



Fractions, decimals and percentages

What do I need to be able to do?

By the end of this unit you should be able to

- Add, subtract, divide and multiply fractions
- To compare, order and simplify fractions
- Convert between percent, decimal and fraction
- Identify decimals to three decimal places
- Multiply numbers to two decimal places by integers

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 → percentage → fraction

Decimal Place – Digits to the right of the decimal point

Improper Fraction – Fraction where the top number is bigger than the bottom

Integer – A whole number

Product – Multiplying

Understanding Fractions

Parts of a fraction

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

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

$$\frac{3}{5} - \frac{1}{2} = \frac{6}{10} - \frac{5}{10} = \frac{1}{10}$$

Percentage

Percentage means out of 100. To find the percentage of a number. Divide by 10, in order to get 10% then multiply the number until you have the same percent

60% of 550

$550 \div 10 = 55$ (which is 10%). Then multiply 55 by 6 in order to get 330, which is 60%

Multiplying and Dividing Fractions

Multiplying Fractions

$$\frac{2}{10} \times \frac{3}{5} = \frac{6}{50}$$

Multiply the numerators together, then the denominators

$$\frac{2}{10} \times 3 = \frac{6}{10}$$

Keep the denominator the same, then multiply the numerator and integer

Dividing Fractions

$$\frac{2}{10} \div 3 = \frac{2}{30}$$

Decimal Numbers

Ensure that the denominator of the fraction is 10 or 100, then convert them all to percent

Convert to an equivalent fraction that's over 10 or 100

65%

$$\frac{3}{5} = \frac{6}{10} = 60\%$$

$0.78 = 78\%$ convert a decimal to a percent by $\times 100$

2 | 43
Ones Tenth Hundredth Thousandth

Multiplying Decimals

Using short multiplication to multiply decimals

$$\begin{array}{r} 3.26 \\ \times 4 \\ \hline 13.04 \\ \hline \end{array}$$