

Course Description: Math 7 Honors (1 of 2) explores adding and multiplying rational numbers by using number lines, rules, and properties. Topics include: how to solve problems by finding and comparing unit rates, writing expressions using properties, writing and solving simple linear equations using different methods, probability and statistics to interpret and calculate simple probabilities, and populations and samples. Geometry topics include solving problems involving scale drawings, circles, and angle relationships.

Course Objectives:

- Identify, interpret, and add opposite numbers.
- Solve and interpret equations and word problems that involve adding or multiplying rational numbers.
- Rewrite expressions using properties of numbers and operations.
- Solve problems with proportional relationships.
- Analyze and compare different methods of solving problems.
- Find, interpret, and compare estimated and expected probabilities events.
- Predict frequencies of events using probabilities.
- Identify and design probability models to represent given probabilities.
- Identify whether samples are representative of a population.
- Estimate data and make conclusions for populations based on sample data.
- Solve problems using geometric relationships.
- Identify, classify, and create geometric figures based on given characteristics.

Required Materials:

In course.

Course Overview:

Unit 1: The Number System

- Learn (Lessons 1-5)
 - Key Terms
 - Text and Videos: Opposite Values; Add on the Number Line; Sums of Rational Numbers; Products of Rational Numbers; The Distributive Property
 - Step-by-Step Example Problem
 - Workbook
- Discussion (Lessons 1, 3, and 4)
- Checkpoint (Lessons 1-4)
- Unit 1 Exam (Lesson 5)
- Project (Lessons 3, 4, and 5)

Unit 2: Ratios and Proportions

- Learn (Lessons 6-10)
 - Key Terms
 - Text and Videos: Unit Rates; Unit Rates in Graphs; Unit Rates in Diagrams and Tables; Unit Rates in Equations; Unit Rates in Verbal Descriptions
 - Step-by-Step Example Problem
 - Workbook
- Discussion (Lessons 6, 8, and 10)
- Checkpoint (Lessons 6-9)
- Unit 2 Exam (Lesson 10)
- Project (Lessons 7, 9, and 10)

Unit 3: Expressions and Equations

- Learn (Lessons 11-15)
 - Key Terms
 - Text and Videos: Expressions with Addition and Subtraction; Expressions with the Distributive Property; Interpret Situations; Solve Equations; Compare Methods of Problem Solving
 - Step-by-Step Example Problem
 - Workbook
- Discussion (Lessons 11, 13, and 14)
- Checkpoint (Lessons 11-14)
- Unit 3 Exam (Lesson 15)
- Project (Lessons 13, 14, and 15)

Unit 4: Probability

- Learn (Lessons 16-20)
 - Key Terms
 - Text and Videos: Probability Basics; Probability Models; Events with Equal Chances; Events with Unequal Chances; Compare Probabilities
 - Step-by-Step Example Problem
 - Workbook
- Discussion (Lessons 16, 19, and 20)

- Checkpoint (Lessons 16-19)
- Unit 4 Exam (Lesson 20)

Unit 5: Samples and Inferences

- Learn (Lessons 21-25)
 - Key Terms
 - Text and Videos: Populations and Samples; Collect Random Samples; Use Random Samples; Interpret Sample Results; Make Predictions
 - Step-by-Step Example Problem
 - Workbook
- Discussion (Lessons 21, 22, and 25)
- Checkpoint (Lessons 21-24)
- Unit 5 Exam (Lesson 25)

Unit 6: Geometry

- Learn (Lessons 26-29)
 - Key Terms
 - Text and Videos: Scale Drawings; Geometric Figures; Area and Circumference; Angle Relationships
 - Step-by-Step Example Problem
 - Workbook
- Unit 1-Unit 6 Reviews (Lesson 30)
- Discussion (Lessons 26, 27, 29, and 30)
- Checkpoint (Lessons 26-28)
- Unit 6 Exam (Lesson 29)
- Course Final Exam (Lesson 30)
- Course Summary (Lesson 30)