

# FACTORIAL

*Meaning: Factorial is a mathematical function denoted by an exclamation mark, representing the product of all positive integers from 1 to a specified number.*

1. The factorial of a number represents the product of all positive integers up to that number.
2. In combinatorics, the factorial function is often used to calculate permutations and combinations.
3. Understanding the concept of factorial is essential for solving many problems in probability theory.
4. The factorial of five, for instance, is calculated as five times four times three times two times one.
5. Mathematicians frequently use the notation "n!" to denote the factorial of a non-negative integer n.
6. The factorial of a number is calculated by multiplying all positive integers up to that number.
7. In combinatorics, the factorial function is essential for determining the number of ways to arrange a set of items.
8. Understanding factorials is crucial for solving problems related to permutations and combinations in mathematics.
9. The factorial of zero is a unique case, defined to equal one for consistency in various mathematical formulas.
10. Mathematicians often use the notation "n!" to represent the factorial of the integer n.

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