

NUMBER

There are several kinds of number, which are shown below with examples.

1. Integers

Positive integers 1, 2, 3, 4, (Also called the Natural numbers)

Zero, nought 0

Negative Integers -1, -2, -3, -4, . . .

2. Rational Numbers

These include integers, fractions and mixed numbers of the type $\frac{p}{q}$ where p and q are integers.

Fractions can be written as exact decimals e.g. $\frac{5}{8} = 0.625$, or as decimals

which have a recurring pattern e.g. $\frac{5}{9} = 0.55555\bar{5}$ and $\frac{5}{11} = 0.454545\bar{45}$, so these are also rational numbers.

3. Irrational Numbers

a) Square roots.

Some numbers such as 16, 6.25 and 0.0009 have exact square roots.

$$\sqrt{16} = 4, \quad \sqrt{6.25} = 2.5, \quad \sqrt{0.0009} = 0.03$$

Other numbers do not have exact square roots and these are irrational numbers.

$\sqrt{2}$, $\sqrt{17}$, do not have exact square roots and are therefore irrational numbers.

b) There are other irrational numbers, such as π and many trigonometric functions.