EXPRESSIONS

In mathematics we can write a sentence of verbal phrase as an *EXPRESSION*. Expressions are very important in algebra and help us connect words to math. There are three types of expressions.

1. VERBAL EXPRESSIONS 2. NUMERICAL EXPRESSIONS 3. ALGEBRAIC EXPRESSIONS

A **verbal expression** contains words to explain mathematics.

A **numerical expression** contains a combination of constants (numbers) and operations such as addition , subtraction , multiplication , and division.

An **algebraic expression** contains one or more variables. it usually contaions constants (numbers) and at least one operation.

The table below shows some common words and phrases and their related operations.

+	-	×	÷
plus	minus	times	divide
the sum of	the difference of	multiplied by	the quotient of
increased by	decreased by	the product of	divided by
more than	less than	groups of	among

Write a numerical expression for each verbal expression.

1. The product of 5 and 3
2. Difference of 19 and 13
3. 16 increased by 7
4. 4 Less than 17
5. Sum of 23 and 14

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Expressions DO NOT contain equal signs , but tell only which operations to perform

Write a verbal expression for each verbal expression.

1. 24 ÷ 6
2. 21 - 7
3. 14 × 2
4. 11 + 4
5. 13 - 9

Algebraic expressions

Examples

x + 7	10y	t/3
(x is variable and 7 is constant)	(10 × y)	(t ÷ 3)

Write a algebraic expression for each verbal expression

1. A number divided by 3
2. The difference of 13 and a number
3. 2 less than thrice a number
4. The sum of 3 times a no. & 4
5. The quotient of 16 and a no.

EXPRESSIONS

When you study algebra you will notice that "x" is not usually used for multiplication it looks like a letter and gets confusing, so we use a dot , parentheses , or just put the numbers and variables (letters) together.

Examples of multiplication.

5 × 2 is same as 5.2 & 5(2)
6 × y is same as 6 × y & 6(y)

Write a verbal expression for each algebraic expression.

1. n - 9
2. 3x + 2
3. y ÷ 9
4. 2 (3 + x)
5. 7z

Don't forget parantheses , brackets , and braces are grouping symbols that tell us to do the operation or operations that are inside the symbols first. this gets a little confusing when writing expressions. Check out how the expressions below change when grouping symbols are included.

VERBAL EXPRESSIONS	ALGEBRAIC EXPRESSIONS
6 Plus the product of 7 & a no.	6 + 7x
The product of 6 plus 7 & a no.	(6 + 7) × x
The difference of 5 & a no. divided by 6	5 - x ÷ 6
The difference of 5 and a no. divided by 6	(5 - x) ÷ 6

Write a algebraic expression for each verbal expression.

1. The sum of 4 and a no. multiplied by 6
2. 3 deceased by the sum of 7 & a no.
3. The quotient of 8 plus a no. & 2
4. 5 plus the quotient of a no. & 5