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| Yinghua MS Math Course | Grade 5 Honor  (Level 3 and 4) | Grade 6 Honor  (Level 3 and 4) | Grade 7 Honor  (Level 3 and 4) | Grade 8 Honor  (Level 3 and 4) |
| Target Math Level in 9th Grade | Algebra 2 or Precalculus\* | | | |
| Sept | Whole numbers and fractions   1. Place value to 10,000,000   Decimals   1. Understanding thousandths   Algebra   1. Use letters as numbers | 1. The real number system 2. Rational number operations | 1. The Pythagorean theorem    1. The Pythagorean theorem describes the relationship among the three sides of a triangle. 2. Geometric transformation    1. Geometric transformations move figures about on a plane. | 1. Linear equations and functions    1. Functions, graphs and notations 2. System of linear equations    1. Graphing, substitution, linear combination methods |
| Oct | Ratio   1. Ratio and equivalent ratio   Percent   1. Express fractions as percents   Graphs and probability   1. Make and interpret data bar graphs | 1. Algebraic expressions 2. Algebraic equations and inequalities | Congruence and similarity  Both congruent figures and similar figures can be related by geometric transformation. | Inequalities and absolute value   1. Solving linear inequalities 2. System of linear inequalities |
| Nov | Area of triangle   1. Base and height of a triangle   Angles, properties of triangles and 4-sided figures   1. Angles at a point and on a line   Three dimensional shapes, surface area and volume   1. Identify prisms and pyramids | Direct and inverse proportion  Two quantities that are in a proportional relationship can be used to solve real world and mathematical problems. | 1. Statistics 2. Probability. | 1. Quadratic functions and factoring    1. Graphing quadratic functions 2. Polynomials and polynomial functions    1. Properties of exponents |
| Dec | Algebra   1. Use letters to represent unknown numbers   Fractions   1. Divide a whole number or a fraction by a fraction | 1. Angle properties and straight lines 2. Geometric transformation | 1. Solving linear equations    1. Solving equations 2. Graphing linear equations and functions    1. Coordinates and scatter plots | 1. Powers, roots, and radicals    1. Rational exponents 2. Exponential and logarithmic functions    1. Exponential growth and decay functions and modeling |
| Jan | Ratio and percentage   1. Compare quantities using ratios 2. Express a ratio in simplest form | Volume and surface area of solids  Solids can be found and can be used to solve real world problems. | 1. Writing linear equations    1. Using given information 2. Solving and graphing linear equations    1. One step, multi-steps, and compound inequalities | 1. Rational equations and functions    1. Graphing rational functions 2. Trigonometry    1. Functions of any angle |
| Feb | Circle and graphs   1. Identify the center, diameter, and radius of a circle | 1. Statistic 2. Probability | System of linear equations   1. Solve linear system by graphing, substitution, and linear combination methods 2. Special types of linear systems | 1. Data analysis and probability    1. Counting principle and permutations 2. Discrete mathematics    1. Matrix operations |
| Mar | Solid figures   1. Associate two-dimensional drawings with three-dimensional shapes   Volume   1. Find volume of a cuboid | 1. Exponents 2. Scientific notations | 1. Exponents and exponential functions    1. Properties of exponents 2. Quadratic equations and functions    1. Solving quadratic equations | 1. Triangle relationships    1. Classifying triangles 2. Congruent triangles    1. SSS and SAS 3. Similarity    1. Similar polygons |
| Apr | Triangles and 4 sided figures   1. Review angle properties of triangles and quadrilaterals | 1. Algebraic linear equations. 2. Lines and linear equations | 1. Polynomials and factoring    1. Polynomial operations 2. Rational equations and functions    1. Rational expressions | Right triangles and trigonometry   1. Special right triangles 2. Tangent ratio |
| May | Speed   1. Interpret speed as distance traveled per unit of time | 1. System of linear equations 2. Functions | Radicals and connections to geometry   1. Square roots 2. Radical expressions | Circle   1. Parts of a circle 2. Properties of tangents |
| June | 5th grade and 6th grade math review | Grade 7 math and some grade 8 math review | 8th grade and 9th grade math review | 10th grade and 11th grade math review |