**Grade 7 Pre-Algebra Syllabus**

**Unit 1 - Variables, Expressions, and Integers**

1.1 Expressions and Variable

1.2 Powers and Exponents

1.3 Order of Operations

1.4 Comparing and Ordering Integers

1.5 Adding Integers

1.6 Subtracting Integers

 1.7 Multiplying and Dividing Integers

**Unit 2 - Solving Equations**

 2.1 Properties and Operations

 2.2 The Distributive Property

 2.3 Simplifying Variable Expressions

2.4 Variables and Equations

2.5 Solving Equations Using Addition or Subtraction

2.6 Solving Equations Using Multiplication or Division

2.7 Decimal Operations and Equations with Decimals

**Unit 3 - Multi-Step Equations and Inequalities**

 3.1 Solving Tow-Step Equations

 3.2 Solving Equations Having Like Terms and Parenthesis

 3.3 Solving Equations with Variables on Both Sides

3.4 Solving Inequalities Using Addition or Subtraction

3.5 Solving Inequalities Using Multiplication or Division

3.6 Solving Multi-Step Inequalities

**Unit 5 - Rational Numbers and Equations**

 5.1 Rational Numbers

5.2 Adding and Subtracting Like Fractions

5.3 Adding and Subtracting Unlike Fractions

5.4 Multiplying Fractions

5.5 Dividing Fractions

5.6 Using Multiplicative Inverse to solve Equations

5.7 Equations and Inequalities with Rational Numbers

**Unit 6 - Ratio, Proportion, and Probability**

6.1 Ratio and Rates

6.2 Writing and Solving Proportions

6.3 Solving Proportions using Cross Products

6.4 Similar and Congruent Figures

6.5 Similarity and Measurement

6.6 Scale Drawings

**Unit 7 - Percents**

7.1 Percents and Fractions

7.2 Percents and Proportions

7.3 Percents and Decimals

7.5 Percent of Change

7.6 Percent Application

7.7 Simple Interest

**Unit 10 A - Measurement, Area, and Volume**

10.1 Triangles

10.2 Polygons and Quadrilaterals

10.3 Areas of Parallelograms and Trapezoids

10.4 Circumference and Area of a Circle

**Unit 10 B - Measurement, Area, and Volume**

 10.5 Surface Areas of Prisms and Cylinders

10.6 Surface Areas of Pyramids and Cones

10.7 Volumes of Prisms and Cylinders

10.8 Volumes of Pyramids and Cones

**Unit 11 - Data Analysis**

 11.1 Stem-and-Leaf Plots and Histograms

11.2 Box-and-Whisker Plots

11.3 Using Data Displays

11.4 Collecting Data

11.5 Interpreting Data

10.6 (from Big Ideas Math Text) Samples and Populations

10.7 (from Big Ideas Math Text) Comparing Populations

**Unit 12 - Angle Relationships**

 12.1 Angle Relationships

 7.1 (from Big Ideas Math Text) Adjacent and Vertical Angles

7.2 (from Big Ideas Math Text) Complementary and Supplementary Angles

7.3 (from Big Ideas Math Text) Triangles

7.4 (from Big Ideas Math Text) Quadrilaterals

7.5 (from Big Ideas Math Text) Scale Drawings

**Unit 13 - Probability**

 10.1 (from Big Ideas Math Text) Outcomes and Events

10.2 (from Big Ideas Math Text) Probability

10.3 (from Big Ideas Math Text) Experimental and Theoretical Probability

10.4 (from Big Ideas Math Text) Compound Events

10.5 (from Big Ideas Math Text) Independent and Dependent Events

**Unit 4 - Factors, Fractions, and Exponents**

 4.1 Factors and Prime Factorization

4.2 Greatest Common Factor

4.3 Equivalent Fractions

4.4 Least Common Multiple

4.5 Rules of Exponents

4.6 Negative and Zero Exponents

**Unit 8 - Linear Functions**

1.8 The Coordinate Plane

8.1 Relations and Functions

8.2 Linear Equations in Two Variables

8.3 Using Intercepts

8.4 The Slope of a Line

8.5 Slope-Intercept Form

8.6 Writing Linear Equations

8.7 Function Notation

**Unit 9 - Real Numbers and Right Triangles**

9.1 Square Roots

9.2 Simplifying Square Roots

9.3 The Pythagorean Theorem

9.4 Real Numbers

**Link to Big Ideas Math Text**

**http://www.bigideasmath.com/students/?level=8.50**