

Date -
16/05/2020

Class - 9th

Maths

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Non-terminating decimal:

A decimal number that continues infinitely or without end is called as non-terminating decimal.

Non-terminating decimal

Non-terminating repeating decimal

Non-terminating non-repeating decimal

It can be converted into fraction

It can not be converted into fraction

Rational number

Irrational number

Example:

$$0.\overline{3} = 0.333, \dots$$

$$0.\overline{525} = 0.525525\dots$$

$$0.3\overline{12} = 0.31222\dots$$

Example:

$$0.040040004\dots$$

$$0.007000700007\dots$$

Irrational numbers:

A number is an irrational number, if it has a non-terminating and non-repeating decimal representation.

Example: $0.05005000500005000005\dots$
 $\sqrt{2}, \sqrt{3}, \sqrt{5}, \dots$ etc.