Pair of Linear Equations in two Variables : Worksheet -5

1. If $3^{x-y} = 27$ and $3^{x+y} = 243$, find x. [ ]

a] 4 b] 2 c] 9 d] 5

2. If $x + y + z = 0$, then the value of $\frac{(x+y)(y+z)(z+x)}{xyz}$ [ ]

a] +1 b] +2 c] +4 d] -1

3. If $x + \frac{4}{y} = 4$ and $y + \frac{6}{x} = 6$, then $(x, y) =$ [ ]

a] $\left(3, \frac{3}{2}\right)$ b] $\left(\frac{4}{3}, 4\right)$ c] (3, 4) d] None

4. The value of 'k' so that the system of equations given by $(3k + 1)x + 3y - 2 = 0$ and $(k + 1)x + (k - 2)y - 5 = 0$ has no solution is [ ]

a] 0 b] 1 c] -1 d] none

5. If $\frac{1}{x} + \frac{1}{y} = \frac{7}{12}$, $xy = 12$, then $(x, y) =$ [ ]

a] (4, 5) b] (6, 2) c] (4, 3) d] (2, 6)

6. If $\frac{x^2}{y} + \frac{y^2}{x} = 18$, $x + y = 12$, then $(x, y) =$ [ ]

a] (8, 4) b] (6, 2) c) (7, 5) d] (3, 9)

7. If the lines $2x + 32y + 3 = 0$ and $3x + 48y + k = 0$ are coincident, then $k =$ [ ]

a] $\frac{9}{2}$ b] 3 c] $\frac{2}{7}$ d] 9

8. The equations $2x + 3y = 5$, $4x + 6y = 10$ have [ ]

a] No solution b] Only one solution

c] Only two solution d] Infinitely many solutions

9. If $\frac{3}{x} + \frac{4}{y} = 18$, $\frac{5}{x} + \frac{6}{y} = 28$, then $x + y =$ [ ]

a] $\frac{5}{6}$ b] $\frac{3}{7}$ c] $\frac{9}{4}$ d] $\frac{19}{20}$

10. If $2x + 3y = 34$ and $\frac{x+y}{y} = \frac{13}{8}$, then $5y + 7x =$ [ ]

a] 82 b] 175 c] 178 d] None of these