

SUBJECT: **FRACTIONS** – what they are and calculating a fraction of a sum

KEY-WORDS: Fraction, numerator, denominator, simplifying

LINK-WORDS: DECIMALS, PERCENTAGES

NOTES

A fraction by itself is just a way of showing a value – useful for values in-between whole numbers. The value is divided into equal parts. It is shown as one number above another with a line between them.

The numerator tells you how many parts are being considered, and the denominator represents the total number of equal parts.

$\frac{3}{4}$ represents three parts out of four of something – the four tells you that you are breaking something up into four equal parts and the three tells you that you are only considering three out of those four equal parts.

FAR more useful however is to be able to calculate a fraction of a value. To do this, simply divide the value by the denominator (bottom) and multiply by the numerator (top).

Fractions that look different can actually be the same value. These are called **EQUIVALENT** fractions. If you can divide the numerator and denominator by the same number and still end up with them being whole values then you are **SIMPLIFYING** a fraction. When you can go no further, it is in its **SIMPLEST** form.

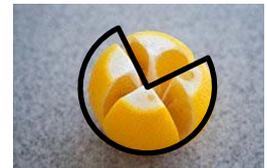
DO's

To simplify a fraction to its simplest form in one step, divide the top and bottom by their **highest common factor**.

EXAMPLE

Numerator \longrightarrow 3
 Fraction bar or Vinculum \longrightarrow —
 Denominator \longrightarrow 4

Three quarters of a lemon:



$$\begin{aligned} \frac{3}{4} \text{ of } \pounds 160 &= \pounds 160 \div 4 \times 3 \\ &= \pounds 120. \end{aligned}$$

$$\frac{8}{20} = \frac{4}{10} = \frac{2}{5}$$

DON'Ts

Don't bother dividing by 1 – you'll just get the same numbers.

Don't show a fraction with decimals in it – this is just not done.

RELEVANT SUBJECTS

Every-day calculations eg sharing out quantities, or calculating fractions of amounts in catering.

EXAMPLES and LINKS