## RATIOS

A ratio is a pair of numbers that compares two quantities.

## EXAMPLE:

The ratio of the number of girls to the number of boys is 3 to 2 .
The description of the ratio reveals the order in which the numbers must appear in the ratio. In this case, the number of girls (3) must appear before the number of boys (2).

The meaning of the ratio is determined by the order in which it is written. Switching the antecedent (first value) and the consequent (second value) changes the relationship.

Ratios can be expressed in the following ways: 3 to $2,3: 2$, and $\frac{3}{2}$.
Ratios can be simplified by dividing both values by a common factor. Doing so does not change the meaning of the ratio. For example, the ratio 9:12 can be simplified to 3:4 because 9 and 12 have a common factor of 3 . Dividing 9 and 12 by 3 results in 3 and 4 , respectively.

Equivalent ratios are different ratios that have the same value. They can be found by multiplying or dividing both values in the ratio by the same number.

## EXAMPLES:

The ratio $5: 10$ is equal to $1: 2$ because 5 and 10 are both divisible by 5 .
The ratio $3: 5$ is equal to $30: 50$ when 3 and 5 are multiplied by 10 .
The ratio $84: 36$ is equal to $7: 3$ because 84 and 36 are both divisible by 12 .

