FUNCTION

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A B S T R A C T	K E Y W O R D S
The article explains information about the function used in mathematics through examples.	Function, law, set, number, equation, graph.

Introduction

A function is one of the most important and general concepts in mathematics. The function has many types and is most commonly used as a linear function i.e. f (x)=ax+b. The variable represents the connection between the quantities. Function determinants F, g, v, T...... Are marked with letters. Y = f(x),where x is the argument , and y is the function.

A function is a mathematical relation that maps a set of numbers, called a domain, to another set of numbers called a range. Assigns a specific output value to each input value. The function is often denoted by a letter such as " f " and is usually written as:

f (x) = y

Where" x "represents the input value," f(x) "represents the function notation, and" y " represents the corresponding output value. The function takes the input value from the domain and generates the corresponding output value from the range.

Functions can be expressed in various manifestations, such as algebraic equations, graphs, tables, or verbal descriptions. They can be defined by an exact formula or fully defined using a set of conditions or rules.

Properties of functions include:

1. Domain: the set of input values for which the function is defined. Represents possible inputs to the function.
2. Range: the set of output values that a function can produce. Represents the possible outputs of the function.
3.Correspondence: when each input value has its own output value and the two different input values do not produce the same output value, the function is counted one by one.
4. Graph representation: the graph of a function represents the relationship between input and output values. It provides visual representation and helps to analyze the behavior and characteristics of the function.

Functions play a fundamental role in mathematics and have extensive applications in various fields such as physics, engineering, economics, Informatics, etc. They are used in modeling and describing real-world phenomena, solving equations, analyzing data, constructing objects.

It is important to note that when discussing functions, specific information about a function or context is needed to provide a more detailed explanation or examples.

Given the limit of the function $y = (x)$ function $x = a$ must be entered at any point around the same point himself if they are detected let A be any real number. Definition 1. Optional you $\varepsilon > 0$, so the number of $\delta > 0$, the number of being found, $0 < x - a < x \, \delta \, f$ build commercial products inequality for all$(x) - A < \varepsilon$ disparity is carried out without it, the number of $f \, A \, (\, x \,) \, a \, x$ is called the limit of the function point technique and education$\to a \, f \, x = A$ are in written form. $x - a < \delta \implies -\delta < x - a < \delta \implies -\delta + a < x < \delta + a$ the range is called the circumference δ of the point$a$. Example. In general, the argument x can aspire to a from the right or from the left. If these limits exist, they are called the right and left limits of the function $f \, (\, x \,)$, respectively, and they are called u O x0 X A X x0-δ 0+δ a+ε A-ε lim(5 8) 9 15 8 2 2 3 □ □ □ □ □ □ □ x x x lim $x \to a$-0 $f \, x = f(a - 0)$ lim $x \to a$+0 $f \, x = f(a + 0)$ it is written in the form. If $f \, a - 0 = f \, a + 0 = A$ if, then the function $y = f \, x$ is said to have a limit at the point$x=a$.

You $x \to a \, x$ shifting to education$\to a \, f \, x = \infty$ or education $x \to a \, f \, x =-\infty$, then the function $f \, x$ unlimited a large function is called. For example INT $\to 2$ aspires to lim $\to \to 2 \, x \, x$ -2 $= \infty$ is an infinitely large function. If lim $\to \to \to = 0 \, f \, x$ the function is called an infinitesimal function.

1 in this way, the relationship between variables x and is expressed as a formula that expresses their totality in mathematical operations that must be performed for mark the value of the argument to find the value of the function.

For example. y=2x or y = x2, etc. is given analytically.

Why is the analytical method of determining the function good? The fact is that if you have a formula - you know about the function. You can make a table. Make a graph. Explore this feature full program. Guess exactly where and how this function works. All mathematical analysis relies on this method of defining functions.

2.It consists in the fact that the values of the argument and function are written in the form of a table.

X-3-1

Y-6-2

Tables of sociological surveys, experimental measurements, tables financial statements, logarithmic tables, trigonometric functions, etc.

The tabular method of defining functions is based on positive bases data.

3. It consists of matching between X and da using a diagram.

The Argument (x) is plotted along the abscissa, and the value of the function (y) is plotted along the ordinate. You can select any table X and find the corresponding value at.

This is the law by which a curve can transform x into Y.

The graphical method is good for accuracy. You can immediately see how the function works. A function graph allows you not only to use it to find the values of a function, but also to see many of its properties: at what points the function disappears, at what intervals it takes negative or positive values, where it increases or decreases, and so on derivative, tasks with graphs - always! The disadvantage is the limited accuracy of the values /

In general, analytic graph methods function assignments go side by side. Working with the Formula will help you draw up a graph. The graph often offers solutions that the formula does not perceive.

4. The function is characterized by the rule of its composition using a natural language.

For example:"every negative number corresponds to -1, zero corresponds to the number 0, and every positive number corresponds to the number 1".

Usually this function is defined as: sign Y = x (read: "Y is equal to the sign X"). The Latin word signum translates as" sign " and denotes the sign of the number. This function can be configured as follows:

1 if x<0

Y=0, if X=0

1, If X>0

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