# RATIO

# A DEFINITION

### Definition Ratio

A ratio is a comparison of two quantities. The ratio 3 to 2 can be expressed as 3:2 or  $\frac{3}{2}$ .

# **B** PART-PART RATIOS

### - Definition **Part-Part Ratio** A **part-part ratio** compares two distinct parts of a whole.

Part 1 : Part 2	
Whole	
Part 1	Part 2

Ex: For one bowl of fruit juice, there are 3 cherries and 2 apples.



The ratio of cherries to apples is 3:2.

# C PART-WHOLE RATIOS Definition Part-Whole Ratio A Part-whole ratio compares one part of a whole to the whole. Part 1 : Whole or Part 2 : Whole Whole Part 1 Part 2

Ex: If a juice is made with 1 lemon and 2 oranges, find the ratio of oranges to the total number of fruits.



Answer:

- The total number of fruits is 1 + 2 = 3.
- The ratio of oranges to the total number of fruits is 2:3 or  $\frac{2}{3}$ .

# **D** EQUIVALENT RATIOS

### Definition Equivalent Ratios

Two ratios are **equal** if one can be expressed as a multiple of the other.

### Method Using Fractions

To show that two ratios are equal, we can compare their related fractions. If the fractions are equal, then the ratios are equal.

Ex:



## **E PROPORTION**

- Definition **Proportion** -
- A proportion is an equation stating that two ratios are equivalent.

**Ex:** To make 1 chocolate cake, you need 4 eggs. How many eggs are needed for 2 cakes?

Answer: For 1 cake, you need 4 eggs. To find the number of eggs for 2 cakes, set up a proportion:



Thus, you need 8 eggs for 2 cakes.

## F PART IN WHOLE-PART RELATIONSHIPS



(\*\*