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Topic : Linear equation
1st Lecture
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Linear Equations

A linear equation is an equation which consists of only sums of variables and variables which are multiplied by a constant, with no products of variables. All of the variables in the equation must be raised to the power of one. The general form of a linear equation is:

$$\mathbf{ax+b=0}$$

where **a** and **b** are constants and **a \neq 0**.

Solving a linear equation means finding the values of x which satisfy the equation (make the expression on the left-hand side of the = sign equal to zero).

In other words,

Linear equations are equations of the first order. The linear equations are defined for lines in the coordinate system. When the equation has a homogeneous variable of degree 1 (i.e. only one variable), then it is known as a linear equation in one variable. A linear equation can have more than one variable. If the linear equation has two variables, then it is called linear equations in two variables and so on.

Some of the examples of linear equations are

$$2x - 3 = 0, 2y = 8, m + 1 = 0, x/2 = 3, x + y = 2, 3x - y + z = 3.$$

Linear Equation Definition

An equation is a mathematical statement, which has an equal sign (=) between the algebraic expressions. Linear equations are the equations of degree 1. It is the equation for the straight line. The solutions of linear equations will generate values, which when substituted for the unknown values, make the equation true. In the case of one variable, there is only one solution. For example, the equation $x + 2 = 0$ has only one solution as $x = -2$. But in the case of the two-variable linear equation, the solutions are calculated as the Cartesian coordinates of a point of the Euclidean plane.