

Ratio

Ratios compare two or more quantities which are in the same units. They are written with a colon (:) between each values. Ratios can be treated just like fractions and can be simplified. Finding Ratios Finding a ratio between a set of numbers means finding out numerically how the numbers compare with each other. For example:

Find the ratio between 50 pence and 1 pound.

Put these into the same units: 1 pound is the same as 100 pence.

Put them into the format of a ratio: 50 pence : 100 pence

Simplify this to it's simplest form: $50 : 100 = 1 : 2$

This shows that the 1 pound was twice as much as the 50 pence.

Using Ratios A ratio shows the relation between each value. For a ratio $a:b:c$ there are three different parts. Each of these represents a part of a whole. This ratio means there are $\frac{a}{a+b+c}$, $\frac{b}{a+b+c}$ and $\frac{c}{a+b+c}$ which, together, make a whole. parts. This means a value which is to be split into the values with this ratio are in the parts For example:

Split 100 pounds in the ratio 3:2:5 This means there are 10 parts, found by the sum of the values in the ratio. Each of the 10 parts are equal to each other. That means each part is 10 pounds, found by 100 divided by 10. We can then find how the 100 pounds is split: First part = $(\frac{3}{10} \text{ of } 100) = 30$ pounds

Second part = $(\frac{2}{10} \text{ of } 100) = 20$ pounds

Third part = $(\frac{5}{10} \text{ of } 100) = 50$ pounds

This shows that 100 pounds split by the ratio - 3:2:5 gives the values - 30 pounds : 20 pounds : 50 pounds

About the Author

Revision notes by Richard Tang

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