Algebra II - Syllabus

Content:

1st Nine Weeks

Chapter 1

The Language of Algebra
What is a Function?
Function Notation
Graphs of Functions
Solving Equations
Rewriting Formulas
Explicit Formulas
Recursive Formulas
Notation for Recursive Formulas

Chapter 2

Direct Variation
Inverse Variation
The Fundamental Theorem of Variation
Graph of $y=kx$
Graph of $y=kx^2$
Graph of $y=k/x$ and $y=k/x^2$
Fitting a Model to Data I
Fitting a Model to Data II
Combined and Joint Variation

2nd Nine Weeks

Chapter 3

Constant Increase/Decrease Situations
Graph of $y=mx + b$
Linear Combnations Situations
The Graph of $Ax + By = C$
Fitting a Line to Data
Recursive Formulas for Arithmetic Sequences
Explicit Formulas for Arithmetic Sequences
Step Functions

Chapter 4
        Storing Data in Matrices
        Matrix Addition
        Matrix Multiplication
        Matrices for Size Changes
        Matrices for Scale Changes
        Matrices for Reflections
        Transformations and Matrices
        Matrices for Rotations
        Rotations and Perpendicular Lines
        Translations and Parallel Lines

3rd Nine Weeks
    Chapter 5
        Inequalities and Compound Sentences
        Solving Systems Using Tables or Graphs
        Solving Systems by Substitution
        Solving Systems Using Linear Combinations
        Inverses of Matrices
        Solving Systems Using Matrices
        Graphing Inequalities in the Coordinate Plane
        Systems of Linear Inequalities
        Linear Programming I
        Linear Programming II

    Chapter 6
        Quadratic Expressions
        Absolute Value, Square Roots and Quadratic Equations
        Graph-Translation Theorem
        Graphing Quadratics
        Completing the Square
        Fitting a Quadratic Model to Data
        The Quadratic Formula
        Imaginary Numbers
        Complex Numbers
        Analyzing Solutions to Quadratic Equations

4th Nine Weeks
    Chapter 7
        Power Functions
        Properties of Powers
        Negative Integer Exponents
        Compound Interest
        Geometric Sequences
        Nth Roots
        Positive Rational Exponents
        Negative Rational Exponents

    Chapter 8
        Composition of Functions
        Inverses of Relations
        Properties of Inverse Functions
        Radical Notation for nth Roots
        Products with Radicals
        Quotients with Radicals
        Powers and Roots of Negative Numbers
        Solving Equations with Radicals

- Approximately 60%-65% of your grade will be generated using Tests/Quizzes/Graded Assignment scores

    - Quizzes/Tests are completed individually around 2-3 per marking period. Upon request, you may request a retest on a topic. If taken, you must take the score of the retest as the score of that evaluation.

    - Graded assignments are usually around 5-10 points and are completed with a partner. You can use your notes and ask me for help. Graded assignments are a great chance to see what type of questions you will see on a quiz or test.

- Approximately 40% of your grade will be generated using Homework/Class Participation scores and Study Island assignments

Tests/Quizzes/Graded Assignments

If you are absent, any missed assignment (tests, quizzes, homework and graded assignments) must be completed within 3 days after you return to school per school policy. It is up to you to schedule your make up assignment. After 3 days, a score of zero will be entered into Power School until the assignment is completed. If the assignment is not completed within these guidelines, your score will remain a zero.

Homework

- Homework will be assigned on a regular basis and your success in this course will greatly depend on your effort on all assignments. When written homework is not assigned, you should review your notes. Homework may be checked at the beginning of class and will not be accepted after class starts. Homework assignments maybe collected with assessments.

- Any homework assignments that were missed due to absence must be made up within a day of returning. If you were absent the day I checked the assignment but were present the day it was assigned, then you must show assignment the day you return. If you were absent the day the assignment was assigned, then you have one day to copy the missed notes and complete the assignment.

Class Participation

o ! Always come to class prepared (binder, pencil, calculator) and on time.

o ! Be respectful of others.

o ! You may NOT use cell phones. See the student handbook for school policies.