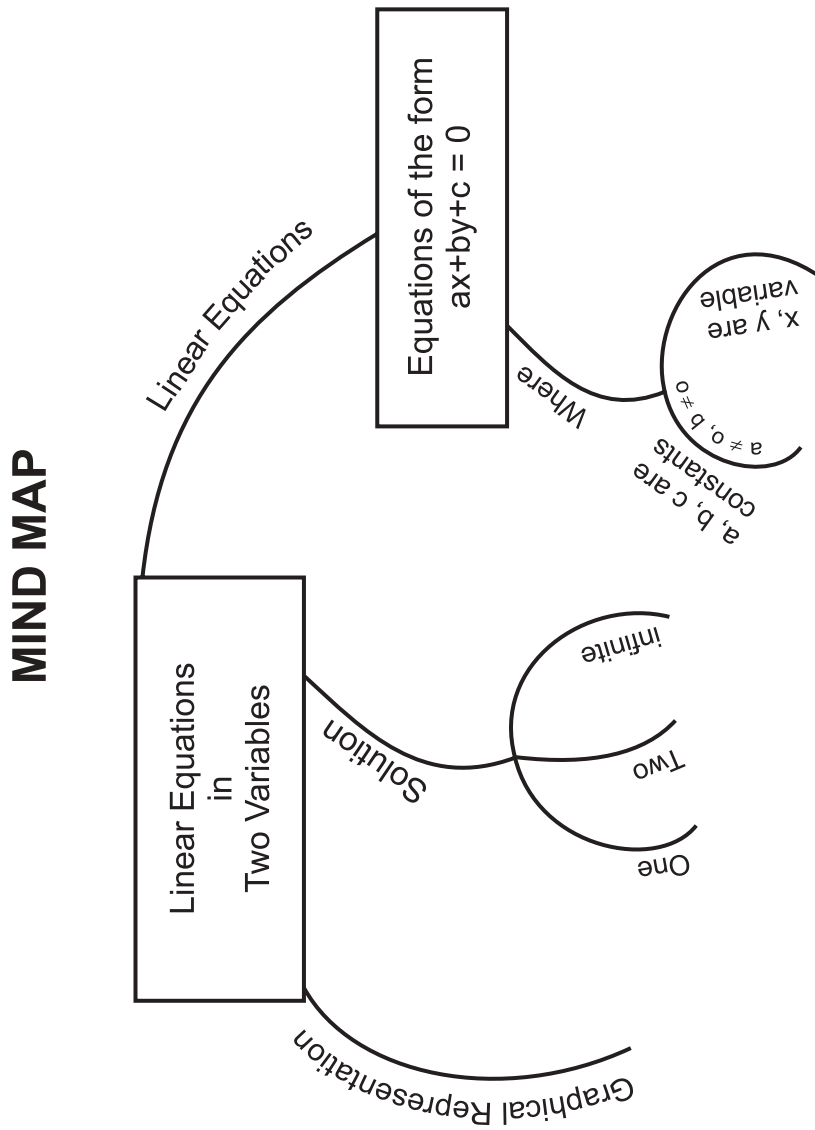


CHAPTER-4

Linear Equations In Two Variables



CHAPTER-4

LINEAR EQUATIONS IN TWO VARIABLES

KEY POINTS

- **Linear equation in one variable** – An equation which can be put in the form $ax+b=0$, $a \neq 0$ and a, b are real numbers is called a linear equation in one variable.
- **Linear equation in two variables** – Any equation which can be put in the form $ax+by+c=0$, where $a, b,$ and c are real numbers and $a, b \neq 0$, is called a linear equation in two variables.

Linear equation in one variable has a unique solution

$$ax + b = 0 \Rightarrow x = -\frac{b}{a}$$

- Linear equation in two variables has infinitely many solutions.
- The graph of every linear equation in two variables is a straight line.
- Every point on the line satisfies the equation of the line.
- Every solution of the equation is a point on the line. Thus, a linear equation in two variables is represented geometrically by a line whose points make up the collection of solutions of the equation.

Graph :

- * The pair of values of x and y which satisfies the given equation is called solution of the linear equation in two variables.

Example : $x + y = 4$

Solutions of equation

$x+y = 4$ are

$(0,4) (1,3) (2,2) (4,0)$

and many more

