

Pre-Algebra

Changing Words to Mathematical Expressions

Word Problems use words that must be translated into mathematical expressions to be solved. In these problems, certain words are used repeatedly. Here are some of them.

Category of Words	Words	Sample Word Expression	Math Translation
Addition	added to increased by more than plus sum of total of	6 added to 4 21 increased by 6 5 more than 9 The total of 3 and 7	$6 + 4 = 10$ $21 + 6 = 27$ $5 + 9 = 14$ $3 + 7 = 10$
Subtraction	decreased by difference between difference of less less than lower than minus reduced by subtracted from	13 decreased by 6 Difference of 42 and 24 6 less than 9 12 lower than 33 11 reduced by 3	$13 - 6 = 7$ $42 - 24 = 18$ $9 - 6 = 3$ $33 - 12 = 21$ $11 - 3 = 8$
Multiplication	double multiplied by of product of times triple twice	Double 12 Product of 3 and 6 14 times 3 Triple 7	$2 \cdot 12 = 24$ $3 \cdot 6 = 18$ $14 \cdot 3 = 42$ $3 \cdot 7 = 21$
Division	divided among divided by half one-third out of per quotient of ratio of	12 divided by 6 Half of 24 One third of 18 Quotient of 32 and 16 Ratio of 24 and 6	$12 \div 6 = 2$ $24 \div 2 = 12$ $18 \div 3 = 6$ $32 \div 16 = 2$ $24 \div 6 = 4$
Equals	equals generates gives is, are, other forms of "to be" provides yields	6 and 4 generates x 4 lower than x gives 6 x is triple 4 12 out of x is $\frac{1}{2}$	$6 + 4 = x$ $x - 4 = 6$ $x = 3 \cdot 4$ $\frac{12}{x} = \frac{1}{2}$