CBSE TEST PAPER-04

CLASS – X Mathematics (Pair of Linear Equation)

1. If am ≠ bl, then the system of equation ax + by = c and lx + my = n [1]

   (a) Has a unique solution (b) Has no solution

   (c) Infinitely many solution (d) May or may not have a solution.

2. The value of 'k' for which the system of equation. 3x+5y=0 and kx +10y = 0 has a non – zero solution is [1]

   (a) k = 0 (b) k = 2

   (c) k = 6 (d) k = 8

3. If a paired linear equation $a_1x+b_1y+c_1=0$ and $a_2x+b_2y+c_2=0$ represents parallel liner then [1]

   (a) $\frac{a_1}{a_2} \neq \frac{b_1}{b_2}$ (b) $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$

   (c) $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$ (d) None of these

4. The graphical representation of the linear equation y-5=0 is [1]

   (a) A line (b) A point

   (c) A curve (d) None of these

5. Given the linear equation 2x+3y-8=0 write another linear equation in two variable such that the geometrical representation of the pair so formed is [2]

   (a) intersecting lines

   (b) Parallel lines

   (c) Overlapping

6. Find the value of 'k' for which the system of equation has infinitely many solutions [2]

$2x+(k-2)y=k$ and $6x+(2k-1)y=2k+5$

7. Find the relation between a, b, c and d for which the equations $ax+by=c$ and $cx+dy=a$ have a unique solution [2]

8. Solve for 'x' and 'y' [2]

$(a-b)x+(a+b)y = a^2-b^2-2ab$

$(a+b)(x+y)=a^2+b^2$

9. Determine graphically the coordinates of the vertices of the triangle the equation of whose sides are $y=x$, $3y=x$, $x+y=8$. [3]

10. Father's age is three times the sum of ages of his two children. After 5 years his age will be twice the sum of ages of two children. Find the age of father. [3]

11. On selling a T.V. at 5% gain and a fridge at 10% gain shop keeper gains Rs 2000. But if he sells the T.V at 10% gain and the Fridge at 5% loss, he gains Rs 1500 on the transaction. Find the actual Price of TV and Fridges. [3]

12. A taken 3 hours more than B to walk a distance of 30km. But if A doubles his speed, he is ahead of B by $1\frac{1}{2}$ hours. Find their original speed. [3]

13. If in a rectangle the length is increased and breadth is decreased by 2 units each, The area is reduced by 28 square units, if the length is reduced by 1 unit and breadth is increased by 2 units, the Area increased by 33 sq units. Find the dimensions of the rectangle. [5]