Converting decimals to fractions

1. Look at the decimal you are trying to convert. Count how many values there are after the decimal point. We write the number of values as 'a'.

2. Write the fraction as: $\dfrac{\text{decimal} \times 10^a}{10^a}$.

3. If you can, cancel down the fraction until it is in its simplest form.

4. If there are an infinite number of (non-zero) values after the decimal point, we obviously cannot use this method. Some decimals convert exactly into fractions, and you will need to remember some of these.

   - For example, $0.\dot{3} = \dfrac{1}{3}$, $0.\dot{6} = \dfrac{2}{3}$, $0.1\dot{6} = \dfrac{1}{6}$.

   - Otherwise, sometimes we must settle for rounding the number and then converting it to a close, but slightly inaccurate fraction. For example, 0.14253… could be rounded to 0.1425, and then converted to give $\dfrac{1425}{10000} = \dfrac{57}{400}$.

Converting decimals to percentages

1. Multiply the decimal by 100.

Converting percentages to decimals

1. Divide the percentage by 100.

Converting percentages to fractions

1. Write the percentage as the numerator in a fraction over 100.
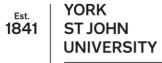
2. Simplify the fraction if possible.

Converting fractions to decimals

1. Divide the numerator by the denominator. This may require a calculator.

Converting fractions to percentages

1. Convert the fraction into a decimal.
2. Convert the decimal into a percentage.

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