6/7/8 Math

**CEDARS Course Code: 02036 / 02037 / 02038**

**Certificated Teacher:**

**Grading: S / U**

Prerequisites: none

**Text Provided: (check)**

* Holt-McDougal Course 1
* Holt-McDougal Course 2
* Holt McDougal Course 3

**Course Description:**

Math courses reinforce and expand students' foundational math skills, such as arithmetic operations using rational numbers; area, perimeter, and volume of geometric figures; congruence and similarity; angle relationships; the Pythagorean theorem; the rectangular coordinate system; sets and logic; ratio and proportion; estimation; formulas; and solving and graphing simple equations and inequalities. An average score of 70% or better on assignments & assessments is necessary for successful progress.

**Materials Needed:**

Graph paper or lined paper composition notebook, calculator.

**Online resources:**

khanacademy.org

Desmos.com

Openmiddle.com

IXL

**Common Core Standards:**

**Grade 6 Overview**

Ratios and Proportional Relationships •Understand ratio concepts and use ratio reasoning to solve problems. The Number System •Apply and extend previous understandings of multiplication and division to divide fractions by fractions. •Compute fluently with multi-digit numbers and find common factors and multiples. •Apply and extend previous understandings of numbers to the system of rational numbers. Expressions and Equations •Apply and extend previous understandings of arithmetic to algebraic expressions. •Reason about and solve one-variable equations and inequalities. •Represent and analyze quantitative relationships between dependent and independent variables. Geometry •Solve real-world and mathematical problems involving area, surface area, and volume. Statistics and Probability •Develop understanding of statistical variability. •Summarize and describe distributions.

**Grade 7 Overview**

Ratios and Proportional Relationships •Analyze proportional relationships and use them to solve real-world and mathematical problems. The Number System •Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. Expressions and Equations •Use properties of operations to generate equivalent expressions. •Solve real-life and mathematical problems using numerical and algebraic expressions and equations. Geometry •Draw, construct and describe geometrical figures and describe the relationships between them. •Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. Statistics and Probability •Use random sampling to draw inferences about a population. •Draw informal comparative inferences about two populations. •Investigate chance processes and develop, use, and evaluate probability models.

**Grade 8 Overview**

The Number System •Know that there are numbers that are not rational and approximate them by rational numbers. Expressions and Equations •Work with radicals and integer exponents. •Understand the connections between proportional relationships, lines, and linear equations. •Analyze and solve linear equations and pairs of simultaneous linear equations. Functions •Define, evaluate, and compare functions. •Use functions to model relationships between quantities. Geometry •Understand congruence and similarity using physical models, transparencies, or geometry software. •Understand and apply the Pythagorean Theorem. •Solve real-world and mathematical problems involving volume of cylinders, cones and spheres. Statistics and Probability •Investigate patterns of association in bivariate data.

**Mathematical Practices (all grades)**

Make sense of problems and persevere in solving them.

Reason abstractly and quantitatively.

Construct viable arguments and critique the reasoning of others.

Model with mathematics.

Use appropriate tools strategically.

Attend to precision.

Look for and make use of structure.

Look for and express regularity in repeated reasoning.

**Course Objectives:**

To earn credit for this course, the student will demonstrate mastery of the following through assignments and assessments:

**Course 1:**

Whole number patterns

Introduction to Algebra

Decimals

Number Theory and Fractions

Fraction Operations

Collecting and Displaying Data

Proportional Relationships

Geometric Relationships

Measurement and Geometry

Measurement: Area & Volume

Integers

Probability

Functions, Equations and Inequalities

**Course 2:**

Algebraic Reasoning

Integers and Rational Numbers

Applying Rational Numbers

Proportional Relationships

Graphs and Functions

Percents

Collecting, Displaying & Analyzing Data

Geometric Figures

Measurement: 2-Dimensional Figures

Measurement: 3-Dimensional Figures

Probability

Multi-Step Equations and Inequalities

**Course 3:**

Principles of Algebra

Rational Numbers

Graphs and Functions

Exponents and Roots

Ratios, Proportions and Similarity

Percents

Foundations of Geometry

Perimeter, Area & Volume

Data and Statistics

Probability

Multi-Step Equations

Graphing Lines

Sequences and Functions

Polynomials

**COURSE GRADE REQUIREMENTS**

**Scores:**

Pass = 70% or better Review needed = < 70%

1. Progress and course assignment completion will be evaluated at least monthly by the teacher.
2. Complete all assignments given in class at a minimum average 70% grade level to move on.
3. Complete all assessments given in class or conference.

**EXTRA CREDIT / ALTERNATE ASSIGNMENTS**

1. Additional math lab activities
2. Outside math assignments may substitute for class assignments, by the teacher’s discretion