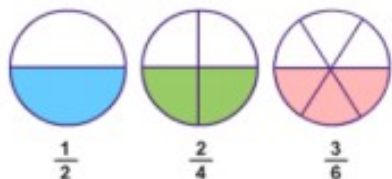


Simplify fractions

Divide by a common factor to write a fraction in its simplest terms. The following fractions are equivalent (the same).



Convert mixed numbers to improper fractions

Multiply the denominator by the whole number part and add the numerator. Put the answer over the denominator.

$$7\frac{1}{6} = \frac{6 \times 7 + 1}{6} = \frac{43}{6}$$

Convert improper fractions to mixed numbers

Divide the numerator by the denominator.

$$\frac{43}{6} = 7\frac{1}{6}$$

The answer gives the whole number part. The remainder goes on top of the fraction, with the same denominator.

Fraction of an amount

Amount divided by the denominator then multiplied by the numerator.

Eg. Find $\frac{3}{4}$ of £800

$$800 \div 4 = 200$$

$$200 \times 3 = £600$$



Year 9 foundation topic 4

Fractions and percentages

What careers would use these skills?

Medicine for drugs calculations, cooking for measuring fractions of an ingredient, farming for percentage yield of a crop, scientists looking at rates of decay.

VAT calculations

TAX is a financial charge placed on sales or savings by the government e.g.

VAT. The standard amount for the UK is currently 20% (March 2020).

Calculate 20% of the cost and add it on.

Simple interest/ compound interest

Simple interest is interest calculated as a percent of an original loan.

Compound interest is when interest is calculated on both the amount borrowed AND any previous interest,

Use this formula $\text{amount} \times \text{multiplier}^{\text{years}}$

Fraction, decimal and percentage conversions

% to decimal	Divide by 100
Decimal to %	Multiply by 100
Fraction to %	Find an equivalent fraction with 100 as the denominator
% to fraction	Write as a fraction over 100 and simplify
Fraction to decimal	Divide or convert to a % first
Decimal to fraction	Use place value to find the denominator and simplify or convert to a % first

Examples

Fraction	Decimal	Percentage
$\frac{1}{2}$	0.5	50%
$\frac{1}{5}$	0.2	20%
$\frac{3}{100}$	0.03	3%
$\frac{3}{4}$	0.75	75%

Percentage of an amount

-Percentage means out of 100. -To find 1%, divide by 100.

-To find 10%, divide by 10. -To find 50%, divide by 2.

Use combinations of these percentages to calculate any other percentage.

Or Decimal multiplier method.

Convert the percentage to a decimal and multiply it by the amount.

Eg. 28% of £350

$$0.28 \times 350 = £98$$

Percentage increase

Calculate the percentage and add it on to the original

OR use a decimal multiplier: $\frac{100 + \%}{100}$

Eg. Increase £200 by 5% = $200 \times 1.05 = £210$

Percentage decrease

Calculate the percentage and subtract it from the original

OR use a decimal multiplier: $\frac{100 - \%}{100}$

Eg. Decrease £200 by 5% = $200 \times 0.95 = £190$