

## Chapter – 4

### Linear Equations in Two Variables

1. Linear Equations
2. Solution of a Linear Equation
3. Graph of a Linear Equation in Two Variables
4. Equations of Lines Parallel to x-axis and y-axis

- An equation of the form  $ax + by + c = 0$  where  $a$ ,  $b$  and  $c$  are real numbers such that  $a$  and  $b$  are not both zero is called a linear equation in two variables.
  - A pair of values of  $x$  and  $y$  which satisfy the equation  $ax + by + c = 0$  is called a solution of the equation.
  - **Graph:** The graph of every linear equation in two variables is a straight line. Every point on the graph of a linear equation in two variables is a solution of the linear equation. Conversely, every solution of the linear equation is a point on the graph of the linear equation.
  - A linear equation in two variables has infinitely many solutions.
  - The graph of every linear equation in two variables is a straight line.
  - $y = 0$  is the equation of x-axis and  $x = 0$  is equation of y-axis.
  - The graph of  $x = a$  is a straight line parallel to the y-axis.
  - The graph of  $y = a$  is a straight line parallel to the x-axis.
  - An equation of the type  $y = mx$  represent a line passing through the origin.
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