

CONCEPT Writing expressions refers to the process of representing mathematical operations using symbols and variables. In this context, fundamental operations typically include addition, subtraction, multiplication, and division. By writing expressions in terms of these fundamental operations, mathematicians and scientists can better understand and analyze complex equations and systems.

BACKGROUND

The history of writing expressions dates back to ancient civilizations such as the Babylonians and Egyptians, who developed rudimentary systems for performing basic arithmetic. Over time, the study of mathematics advanced and became more formalized, with the Greeks and later scholars developing systematic methods for performing arithmetic and algebraic operations. In modern times, the development of computers and calculators has made performing basic arithmetic operations easier and more efficient, but the underlying principles of addition, subtraction, multiplication, and division remain fundamental to mathematics and a wide range of fields and applications.

FORMULAS

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Order of Operations: The order of operations is a set of rules used to determine the order in which operations should be performed in each expression. The order of operations is as follows:

- Parentheses
- Exponents
- Multiplication and Division (performed left to right)
- Addition and Subtraction (performed left to right)

DISTRIBUTIVE PROPERTY: The distributive property is a property of multiplication that states that the product of a number and a sum is equal to the sum of the products of the number and each term in the sum. The distributive property can be expressed using the following formula:

$$a(b + c) = ab + ac$$

where a, b, and c are constants or variables.