



Fractions, decimals and percentages

What do I need to be able to do?

By the end of this unit you should be able to

- Identify, name and write equivalent fractions and decimals
- Convert between improper and mixed number fractions, and multiply them by a whole number
- Compare and order fractions
- Add and subtract fractions
- Recognise $\frac{1}{2}$ symbol
- Round decimals to the nearest whole and one decimal place
- Recognise tenths, hundredths and thousandths
- Read and write decimal numbers as fractions

Keywords

Equivalent – Equal value
 Numerator – The number at the top of the fraction
 Denominator – The number at the bottom of the fraction
 Mixed Number Fraction – fraction that includes an integer and fraction together
 Convert – Change from decimal $\rightarrow$ percentage $\rightarrow$ fraction
 Decimal Place – Digits to the right of the decimal point
 Improper Fraction – Fraction where the top number is bigger than the bottom
 Product – Multiplying

Understanding Fractions

Parts of a fraction

Numerator $\rightarrow$ $\frac{1}{5}$
 Denominator $\rightarrow$ $\frac{1}{5}$

Improper Fraction

$\frac{7}{5}$

Mixed Number Fraction

$3\frac{2}{5}$

Adding and Subtracting Fractions

Convert to the same denominator, then add or subtract

$$\frac{3}{4} - \frac{1}{2} = \frac{3}{4} - \frac{2}{4} = \frac{1}{4}$$

(Note: The diagram shows arrows indicating the conversion of 1/2 to 2/4 by multiplying the numerator and denominator by 2.)

Percentage

Percentage means out of 100. So a 100% is the same as saying 'the total' or 'the whole'. Here's another example:

$$60\% = 0.60 \text{ or } \frac{60}{100}$$

Converting between Fractions, Decimals and Percentages

$$\frac{1}{10} = 10\% = 0.1$$

Convert from a fraction to a percentage by calculating the multiplicative e between the denominator and 100.

Convert from a percentage and a decimal by dividing the number by 100.

$$\frac{1}{2} = 50\% = 0.5$$

$$\frac{1}{5} = 20\% = 0.2$$

Converting Improper and Mixed Number Fractions

Improper to Mixed Number

1) Divide the numerator by the denominator e.g. $14 \div 3$

2) Write the remainder and place it above the denominator

$$\frac{14}{3} = 4 \text{ r}2 = 4\frac{2}{3}$$

Mixed Number to Improper

1) Multiply the whole number by the denominator.

2) Add the numerator to the number (from the first part)

3) Write it over the denominator

$$4\frac{2}{3} = \frac{5 \times 3 + 2}{3} = \frac{17}{3}$$

Decimal Numbers

2.43

Ones Tenth Hundredth Thousandth