Fractions

Study Development Quickguide

## Simplifying fractions

For a fraction we simplify by doing the following:

1. Check to see if a and b have a common factor.
2. If no common factor exists (other than 1), the fraction is in its simplest form.
3. If a common factor (other than 1) does exist, divide the numerator and the denominator by it.
4. Repeat this process until there are no more common factors (other than 1).

## Operations on fractions

Adding fractions:

+ =

Subtracting fractions:

- =

Multiplying fractions:

=

Dividing fractions:

÷ = =

Fractions to a power:

=

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## Comparing fraction size

‘Is larger than ?’

1. Calculate = , and = .
2. Compare and . Whichever fraction has the largest numerator is the larger fraction.
3. The corresponding fraction is also the larger fraction, since = , and = .

## Improper Fractions

To convert an improper fraction to a mixed fraction:

1. For an improper fraction , calculate a ÷ b = c.
2. If c has values after the decimal point, disregard them. For example, if c = 5.457, we would write c’ = 5.
3. Calculate - = .
4. We therefore write as the mixed fraction: c’ .

In order to turn a mixed fraction into an improper fraction, we do the following:

1. For a mixed fraction x , we calculate (x z) + y = w.
2. We then write the improper fraction as .

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