

## College Prep Math Parent Guide

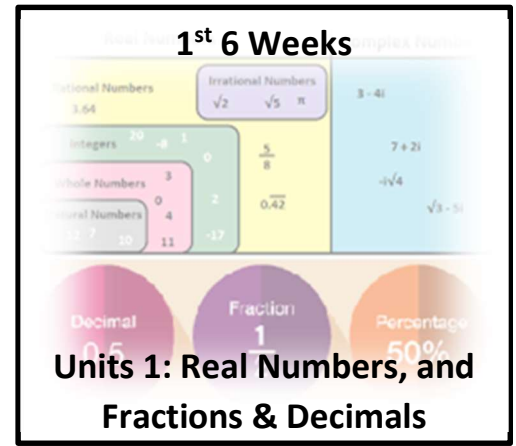
### Unit 1 Concepts:

In unit one, students will classify and study different types of numbers, along with operations of each kind. Additionally, students will gain a baseline understanding of fractions and decimals. They will convert, evaluate, and complete operations for both fractions and decimals.

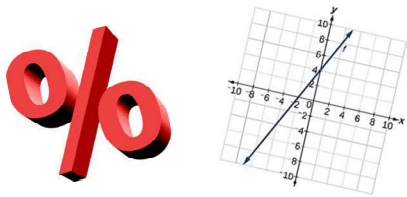
### Learning Goals:

Students will be able to classify & perform operations with all types of numbers and will be able to convert and perform operations with fractions and decimals.

**Why?** – Students will create a necessary baseline understanding of relationships and operations of numbers.



### **2<sup>nd</sup> 6 Weeks**



### **Units 2: Ratios, Rates, Proportions, Percent, & Graphing**

### Unit 2 Concepts:

Students will gain an understanding of ratios, proportions, and percent in unit two. They will review how to convert between percent, fraction, and percent, then be able to apply these skills to real life contexts. Additionally, students will master the basics of graphing without the use of technology; determining slope, intercepts, and equations of linear functions that will be used to analyze parallel and perpendicular lines.

### Learning Goals:

Students will be able to write ratios and proportions as simplified percents and fractions along with describing and applying the attributes of a coordinate plane to linear functions.

**Why?** – Students will be able to create and analyze linear proportions and ratios that arise in real life situations.

### Unit 3 Concepts:

During unit three, students will be exposed to basic statistical concepts such as types of graphs, and measures of center including mean, median, mode, and range. Also, students will cover geometric properties for common shapes, and the most common units of measurement. They will learn properties of 2D and 3D shapes including volume, perimeter, and area, converting between customary and metric measurement systems.

### Learning Goals:

Students will be able to calculate and analyze values for 2D and 3D figures and create/analyze statistical data.

**Why?** – Students will be able to understand statistics allowing them to analyze data presented to them. They will be able to make sense of measurements and conversions for things that appear in everyday life.

### **3<sup>rd</sup> 6 Weeks**



### **Units 3: Statistics and Geometry & Measurement**

#### Unit 4 Concepts:

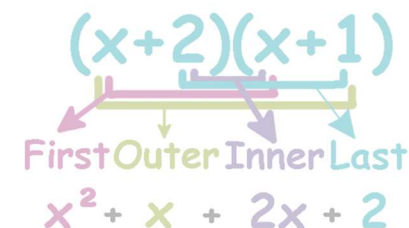
In unit four, students will use the rules of exponents to manipulate polynomials that are being added, subtracted, multiplied, or divide. They will also write numbers in exponential, scientific, and decimal notation.

#### Learning Goals:

Students will be able to successfully manipulate exponents and polynomials in multiple ways using all operations, notations, and rules of exponents.

**Why?** – Understanding different notations and manipulations of polynomials increases student number sense providing them the critical thinking skills they can use in daily life.

4<sup>th</sup> 6 Weeks


$$(x+2)(x+1)$$

First Outer Inner Last

$$x^2 + x + 2x + 2$$

#### **Unit 4: Exponents & Polynomials**

5<sup>th</sup> 6 Weeks

$$a^2 - b^2 = (a + b)(a - b)$$

#### **Units 5: Solving Equations & Inequalities, Systems, Factoring, & Functions**

#### Unit 5 Concepts:

In unit five, students will learn how to solve multi-step and systems of equations and inequalities including linear, quadratic, cubic and absolute value equations, and inequalities. They will learn the characteristics of linear, quadratics, and radical functions, and be able to identify, evaluate, graph, and operate these functions.

#### Learning Goals:

Students will have a well-rounded understanding of different types of equations and inequalities and will be able to understand, evaluate, and manipulate these equations (including factoring them).

**Why?** – The manipulation of equations and inequalities helps students learn to analyze and decompose problems to make them simpler to solve, both in math and in daily life.

#### Unit 6 & 7 Concepts:

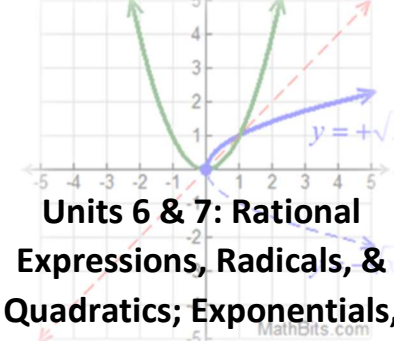
During units 6 & 7 students will be able to evaluate quadratic and radical equations using complex numbers by rationalizing denominators and simplify roots. Also, students will evaluate exponential and logarithmic equations. Students will learn right triangle trigonometry and how to apply it to real life problems.

#### Learning Goals:

Students will gain knowledge of rational, radical, quadratic, exponential, and logarithmic equations along with how to solve right triangle trigonometry.

**Why?** – This will prepare students for success beyond high school in post-secondary math courses.

6<sup>th</sup> 6 Weeks



#### **Units 6 & 7: Rational Expressions, Radicals, & Quadratics; Exponentials, Logarithms, & Trigonometry**

**Questions?** Please contact your **College Prep Math** teacher. **Additional Support:** We recommend Khan Academy and VarsityTutors.com and remember campus tutoring is also available.