

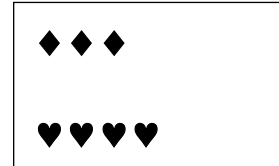
Ratios Instructional Sheet

A Ratio is a comparison of two amounts. We write ratios with the symbol (:) which means “ to “

For example, $5 : 10$ we say “ 5 to 10 “
 $18 : 6$ “ 18 to 6 “

There are two types of ratios (Part to Part Ratio) and (Part to Whole Ratio)

Look at the shapes to the right. There are 3 diamonds and 4 hearts in the box.



The ratio of diamonds to hearts is written $3 : 4$

The ratio of hearts to diamonds is written $4 : 3$

These ratios are called **Part to Part Ratios**

- both diamonds and hearts are different parts of the box

You can also write **Part to Whole Ratios**

For example, The ratio of diamonds to shapes is $3 : 7$ as there are 7 total shapes in the box.

The ratio of hearts to shapes is $4 : 7$

A Part to Whole Ratio can also be written as a fraction ie. 3 to 7 $3 : 7$ $3/7$

Think of baking or cooking when you think of ratios.

To make a recipe for 12 pancakes, you might need one egg, 2 cups of flour, and 1 cup of milk.

eggs to flour = $1 : 2$

eggs to pancakes = $1 : 12$ or $1/12$

eggs to milk = $1 : 1$

flour to pancakes = $2 : 12$ or $2/12$

If I want to double the recipe to make 24 pancakes (big breakfast), I just need to double my ratios. If one cup of milk makes 12 pancakes, then 2 cups of milk make 24 pancakes.

cups of milk to pancakes = $1 : 12$ is equivalent to $2 : 24$

just like fractions, $\frac{1}{12}$ $\frac{2}{24}$ are equal (equivalent fractions)

To find equivalent ratios, you just need to multiply or divide both sides of the ratio by the same number.

$2 : 6 = 10 : 30$ ($2 \times 5 = 10$ and $6 \times 5 = 30$) $50 : 30 = 5 : 3$ ($50 \div 10 = 5$ and $30 \div 10 = 3$)

To find a missing value in a ratio, just think of equivalent ratios.

$2 : 3 = \underline{\quad} : 15$

- to go from 3 to 15, 3 is multiplied by 5, therefore the ratio is 5 times greater

$2 : 3 = 10 : 15$

- $2 \times 5 = 10$, therefore the missing value is 10