

By. Er. Dharmendra Sir

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DPM CLASSES

6th to 10th (Math's & Science), 11th & 12th (Physics, Chemistry, Math's)

TEST - PAPER (CBSE/NCERT)

**PAIR OF LINEAR EQUATIONS IN
TWO VARIABLES**

SESSION -2024-25

CLASS - 10th

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Time: 1hr Pair of Linear Equations in Two Variables min:50

Q. 1. Multiple choice questions :-

(i) The pair of equations $x+2y+5=0$ and $-3x-6y+1=0$ has:

- (a) Unique Solution (b) has no solution
(c) infinitely many solutions (d) two solutions.

(ii) When $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$, then the system of equations $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$:

- (a) has two solutions (b) has no solution
(c) has infinitely many solutions (d) has unique solution

(iii) When $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$, then the system of equations

$$a_1x + b_1y + c_1 = 0 \text{ and } a_2x + b_2y + c_2 = 0 :$$

- (a) has unique solution (b) has no solution
(c) has two solutions (d) has infinitely many solutions.

(iv) Write the condition for unique solution of pair of equations $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$:

(a) $\frac{a_1}{a_2} = \frac{b_1}{b_2}$ (b) $\frac{a_1}{a_2} \neq \frac{b_1}{b_2}$

(c) $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$ (d) $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$

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(v) Lines $x - 2y = 0$ and $3x + 4y - 20 = 0$ are:

- (a) intersecting (b) Coincident
(c) Parallel (d) none.



Q.2. Answer in one word / sentence :-

- (i) What the system of equation is called which have no solution ?
(ii) What the system of equation is called which have solution.
(iii) What the types of equation is called whose graph is a straight line ?
(iv) What type of the graph of the system of equation will be which has a unique solution ?
(v) Write the standard form of a linear equation of two variable x and y .



Q.3. Find the ratio $\frac{a_1}{a_2}$, $\frac{b_1}{b_2}$ and $\frac{c_1}{c_2}$ for the following pair of linear equations and say that it is consistent or inconsistent:

$$\begin{aligned} 5x - 4y + 8 &= 0 \\ 7x + 6y - 9 &= 0 \end{aligned}$$

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Q.4. Solve the following pairs of linear equation by substitution method :

$$x+y=14, \quad x-y=4$$

Q.5. Form the linear equation for the following problems and find their solution by substitution method :

"The larger of two supplementary angles exceeds the smaller by 18 degree. find them"

Q.6. The difference between two numbers is 26 and one number is three times the other. find them.



Q.7. The sum of the digits of a two-digit number is 9. Also nine times this number is twice the number obtained by reversing the ~~other~~ order of the digits. find the number.

Q.8. Solve the following pairs of linear equation by the elimination method :

$$3x-5y-4=0, \quad 9x=2y+7$$



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Q.9. The cost of 5 oranges and 3 apples is ₹35 and the cost of 2 oranges and 4 apples is ₹28. Let us find the cost of an orange and an apple.

Q.10. Half the perimeter of a rectangle garden, whose length is 4 m more than its width, is 36 m, Find the dimension of the garden.



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