

Rational Numbers

A **Rational Number** can be made by dividing two integers.

(An integer is a number with no fractional part.)

Example:

1.5 is a rational number because $1.5 = 3/2$ (3 and 2 are both integers)

$$1.5 = \frac{3}{2} \text{ Ratio}$$

Rational

Most numbers we use in everyday life are Rational Numbers.

Here are some more examples:

Number	As a Fraction	Rational?
5	5/1	Yes
1.75	7/4	Yes
.001	1/1000	Yes
-0.1	-1/10	Yes
0.111...	1/9	Yes

Oops! The square root of 2 cannot be written as a simple fraction! And there are many more such numbers, and because they are **not rational** they are called Irrational.

Another famous **irrational** number is Pi (π):

$$\pi = 3.14159\dots = \frac{?}{?} \text{ (No Ratio)}$$

Irrational

Formal Definition of Rational Number

More formally we say:

A rational number is a number that can be in the form p/q where p and q are integers and q is not equal to zero.

So, a rational number can be:

$$\frac{p}{q}$$

Where q is not zero