Is an element of

Used to show the set of numbers to which x can belong

Natural Numbers

The set of positive integers

{1, 2, 3, …}

Integers

The set of integers (positive and negative, including zero)

{0, ±1, ±2, …}

Rational Numbers

A number that is rational can be expressed as a fraction

Positive Number

**Pn**

Real numbers greater than zero

Zero is neither +ve or –ve)

Identity

Used to show two expressions which are identical, ie equal for all values of x

Real Numbers

The set of all real numbers, positive and negative, rational and irrational

Function

A relation between a set of values for x and their output values

Sigma

The sum of

Approximately

Used to show two expressions or values which are approximately equal

Logarithm

The logarithm to the base a of x

Modulus

The modulus of x. The absolute value. (The positive value of x, ignore any negative sign)

Composite function

The effect of applying function g following by function f

Therefore

Abbreviation often used in proofs

Exponential function

The exponential function of x

Natural logarithm

The natural logarithm of x (logarithm to the base e of x)

This implies

Abbreviation often used in proofs

Sigma

The sum of

Integral

The integral of f(x) between the limits a and b.

Integration is the inverse of differentiation and is the area under the curve.

Double Differentiate

The expression y had been differentiated with respect to x twice (to find the nature of the turning point)

Factorial

**n!**

1 x 2 x 3 x … x (n – 1) x n

Binomial Coefficient

The value of

Sigma

The sum of

Differentiate

The expression y had been differentiated with respect to x (to give the gradient function)

Inverse Function

The inverse function to the function f

The second derivative

The function f has been differentiated with respect to x twice

The first derivative

The function f has been differentiated with respect to x

Quod erat demonstrandum

Written at the end of a proof. Meaning “That which was to be proved”

Plus/Minus

Used to show that an expression can take both a positive value and a negative value.

Infinity

A number greater than any assignable quantity or countable number

Tends towards

Abbreviation used to show the limit an expression reaches