

**Middle School Algebra**  
**Spring 2022 – Session 4**  
**Instructor: Lyra Porcasi**  
**Syllabus**

Class objectives: The Algebra course is designed to follow the CCSS for 8<sup>th</sup> grade and is an equivalent course for 8<sup>th</sup> grade math. In session 4, students will learn how to graph and describe characteristics of lines, define and transform functions, solve systems of linear equations by three methods (graphing, substitution, and elimination), solve and graph inequalities, solve systems of inequalities by graphing, and interpret frequency tables to create scatter plots and determine correlation.

Topics covered:

1. Graphing and describing characteristics of lines (slope, y-intercept, writing equation from graph or slope/points)
2. Functions: definition, evaluation, and transformations (rotation, reflection, translation, etc.)
3. Solving systems of equations by graphing (parallel, intersecting, perpendicular, coinciding, etc.)
4. Solving systems of equations by substitution
5. Solving systems of equations by elimination
6. Solving and graphing inequalities
7. Solving systems of inequalities by graphing
8. Frequency tables, histograms, scatter plots, trends and correlation
9. Stem and leaf plots, box and whisker plots, and distribution curves
10. Probability and statistics

Special Projects: Logic puzzles/Sudoku, Treasure Hunters Project.

Required materials for class every day: Single subject (1") 3-ring notebook, college-ruled lined paper, graph paper, pencil w/ eraser, scientific calculator (suggested TI-30), ruler, "cheat sheets" given in session 1.