Class Title: Orange Pre-Algebra

Teacher Name: Trish Poston

Class Day: Friday

Class Size: 15

Class Cost: $45

Class Fee: $96

Ages or color group served: Orange

What level is this class: Level 3

Prerequisites: Students should have at least been introduced (proficiency a bonus, but not required) to arithmetic operations involving whole numbers, fractions, decimals, positive and negative integers, and percentages.

Graduation Requirements: Homework and class assignments submitted weekly. This includes any quizzes, tests or student surveys used to assess class understanding before moving on to the next intended concept.

Homework Requirements: There will be homework weekly and it may be based on the individual student's understanding of the concepts being covered in class.

Class Description:

This class is to bridge elementary arithmetic and abstract algebra. We'll begin the semester assessing where we are as a class applying foundational math skills and reinforce them with a review. From there algebraic foundations will be introduced, such as variables, expressions, solving one-step and multi-step inequalities, and combining like terms. Based on class understanding, this class will introduce basic concepts of some or all the following:

• Ratios, Proportions, and Percents

• Linear Relationships & Graphing

• Functions

• Geometry

• Statistics & Probability

Be advised, because math skills are cumulative and tend to vary among students, class content as well as assigned homework will be adjusted accordingly based on the student assessment on Day 1 as well as their understanding of concepts throughout the semester.

The goal is for every student to develop an understanding and build a strong foundation for future higher-level math courses, especially Algebra 1.

Week 1:

Introductions, overview of class expectations, arithmetic review and student assessment

Week 2:

Arithmetic review and rational numbers based on student assessment/survey of concepts students are still struggling to grasp in order to move forward.

Review of fractions and mixed numbers

Week 3:

Decimals and Integers:

comparing and rounding decimals, +,-,×,÷ decimals and integers, order of operations (PEMDAS), integers and absolute value

Week 4:

Ratios, Proportions and Percent:

Understanding and applying these concepts to real-world problems, including discount, tax, tips and interest

Week 5:

Exponents and Variables:

Multiplication and Division properties of exponents, powers of products and quotients, zero and negative exponents, negative exponents and negative bases, scientific notation, radicals

Week 6:

Expressions and Variables:

Simplifying variable and polynomial expressions, the Distributive Property, evaluating one and two variables

Week 7:

Equations and Inequalities:

One-step and multi-step equations, system of equations, graphing single-variable Inequalities, one-step and multi-step Inequalities

Week 8:

Lines and slope:

Finding slope, graphing lines using slope-intercept form, writing linear equations, Finding mid-point, Finding distance of two points, graphing linear inequalities

Week 9:

Geometry and Solid Figures:

Pythagorean Theorem, complementary and supplementary angles, triangles, polygons, trapezoids, circles, cubes, rectangular prisms, cylinders

Week 10:

Statistics:

Mean, medium, mode of given data, pie graph, probability, permutations and combinations

Week 11:

Functions:

Function notation and evaluation, +,-,×,÷ functions

Week 12:

Final review and Test of knowledge