C2.0 Investigations into Mathematics Unit 1 Course Outline

Ratios and Proportional Relationships

Topic	Instructional Foci
Topic 1: Understanding Proportional Relationships	In this topic, students extend their understanding by reasoning about ratios and proportional relationships. They identify unit rates in representations of proportional relationships. Students also work with equations in two variables to represent and analyze proportional relationships. This topic concludes with students consolidating their graphical understandings of proportional relationships. ***Concepts*** Solve rate and ratio problems using multiple representations. Determine unit rates with rational numbers. Solve scenarios using unit rates. Understand what makes ratios proportional. Identify proportional and non-proportional relationships in tables and graphs. Reason about the unit rate as a constant rate of proportionality. Analyze proportional relationships using multiple representations. Interpret graphs of proportional relationships.

Topic	Instructional Foci
Topic 2: Application of Proportional Relationships	In this topic, students solve multi-step ratio and percent problems. They will continue to use diagrams, models, and ratio tables, extending this use to finding unit rates and solving percent problems. Students continue to connect their work with equations to their work with tables and diagrams. They are also introduced to scale drawings and determine the relationship between scale factor and proportions. ***Concepts*** Explore scale drawings using the constant of proportionality. Compare the scale factors of lengths and area in scale drawings. Use a given scale drawing to reproduce the drawing at a different scale. Explore percents as proportional relationships. Compare two quantities using percentages. Investigate the relationship between percent increase and decrease. Analyze and solve scenarios involving markups and markdowns. Analyze and solve scenarios involving gratuity, tax, and commission. Analyze and solve scenarios involving simple interest. Apply proportional reasoning to solve multi-step ratio scenarios. Analyze and solve scenarios involving percent error.