Ratios and Proportional Reasoning

Essential Questions

How can you represent a relationship between two quantities?

How can you write a ratio to represent a situation, and what does that ratio mean?

Does switching the numbers in the ratio change the description of the ratio relationship?

Can more than one ratio describe a situation?

How can you find two ratios that describe the same relationship? Is there more than one way to find another ratio?

How do you use a ratio relationship to graph on a coordinate plane?

What strategies can you use to calculate the unit rate and associated ratios?

Do you see a pattern that will help generate equivalent ratios/proportions and/or other ratio concepts to solve ratio problems?

How can you use a table of different unit rates, a graph in a coordinate plane, and an equation to solve ratio problems?

In what ways can you represent and analyze quantitative relationships between dependent and independent variables?

What two mathematical operations are used to convert measurement in one unit to measurement in another unit? Can you describe a situation for each mathematical operation?

How do you use conversion tables to convert from measurement in one unit to measurement in another unit?

If work is being done at a constant rate by one person, and a different constant rate by another person, how do you convert them to compare them directly?

Rate problem, including constant rate problems, always count or measure something happening per unit of time. Should time be the numerator or denominator?

How is a ratio that is part to whole like a fraction?

How are fractions, decimals, and percents related?

How do you convert between a fraction, decimal, and a percent?

What strategies can you use to solve problems using fractions, decimals, and percents?