WHAT IS A PRONUMERAL?

A pronumeral is a letter used to represent a number.

example: a, x, y, t ...

In the example $x + y + 3$, the pronumerals x and y could represent ANY numbers.

TERMS - COEFFICIENTS

A term is a combination of numbers and pronumerals connected with only multiplication and division. Terms are separated with the operations + and -

example: $5x + 7y$ is a two terms expression

Coefficients are the numbers being multiplied by pronumerals.

example: in $3x$, 3 is the coefficient of x

CONSTANT TERM - EXPRESSIONS

A term that does not contain any pronumerals is called a constant term.

example: 5 is a constant term

An expression is a combination of numbers and pronumerals connected by any of the four operations +, -, × or ÷. Brackets can also be used.

examples: $5x^2 + 4y - 1$

$3(x + 2) - 1$

SIMPLE OPERATIONS

- The sum of a and b is written: $a + b$
- The difference of a and b is written: $a - b$
- The product of a and b is written: $a \times b$

  which is often simplified as ab
- The quotient of a and b is written: $a \div b$

  which is often simplified as $\frac{a}{b}$

WHAT IS AN EQUATION?

An equation is a mathematical statement that two expressions are equal. It has an equal sign.

examples: $5 + x = 12$

$c^2 = a^2 + b^2$

$E = mc^2$

In an equation, the pronumeral is sometimes called an unknown.

An equation has a left-hand side (LHS) and a right-hand side (RHS)

For each of the following equations, state whether they are true or false.

a $3 + 8 = 15 - 4$

b $7 \times 3 = 20 + 5$

c $x + 20 = 3 \times x$, if $x = 10$

SOLUTION	EXPLANATION
a True	Left-hand side (LHS) is $3 + 8$, which is 11. Right-hand side (RHS) is $15 - 4$, which is also 11. Since LHS equals RHS, the equation is true.
b False	LHS $= 7 \times 3 = 21$ RHS $= 20 + 5 = 25$ Since LHS and RHS are different, the equation is false.
c True	If $x = 10$ then LHS $= 10 + 20 = 30$. If $x = 10$ then RHS $= 3 \times 10 = 30$. LHS equals RHS, so the equation is true.