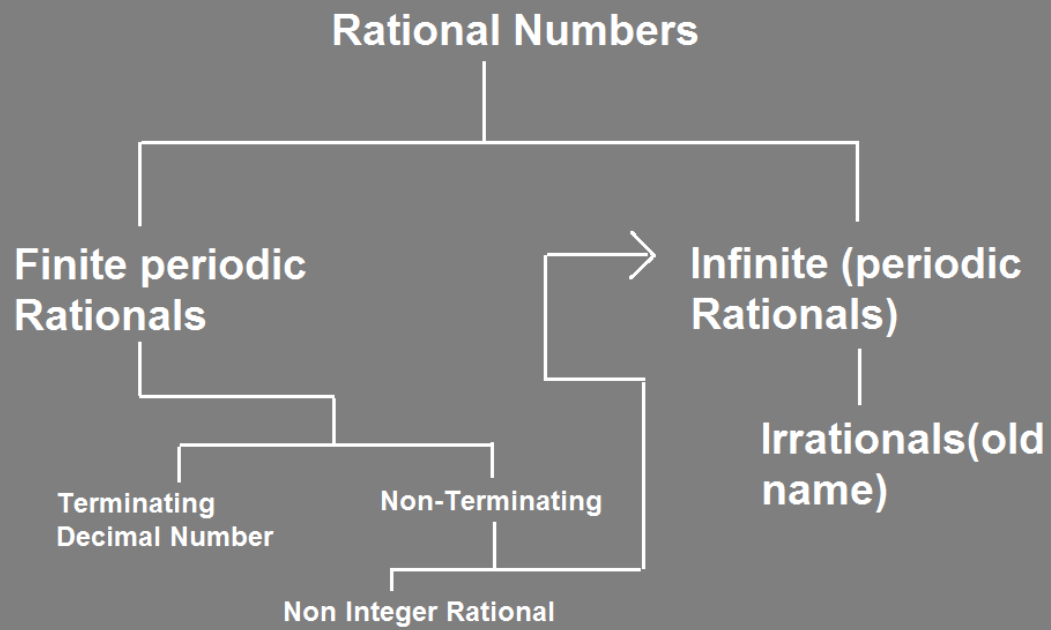


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Revised Number Properties

Classification of Numbers



What is a Rational Number?

Any number which can be expressed as a fraction like $\frac{2}{4}$, $\frac{3}{7}$ etc

Now

$\frac{2}{4} = 0.5$ Terminating rational

4

$\frac{3}{7} = 0.428571428571\dots$

7

Non-terminating

Now we find how period of Rational Numbers increases

We begin from period 1 simplest rationals

$$\frac{2}{9} = 0.22222222\dots$$

now we find period 2

$$\frac{23}{99} = 0.23232323\dots$$

Continuing in this manner period
of rational number keeps increasing
we can find a rational numbers with period
100 or 2000 or 3 lac or 50 million etc
in the same manner as explained

so

$$\sqrt{2} = 1.414213562 \dots$$

and

$$\frac{1414213562}{9999999999} = 0.14142135621414213562 \dots$$

