of integers; and c) numerical expressions containing square or cube roots.

(Square Roots and Cube Root Operations)

Quarter 4

A.2 The student will solve equations by c) factoring completely first- and second-degree binomials and trinomials in one variable **(Factoring)**

A.4 The student will solve b) quadratic equations in one variable algebraically; **(Quadratics)**

A.9 The student will collect and analyze data, determine the equation of the curve of best fit in order to make predictions, and solve practical problems, using mathematical models of linear and quadratic functions.(Best Fit)