

TRANSLATING VERBAL EXPRESSIONS INTO MATHEMATICAL EXPRESSIONS

		EXAMPLES	
Operation	Word or Phrase	Statement	Algebraic Form
Addition	Added to	"6 added to y"	$y + 6$
	More than	"8 more than x"	$x + 8$
	The sum of	"the sum of x and z"	$x + z$
	Increased by	"t increased by 9"	$t + 9$
	The total of	"the total of 5 and y"	$5 + y$
	Plus	"b plus 17"	$b + 17$
Subtraction	Minus	"x minus 2"	$x - 2$
	Less than	"7 less than t"	$t - 7$
	Less	"7 less t"	$7 - t$
	Subtracted from	"x subtracted from 2"	$2 - x$
	Decreased by	"m decreased by 3"	$m - 3$
	The difference between	"the difference between y and 4"	$y - 4$
Multiplication	Times	"10 times t"	$10t$
	Of	"one half of x"	$(\frac{1}{2})x$ or $\frac{x}{2}$
	The product of	"the product of y and z"	yz
	Multiplied by	"y multiplied by 11"	$11y$
	Twice	"twice n"	$2n$
Division	Divided by	"x divided by 12"	$x \div 12$ or $\frac{x}{12}$
	The quotient of	"the quotient of y and z"	$y \div z$ or $\frac{y}{z}$
	The ratio of	"the ratio of p to 9"	$p : 9$ or $p \div 9$ or $\frac{p}{9}$
Power/Exponent	The square of	"the square of x"	x^2
	The cube of	"the cube of a"	a^3

NOTE: These key words/phrases should be used as guidelines in helping you to solve word problems. However, they should be used with caution; always analyze each word problem with visualization, diagrams, etc. to help ensure that you choose the appropriate operation(s) for the context. These key phrases should not be "blindly" associated with an operation without using your own critical thinking.

For example, the phrase "**more than**" is typically associated with **addition**:

"Anita has 2 cookies. Gabriel has 3 **more than** Anita has. How many cookies does Gabriel have?"

This is an addition problem: $2 + 3 = 5$

Now consider this example: "Anita is taking 18 units this semester, which is 5 units **more than** Pablo is taking.

How many units is Pablo taking?"

This is a subtraction problem! $x + 5 = 18 \rightarrow x = 18 - 5$