

Linear and Quadratic Equation 'CLAT'

1. If $(K, -\frac{1}{2})$ is a solution of $\frac{x}{2} + 4y - 1 = 0$, then k is equal to.
 (a) -3 (b) -6
 (c) 3 (d) 6
2. Find y, if $\frac{1}{2}(3y+1) - \frac{1}{3}(5y+2) = y-1$.
 (a) 5 (b) 7
 (c) $\frac{5}{7}$ (d) $\frac{1}{5}$
3. If $99x+101y=400$ and $101x+99y=600$ find (x+y)
 (a) 4 (b) 5
 (c) 6 (d) 7
4. Solve $331x+247y=746$ and $247x+331y=410$
 (a) $x=3, y=-1$ (b) $x=-1, y=3$
 (c) $x=-3, y=1$ (d) $x=-3, y=-1$
5. Solve $\frac{40}{x-y} + \frac{55}{x+y} = 13$ and $\frac{30}{x-y} + \frac{44}{x+y} = 10$
 (a) $x=8, y=3$ (b) $x=8, y=-3$
 (c) $x=-8, y=5$ (d) $x=-10, y=5$
6. Solve $\frac{40}{x-y} + \frac{55}{x+y} = 13$ and $\frac{30}{x-y} + \frac{44}{x+y} = 10$
 (a) $x=8, y=3$ (b) $x=8, y=-3$
 (c) $x=-8, y=3$ (d) $x=-8, y=-3$
7. The system of eqⁿ $2x+ky=5$ and $3x+y=8$ has unique solution when
 (a) $k \neq \frac{2}{3}$ (b) $k \neq \frac{3}{2}$
 (c) $k \neq \frac{2}{5}$ (d) $k \neq \frac{5}{2}$
8. The system of eqⁿ $3x-y=5$ and $kx-2y=10$ has infinite number of solution when
 (a) $k=6$ (b) $k=-6$
 (c) $k=\frac{1}{6}$ (d) $k=-\frac{1}{6}$
9. The system of equation $5x+4y=3$ and $kx+8y=10$ has no solution when
 (a) $k=10$ (b) $k=8$
 (c) $k=4$ (d) $k=12$
10. The denominator of a fraction is greater than its numerator by 11. If 8 is added to both its numerator and denominator, then it becomes $\frac{3}{4}$. The fraction is
 (a) $\frac{25}{26}$ (b) $\frac{35}{26}$
 (c) $\frac{25}{35}$ (d) $\frac{25}{36}$
11. The price of 2 trousers and 4 shirts is Rs. 1600 with the same amount one can buy 1 trousers and 6 shirts. If one wants to buy 12 shirts he has to pay.
 (a) 2400 (b) 4800
 (c) 1200 (d) 3700
12. A farmer has some hens and some goats. If the total number of animal heads is 80 and total number of animal feet is 200. What is the total number of goats.
 (a) 40 (b) 60
 (c) 20 (d) can not be determined
13. The roots of the eqⁿ $2\sqrt{5}x^2 - 3x - \sqrt{5} = 0$
 (a) $-\frac{\sqrt{5}}{2}, \frac{1}{\sqrt{5}}$ (b) $\frac{\sqrt{5}}{2}, \frac{1}{\sqrt{5}}$
 (c) $\frac{\sqrt{5}}{2}, -\frac{1}{\sqrt{5}}$ (d) $-\frac{\sqrt{5}}{2}, -\frac{1}{\sqrt{5}}$
14. The roots of the eqⁿ $4x^2-2(a^2+b^2)x+a^2b^2=0$ are
 (a) $\frac{a^2}{b}, \frac{b^2}{a}$ (b) $\frac{a^2}{2}, \frac{b^2}{2}$
 (c) $\frac{a^2}{b^2}, \frac{a}{b}$ (d) ab, a^2b^2

15. Find the sum and product of the roots of equations $\frac{2}{x^2} - \frac{5}{x} = 2=0$
- (a) $\frac{3}{4}, 2$ (b) $\frac{1}{4}, -2$
(c) $\frac{5}{2}, 1$ (d) $\frac{2}{3}, -1$
16. Find the quadratic eqⁿ for which sum of roots is 5 and sum of the squares of the root is 13.
- (a) $x^2-5x+6=0$ (b) $x^2+5x+6=0$
(c) $x^2-5x-6=0$ (d) $x^2+5x-6=0$
17. If the product of roots of eqⁿ $ax^2- 6x - 6=0$ is 4. Then find the value of a?
- (a) $-\frac{3}{2}$ (b) $\frac{1}{2}$
(c) $-\frac{1}{2}$ (d) $\frac{3}{2}$
18. Two consecutive even positive integers, sum of the squares of which is 1060 are.
- (a) 22, 14 (b) 20, 22
(c) 22, 24 (d) 15, 18
19. The sum of a number and its positive square root is $\frac{8}{49}$. Find the number.
- (a) $\frac{5}{49}$ (b) $\frac{1}{49}$
(c) $\frac{3}{49}$ (d) $\frac{6}{49}$
20. Divide 15 into two parts so that the sum of the squares is 113.
- (a) 6, 9 (b) 7, 8
(c) 8, 9 (d) 12, 3
21. Divide 45 into two parts so that the sum of the square is 1157.
- (a) 14, 31 (b) 16, 29
(c) 15, 30 (d) 18, 27
22. A man went to bank with Rs. 2000. He ask the cashier to give him ₹ 10 and ₹ 20 notes only in return. The man got 150 notes in all How many notes of 10 he receive
- (a) 100 (b) 150
(c) 50 (d) 70
23. Three numbers are in the ratio 5 : 6 : 9 and sum of there square is 2272 find smallest number.
- (a) 24 (b) 20
(c) 36 (d) 32
24. There are some hens and horses. If there legs are counted, there are 294. If head are counted there are 111. Find number of horses.
- (a) 16 (b) 24
(c) 18 (d) 22