

**TEACHER : OWUSU**

( [owusuansah4@aol.com](mailto:owusuansah4@aol.com))

HIGH SCHOOL FOR EXCELLENCE (718-860-1385)

HELP HOURS (7<sup>th</sup> period & Tuesday : 3.00-4.00)

## Algebra 1 (Common Core)

Grades: 11&12

### Goals:

This course will build on topics in Algebra I and introduce many new concepts to lay a solid foundation in all types of functions as well as equations that form the basis for advanced high school mathematics. We will stress problem solving and build an understanding of mathematical modeling to see the powerful applications of the concepts we study. Furthermore, it is a preparation for Geometry and Algebra 2& Trigonometry which will help lay a solid foundation for College Mathematics and will move at an accelerated pace, thus requiring students to bring a positive attitude and a dedicated work ethic to the classroom each day.

### Expectations & Policies:

**Organization:** Students are asked to create an organizational system to retain notes, homework and graded assignments throughout the entire year so they can use that material for studying – all the way through final exams

**Homework/Practice:** Is a large part of mastering any math course and thus is assigned almost every night. Homework/Math Packet is graded purely on effort. Late homework will not receive full credit. For full credit, students are asked to attempt **all** problems on the assignment whether or not they complete them or get the right answer, and then correct their work when we go over questions in class. Homework assignments are often accompanied by reading assignments from the textbook or Math Packet which covers a large variety of concepts to reinforce those discussed in class.

## Reward Criteria

- 1) Attendance & Promptness → 10pts
- 2) Do Now → 10pts
- 3) Class work → Day's Work → 10pts
- 4) Organizational skills → Note Taking → Presentation → 10pts
- 5) Participation/ Behavior → 10pts
- 6) Conferencing (6<sup>th</sup> period) → 10pts
- 7) Test/ Quiz/ Examination/ Assignment/ packet (practice) → 40pts

### COMMON CORE Algebra 1: 6 units

#### UNIT 1

##### 1) Linear Model

- System of equations ( Elimination & Substitution Methods)
- Linear Equations (Properties of Algebra)
- Linear Graphs
- Distance- Time Graph /Travel Graph
- Slope/rate of change/speed
- Inequalities & graphs
- Literal Equations & Change of Formulas

#### UNIT 2

##### 2) Quadratic Model & Polynomials

- Graphing
- Factoring Method (Zeros)
- Completing the square (vertex form)
- Quadratic formula
- Vertex Form of Quadratic
- Axis of symmetry And Vertex/ Turning Point
- Standard Polynomials ( Factoring, Zeros & Graphs)

### **UNIT 3**

#### 3) Exponential model

- Exponential graphs
- Decay
- Growth
- Compound Interest & Rate Factor(1+r) & (1-r)

### **UNIT4**

#### 4) Function ( Types :Linear, Quadratic, Absolute Value, Exponential)

Representation of Functions :( Coordinate Form/ set, Table Form & Graphs)

( 1). Function Notation ( 2) Domain & Range

- Rate of change (slope) with given intervals
- SLOPE =  $y_2 - y_1 / X_2 - X_1$  or Rise/ Run

### **UNIT 5**

#### 5) Sequence And The Number System

- Arithmetic ( Common Difference)
- Geometric ( Common Ratio)
- Recursive
- Real Numbers And Complex Numbers
- Real Number System ( Rational & Irrational numbers)

### **UNIT 6**

#### 6) Statistics

- Box-and-whisker, Histogram , Bar Graphs
- Mean, mode, median ,range, standard deviation, outliers
- Interquartile range & outliers
- Scatterplot and regression analysis
- Correlation / Relationship /Association
- Regression Equation( $y=mx+b$ ) & Correlation Coefficient
- Causal & Non-Causal Situations

[www.emathinstruction.com](http://www.emathinstruction.com)

[www.jmap.org](http://www.jmap.org)

