Translating Word Phrases into Algebraic Expressions

An **algebraic expression** is a math phrase made up of **letters, numbers, and operation symbols.**

To turn word phrases into algebraic expressions, it's important to know which words or phrases are associated with specific symbols or operations.

Here is some of your guidance for better understanding.

MATHEMATICAL OPERATIONS	SYMBOLS	WORDS/PHRASES
Addition	+	increased by, more than, the sum of, plus, added to, the total of
Subtraction	−	minus, less, less than, the difference of, decreased by, diminished by, subtracted from, taken away from
Multiplication	×	times, of, the product of, twice, multiplied by
Division	÷	divided by, the quotient of, the ratio of
Equal	=	is, equals, is the same as, is equal to

Table, study how the different word phrases can be translated or written as algebraic expressions:

WORD PHRASES	ALGEBRAIC EXPRESSION
z plus 7 The sum of z and 7 z added to 7 z increased by 7 7 more than z	$z + 7$
The difference of a and 3 a decreased by 3 a diminished by 3 3 less than a a less 3 3 subtracted from a a subtracted by 3 a minus 3	$a - 3$ $3 - a$
2 times n Twice of n n multiplied by 2 The double of n The product of 2 and n	$2n$
k divided by 9 one-nine of k The quotient of k and 9 The ratio of k and 9	$\dfrac{k}{9}$

Example 1: Translate to algebraic expression: 8 more than twice a number. Let x = the number

Eight more than twice a number

8 + 2x

Therefore, the algebraic expression is **8 + 2x**

Example 2:

A number decreased by four is 13. Let **n** be the number.

$$n - 4 = 13$$

We have:

The algebraic equation is **n - 4 = 13**

Example 3:

The quotient of 10 and 2 subtracted from the product of 10 and 2.

$$10 \div 2 \qquad - \qquad 10 \times 2$$

The algebraic expression is

$$(10 \times 2) - (10 \div 2)$$

Example 4:

The sum of a number and twelve divided by 3.

$$+ \qquad n \qquad 12 \qquad \div \qquad 3$$

The algebraic expression is

$$(n + 12) \div 3 \text{ or } \frac{n + 12}{3}$$