INDIAN SCHOOL AL WADI AL KABIR

Dept. of Mathematics 2021 – 2022

X -Work Sheet

Pair of Liner Equations in Two Variables - 2

1	Solve for x and y : $\frac{6}{x-1} - \frac{3}{y-2} = 1$ $\frac{5}{x-1} + \frac{1}{y-2} = 2$, where $x \neq 1, y \neq 2$
2	Solve for x and y $133x + 87y = 353$ and $87x + 133y = 307$
3	Find the value of α and β for which the following pair of linear equations has infinite number of solutions : $2x + 3y = 7$; $2\alpha x + (\alpha + \beta)y = 28$
4	Solve for x and y : $2(3x - y) = 5xy$; $2(x + 3y) = 5xy$
5	The ratio of incomes of two persons is 11 : 7 and the ratio of their expenditures is 9 : 5. If each of them manages to save Rs. 400 per month, find their monthly incomes.
6	Solve the following pair of linear equations for x and y : $141x + 93y = 189$; $93x + 141y = 45$
7	For what values of a and b will the following system of linear equations has infinitely many solutions ? $2x - 3y = 7$; $(a+b)x - (a+b-3)y = 4a + b$
8	Solve the following pair of linear equations graphically : $2x + y = 4$ $2x - y = 4$ Also find the co-ordinates of the vertices of the triangle formed by the lines with y-axis
9	Sovle for x and y : $\frac{5}{x-1} + \frac{1}{y-2} = 2$; $\frac{6}{x-1} - \frac{3}{y-2} = 1$
10	Solve the following pair of equations for x and y : $3x + 2y = 9xy$; $9x + 4y = 21xy$; $x, y \neq 0$.
11	Solve the following pair of linear equations for x and y : $\frac{x}{a} + \frac{y}{b} = 2$; $ax - by = a^2 - b^2$
12	For what value of k will the following pair system of linear equations have infinite number of solutions : $kx + 4y = (k-4)$; $16x + ky = k$.
13	The sum of the digits of a two digit number is 12. The number obtained by interchanging the digits exceeds the given number by 18. Find the number.
14	Solve the following pair of equations for x and y $\frac{a^2}{x} - \frac{b^2}{y} = 0$; $\frac{a^2 b}{x} + \frac{b^2 a}{y} = a + b$, $x \neq 0$; $y \neq 0$