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LINEAR EQUATIONS IN TWO VARIABLES
CLASS 9

## Basic Concepts

1. An equation of the form $a x+b y+c=0$, where $a, b, c$ are real numbers, is called a linear equation in $x$ and $y$. For example, $3 x+2 y=9,4 x-5 y=1$ and $\frac{3}{4} x-2=5$ are linear equations in $x$ and $y$.
2. A linear equation in two variables can be solved in the same way as a linear equation in one variable. The pair of values $x$ and $y$ which satisfies the given equation is called solution of the equation in two variables.
3. A linear equation in two variables has infinitely many solutions.
4. In order to draw the graph of a linear equation in two variables we may follow the following method:
(i) Express $y$ in terms of $x$.
(ii) Choose at least two convenient values of $x$ and find the corresponding values of $y$, satisfying the given equation.
(iii) Write down these values of $x$ and $y$ in the form of a table.
(iv) Plot the ordered pairs $(x, y)$ from the table on a graph paper.
(v) Join these points by a straight line and extended it in both the directions. This line is the graph of the given equation.
5. Equation of a line parallel to the $y$ - axis at a distance $a$ from it is $x=a$.

6. Equation of a line parallel to $x$-axis at a distance $b$ from it is $y=b$.

