*Teachers Notes*

SOL 6.1

Ratio:   *a to b*

* Comparison of any two quantities
* Used to represent relationships within and between sets
* The order of the quantities in a ratio is directly related to the order of the quantities expressed in the relationship
* A multiplicative comparison of two numbers, measures, or quantities
* All fractions are ratios and all ratios are fractions
* Ratios may or may not be written in simplest form
* Rates can be expressed as ratios

Examples

* 4 boys to 6 girls
* 4 boys to 6 girls in the math club 4 boys in the math club to 8 boys in the chess club 6 girls in the math club to 8 boys in the chess club
* The ratio of cats to dogs must be written as cats to dogs because that is the order stated in the relationship
* 60% is 60/100
* 5 out of 10 animals were dogs = 1 out of 2 animals are dogs

Part – Whole Comparison Ratios:

* A ratio can compare part of a set to the entire set

Examples

* + There is a girls’ soccer team with 30 people on the team and there are only 2 goalies
    - 2 goalies to 30 players on the team
    - 1 goalie for every 15 players (simplest form)

Part – Part Comparison Ratios:

* A ratio can compare part of a set to another part of the same set
* A ratio can compare part of a set to a corresponding part of another set

Examples

* + There are 12 boys to 14 girls in Ms. Johnson’s class and 9 boys to 19 girls in Mr. Ward’s class
* 12 boys to 14 girls
* 12 boys to 9 boys

Part – Part Comparison Ratios:

* A ratio can compare all of a set to all of another set

Examples

* + There are 12 boys to 14 girls in Ms. Johnson’s class and 9 boys to 19 girls in Ms. Ward’s class
    - 26 students in Ms. Johnson’s class to 28 students in Ms. Ward’s class

***Essential Questions:***

**What is a ratio?**

*A ratio is a comparison of any two quantities. A ratio is used to represent relationships within a set and between two sets. A ratio can be written as a fraction form , a colon , or the word to 2 to 3 *

**Describe a relationship within a set by comparing part of the set to the entire set.**

**Describe a relationship between two sets by comparing part of one set to a corresponding part of the other set.**

**Describe a relationship between two sets by comparing all of one set to all of another set.**

**Describe a relationship within a set by comparing one part of the set to another part of the same set.**

**Represent a relationship in words that makes a comparison by using notations  ,** *a to b*.