Roger Ludlowe Middle School

ALGEBRA 8

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Crew 8M — Room 320

COURSE DESCRIPTION

This first course in algebra furthers the students' skills in operating with real numbers, variables, and algebraic properties. Algebra begins with the development of the function. Major topics include: solutions of linear and quadratic equations, graphing functions, data analysis, factoring, and solutions of systems of linear equations. Throughout the course, there will be an integration of problem solving techniques, communication skills, computing and estimating, the use of technology, and real life applications.

COURSE OBJECTIVES

Students should:

- reason quantitatively and use units to solve problems
- understand solving equations as a process of reasoning and explain the reasoning
- solve equations and inequalities in one variable
- represent and solve equations and inequalities graphically
- create equations that describe numbers or relationships
- understand the concept of a function and use function notation
- interpret functions that arise in applications in terms of the context
- analyze functions using different representations
- construct and compare linear, quadratic, and exponential models and solve problems
- build new functions from existing functions
- solve systems of equations
- summarize, represent, and interpret data on two categorical and quantitative variables
- interpret linear models
- know that there are numbers that are not rational, and approximate them by rational numbers
- work with radicals and integer exponents
- classify and perform operations with polynomial expressions
- solve quadratic equations with real coefficients that have complex solutions
- write expressions in equivalent forms to solve problems
- summarize, represent, and interpret data on a single count or measurement variable

UNITS OF STUDY

- Solving One Variable Equations and Inequalities
- Modeling with Functions
- Linear Functions (Solving Two Variable Equations)
- Solving Systems of Equations
- Linear Modeling
- Real Numbers
- Polynomials
- Quadratic Functions and Equations
- Statistics

COURSE POLICIES AND REQUIREMENTS

GRADING

Summative Assessments: 90%Total (Points Based)
May include: Unit, Chapter, and Mid-Chapter Tests; Quizzes; Projects; some District Assessments

Behavioral Characteristics: 10% Total (Points Based)
May include: Homework; Participation Quizzes

MATERIALS

Each day students are expected to bring their math textbook, their math binder with plenty of loose-leaf paper, pencils, a calculator, and a correcting pen to class.

EXPECTATIONS OF STUDENTS

I expect students to be respectful to all other individuals and property. I expect students to be prepared and on time with appropriate materials and assignments and to be responsible for any missed work. I expect students to be motivated to learn, accept challenges, and put forth their best effort every day in class and every night when doing homework. I also expect students to come to me when they have questions or don't quite grasp a topic. I am always happy to talk to students during class or to schedule extra help sessions. During class time I expect students to follow the rules of the school and of our classroom. I expect students to work together and help each other out (when appropriate).

EXTRA HELP

Drop-in extra help is on Mondays and Thursdays from 2:50-3:10. Extra help sessions may also be made by appointment at a mutually convenient time.