

LESSON:03 - PAIR OF LINEAR EQUATIONS IN TWO VARIABLES

1. If the lines given by $3x + 2ky = 2$ and $2x + 5y + 1 = 0$ are parallel, then the value of k is (Ans: $\frac{15}{4}$)
2. If $x = a$ and $y = b$ is the solution of the equations $x - y = 2$ and $x + y = 4$, then find the value of a & b (Ans: $a = 3, b = 1$)
3. The pair of equations $y = 0$ and $y = -7$ has ----- solution (Ans: No)
4. For all real values of the pair of equations $x - 2y = 8$ & $5x - 10y = c$ have a unique solution. Justify whether it is true or false
5. Find the value of k for which the following pair of linear equations have infinitely many solutions. $2x + 3y = 7$ & $(k + 1)x + (2k - 1)y = 4k + 1$
6. If a pair of linear equations is consistent with a unique solution, then the lines representing them are----- (Ans: intersecting)
7. Represent the following pair of linear equations graphically and hence comment on the condition of consistency of this pair.
 $3x - 4y + 3 = 0$ & $3x + 4y - 21 = 0$
8. Solve the system of equations graphically:
 $x - y + 1 = 0$ & $3x + 2y - 12 = 0$ (Ans: $x = 2$ & $y = 3$)
9. Solve the system of linear equations graphically and shade the region between the two lines and x-axis:
 $2x + 3y = 12$ & $x - y = 1$ (Ans: $x = 3$ & $y = 2$)
10. Solve the pair of linear equations by substitution method:
 - a) $2x + 3y = 9$ & $3x + 4y = 5$ (Ans: $x = -21, y = 17$)
 - b) $\frac{5}{x+1} - \frac{2}{y-1} = \frac{1}{2}$ & $\frac{10}{x+1} + \frac{2}{y-1} = \frac{5}{2}$ (Ans: $x = 4, y = 5$)
 - c) $2x + 4y = 10$ & $2x + y = 4$ (Ans: $x = 1, y = 2$)
 - d) $\frac{4}{x} + 3y = 8$ & $\frac{6}{x} - 4y = -5$ (Ans: $x = 2, y = 2$)
11. Solve the pair of linear equations by elimination method:
 - a) $3x - 7y + 10 = 0$ & $y - 2x - 3 = 0$ (Ans: $x = -1, y = -1$)
 - b) $x + 2y = \frac{3}{2}$ & $2x + y = \frac{3}{2}$ (Ans: $x = \frac{1}{2}, y = \frac{1}{2}$)
 - c) $7(y + 3) - 2(x + 2) = 14$ & $4(y - 2) + 3(x - 3) = 2$ (Ans: $x = 5, y = 1$)
 - d) $0.4x + 0.3y = 1.7$ & $0.7x - 0.2y = 0.8$ (Ans: $x = 2, y = 3$)
12. Sum of two numbers is 35 and their difference is 13. Find the numbers