

# Topics Covered in Math 1 (Analy, 2016-2017)

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## 1st Semester - Algebra Skills

### Unit 1: Solving Linear Equations

- Solve One-Step Equations
- Solve Two-Step Equations
- Solve Multi-Step Equations
- Solve Equations with Variables on Both Sides

### Unit 2: Understanding Functions

- Using Function Notation
- Continuing to solve multi-step equations
- Evaluating Functions
- Graphing Functions
- Modeling with Functions
- Arithmetic Sequences and writing explicit rules
- Identifying Domain and Range of Functions
- Plot Points on a Coordinate Plane

### Unit 3: Graphing/Writing Linear Equations and Functions

- Graph Linear Equations
- Graph Using Intercepts
- Using Slope-Intercept Form, Point-Slope Form, and Standard Form
- Find Slope and Rate of Change
- Predict with Linear Models
- Evaluating Parallel Lines
- Graph Using Slope-Intercept Form
- Write Linear Equations in Slope-Intercept Form, Point-Slope Form, and Standard Form

### Unit 4: Inequalities

- Solving Inequalities
- Solving Compound Inequalities
- Graphing Inequalities on a number line
- Graphing Compound Inequalities on a number line
- Graphing Inequalities on a coordinate grid
- Graphing Systems of Inequalities on a coordinate grid

### Unit 5: Solving Systems of Linear Equations

- Solve Linear Systems by Graphing
- Solve Linear Systems by Substitution
- Solve Linear Systems by Elimination

### Unit 6: Introducing Geometric Sequences and Exponential Functions

- Understanding Geometric Sequences
- Recursive and explicit rules
- Constructing and graphing exponential functions
- Growth and decay functions

(continued on back)

## 2nd Semester - Geometry Skills

### Unit 1: Geometry Vocabulary

- Geometry vocabulary basics
- Lines, Segments, Angles, Points, Planes, Rays, Endpoints, Collinear, Coplanar, etc.
- Segments and Midpoints
- Angle Measures and Angle Bisectors
- Angles formed by intersection lines (vertical angles, linear pair, supplementary, etc)
- Logic
- Conditional Statements
- Flow Chart Proofs (Deductive reasoning and two column proofs will be formalized in Math 2)

### Unit 2: Transformations and Parallel Lines

- Translations
- Reflections
- Rotations
- Symmetry
- Parallel lines cut by a transversal - same side interior angles, alternate interior angles, etc
- Proving lines are parallel
- Perpendicular lines

### Unit 3: Properties of Triangles and Special Segments in Triangles

- Interior (add to 180) and Exterior Angles (add to 360) etc.
- Isosceles and Equilateral - angles and sides - definitions
- Perpendicular bisectors
- Angle bisectors
- Medians and Altitudes
- Midsegments

### Unit 4: Congruence and Triangle Congruence

- Proving congruent using rigid motion
- Corresponding parts of congruent figures are congruent (CPCFC)
- What makes triangles congruent?
- ASA, SAS, SSS,

We plan to supplement constructions with compass and straightedge and with technology using Geogebra. We use the HMH Integrated Mathematics series, first year, or Math 1 text, 2015 edition.

The placement test covers all of the above material. The following topics are covered in the course, but not present on the placement test. We expect teachers at our feeder middle schools to cover this material before the end of the year.

#### Unit 4: Congruence and Triangle Congruence

- More triangle congruence: AAS, HL Congruence

#### Unit 5: Quadrilateral Properties and Conditions

- Parallelograms
- Rectangles, Rhombuses, Squares
- Kites, Trapezoids