

Ninth Grade Algebra 3

State Course MIS03 11031

Midway's Course A/B

Instructor: Mrs. Carol Batko

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Time and Location: Room 110 – 8:30-9:35

Tutoring Schedule: Wednesday 3:30-4:30

Course Description:

ND State Standards used to describe Algebra I as a study of properties and operations with real numbers, graphing and writing linear equations and inequality equations, integer exponents, exponential growth and decay functions, FOIL multiplication, solving quadratic equations by factoring or using the quadratic formula, probability and odds, data and statistics, and using unit analysis to solve problems. With the new Common Core this class will expand to include explaining rules of real numbers, solving a system that includes a linear and a quadratic equation both algebraically and graphically, rational exponents, statistics, and absolute value, step, or piece-wise functions.

In addition to the topics there are eight standards of student practice in mathematics. They are make sense of problems and persevere in solving them, reason abstractly and quantitatively, construct viable arguments, critique the reasoning of others, model with mathematics, use appropriate tools strategically, attend to precision, look for and make use of structure, and look for and express regularity in repeated reasoning.

Course Standards: See Appendix A PDF pages 16-26

@http://www.dpi.state.nd/.us/standard/content/math/2011/math_appendixA.pdf

Classroom Expectations:

Preparation: Bring textbook, a math folder, planner, paper, pencil and a pen to class each day along with your completed homework assignment. If you do not have a given assignment to hand in two days in a row, you will serve academic detention. You need to have your assignment out and ready to correct as the bell rings.

Discipline: Check your school handbook. You are to dress appropriately, be respectful of everyone in class, and be ready to work.

Academic Integrity: There is a difference between getting help and copying. Copying earns a grade of 0. I am usually available to help if you make arrangements with me or Mrs. Zikmund.

Student course goals are attached.

Q1	Q2	Q3	Q4

A.REI.3

I CAN solve linear equations in one variable, including equations with coefficients represented by letters.

I CAN solve linear inequalities in one variable, including inequalities with coefficients represented by letters.

A.REI.4

I CAN transform a quadratic equation to an equation in the form $(x-p)^2 = q$ by completing the square.

I CAN derive the quadratic formula by completing the square on a quadratic equation.

I CAN solve quadratic equations in one variable by simple inspection, taking the square root, factoring, and completing the square.

I CAN recognize which method of solving a quadratic equation is appropriate for a give equation.

I CAN explain why taking the square root of both sides of an equation can yield two solutions.

A.REI.6

I CAN solve systems of equations using substitution, linear combination, and graphing.

A.REI.7

I CAN solve a system containing a linear equation and a quadratic equation in two variables algebraically and graphically.

A.REI.12

I CAN graph the solutions to a linear inequality in two variables as a half-plane, excluding the boundary for strict inequalities.

I CAN graph the solution set to a system of linear inequalities in two variables as the intersection of their corresponding half-planes.

Domain: BUILDING FUNCTIONS

F.BF.3

I CAN experiment to identify, using technology, the transformational effects on the graph of a function $f(x)$ when $f(x)$ is replaced by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x+k)$ for specific values of k , both positive and negative.

I CAN find the value of k given the graph of a transformed function.

I CAN recognize even and odd functions from their graphs and equations.

F.LE.1

I CAN show there is a constant difference in a linear function over equal intervals.

I CAN show there is a constant multiplier in an exponential function over equal intervals.

I CAN describe situations where on quantity changes at a constant rate per unit interval relative to another.

I CAN describe situations where one quantity grows or decays by a constant multiplier per unit interval relative to another.

F.LE.2

I CAN write a linear or exponential function given an arithmetic or geometric sequence, a graph, a description of the relationship, or two points which can be read from a table.

F.LE.5

I CAN explain the meaning of the coefficients, constants, factors, exponents, and intercepts in a linear, quadratic or exponential function in terms of a context.

Q1	Q2	Q3	Q4

Domain: STATISTICS AND PROBABILITY

S.ID.1

I CAN construct dot plots, histograms and box plots on a real number line.

S.ID.2

I CAN compare two or more different data sets using the center and spread of each.

S.ID.3

I CAN identify outliers (extreme data points) and their effects on data sets.

S.ID.5

I CAN interpret joint, marginal, and relative frequencies in context.

S.ID.6

I CAN create a scatter plot from two quantitative variables.

I CAN categorize data as linear or non-linear.

I CAN use algebraic methods or technology to fit the data to a linear function.

S.ID.7

I CAN explain the meaning of the slope and y-intercept in context.

S.ID.8

I CAN use a calculator or computer to find the correlation coefficient for a linear association.

I CAN interpret the meaning of the correlation coefficient in the context of the data.