



**SUBJECT: MATHEMATICS**

**CHAPTER: 3**

**TOPIC: Pair of Linear Equations in Two Variables**

**STEP 1: GUIDELINES AND INTRODUCTION**

Dear students kindly refer to the following notes/video links for the Chapter- “Pair of Linear Equations in Two Variables” and thereafter do the questions in your math notebook.

**(Chapter3 – Part 5)**

Link for the chapter:-<http://ncert.nic.in/textbook/textbook.htm?jemh1=3-15>

**Introduction:** We have already learnt the graphical and algebraic methods of finding the solution of a pair of linear equations in two variables.

**Today, we are going to learn solving the pair of equations which are not linear, but can be reduced to linear form. Look at the following example:**

**EQUATIONS REDUCIBLE TO PAIR OF  
LINEAR EQUATION IN TWO VARIABLES**

In case of equations which are not linear, like

$$\frac{2}{x} + \frac{3}{y} = 13 \qquad \frac{5}{x} - \frac{4}{y} = -2$$

We can turn the equations into linear equations by substituting

$$\frac{1}{x} = p \qquad \frac{1}{y} = q$$

Now, this pair can be written as  $2p+3q=13$

$5p-4q=-2$ , which can be solved by any of the methods

(substitution, elimination and cross multiplication)

**STEP 2:**

**SUBTOPIC:**

**Solving pair of equations which are reducible to a pair of linear equations in two variables.**

**STEP 3:**

**Key points and important links for reference:-**

**Sometimes we come across a pair of equations in two variables, which is not linear but can be reduced to a pair of linear equations in two variables. A few questions have been solved for your reference in the following links:**

Refer to the following links to understand how to solve equations which are reducible to a pair of linear equations in two variables.

<https://www.youtube.com/watch?v=NvXY75Vrw54>

<https://youtu.be/6FKrcz410hU> Exercise 3.6 Question 1. (ii)

<https://www.youtube.com/watch?v=KusMyxme-mw> Exercise 3.6 Question 1. (viii)

**ASSIGNMENT:**

1. Do exercise 3.6, Q-1. i) iii) iv) v) vi) vii) parts
2. Solve for x and y

$$\frac{1}{(2x+3y)} + \frac{1}{(3x-2y)} = \frac{1}{2}$$

$$\frac{2}{(2x+3y)} + \frac{1}{(3x-2y)} = \frac{1}{4}$$

BBPS, PITAMPURA