

Converting Decimal Fractions to Fractions

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In the previous segment, we looked at examples of **Rational number in the standard form**. In this segment, we will learn how decimal fractions can be converted into fractions.

How to Convert decimal fractions to fractions?

To write a fraction, two things are needed: the numerator and the denominator. For any given decimal fraction, the numerator is the decimal number without the decimal. And the denominator is 1 followed by as many zeros as there are decimal places in the given number.

For example,

(i) Convert 0.037 as a fraction.

In this case, the numerator will be 37. And since the given number has 3 decimal places, the denominator will be 1 followed by 3 zeros, that is 1000.

$$\text{So, } 0.037 = \frac{37}{1000}$$

(ii) Convert 0.2850 as a fraction.

The numerator without the decimal part is 2850. And since there are 4 decimal places, the denominator is 10000.

$$\text{So, } 0.2850 = \frac{2850}{10000}$$

0 at the end of a decimal fraction does not change its value.

This means, 0.2850 is the same as 0.285. Thus, the fraction can be written as $\frac{285}{1000}$

$\frac{2850}{10000}$ and $\frac{285}{1000}$ are equivalent fractions.

(iii) Convert 4.343 as a fraction.

The numerator will be 4343 and the denominator will be 1000.

$$\text{So, } 4.343 = \frac{4343}{1000}$$

This decimal fraction can also be written as a mixed fraction as $4\frac{343}{1000}$

The integral of the fraction becomes the whole part, and the decimal part becomes the fractional part.

Converting the mixed fraction will give the improper fraction.

- Numerator of improper fraction =
(Whole part of mixed fraction x Denominator of fractional part) + Numerator of fractional part.
- Denominator of improper fraction = Denominator of fractional part of mixed fraction

So, applying this to our mixed fraction, we get,

$$4\frac{343}{1000} = \frac{4 \times 1000 + 343}{1000} = \frac{4343}{1000}$$

Summary

Converting Decimal Fraction to Fraction	<ul style="list-style-type: none"> • Numerator - Decimal number without the decimal point • Denominator - 1 followed by as many zeros as decimal places
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What's next?

In the next segment of Class 10 Maths, we will **learn how to convert a fraction into a decimal fraction.**