Introduction to Simple Equations

Variable

Variable is an unknown number which could have a different numerical value. It is called **Variable** as it can vary.

It is represented by different letters like x, y, a, b etc.

Algebraic Expressions

It is an expression involving constant, variable and some operations like addition, subtraction multiplication and division

Example: 6x – 3 is an expression in variable x.

Equation

From expressions we get equations.

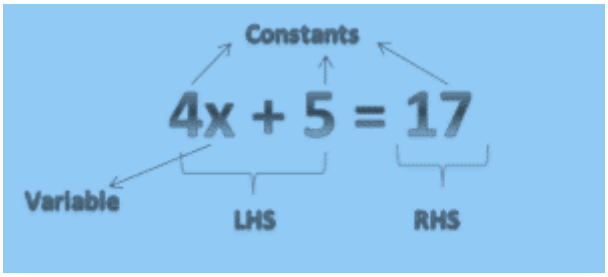
An equation is a condition on a variable such that two expressions in the variable should have equal value. It is a statement of equality between two mathematical expressions containing one or more variables.

For e.g. 2x + 4 =10, 4y =0. This is an example of an equation since it has two expressions with an equality sign.

The left-hand side (LHS) and right hand side (RHS) are equal in an equation

The **value** of the **variable** in an equation for which the **equation is satisfied** is called the **solution of the equation**.

Example: The solution for the equation x−3=5 is x=8.



Examples

1. Write L.H.S and R.H.S of the following simple equations.

(i) $3x = 15$

(ii) $2x - 6 = 4$

(iii) $4z + 1 = 8$

(iv) $3p + 1 = 2p + 9$

2. The sum of four times of x and 12 is equal to 35.

3. Half of a number is 3 more than 8.

4. Check whether the value given in the brackets is a solution to the given equation or not: $7n + 5 = 19$ ($n = 2$)