1. Write the condition of a pair of linear equations $a_1x+b_1y+c_1=0$ and $a_2x+b_2y+c_2=0$ to have infinite many solutions.
2. Is the pair of linear equations consistent?

   $3x+4y-7=0$, $2x+5y+1=0$
3. Is the following pair of linear equations has unique solution?

   $x-\frac{1}{2}y=1$, $4x-2y=5$
4. Are the two lines x = y, $2x-y-2=0$ intersecting?
5. Write the condition for which the pair of linear equations $a_1x+b_1y+c_1=0$, $a_2x+b_2y+c_2=0$ are parallel.
6. Find the value of k for which system has no solution $3x-4y+7=0$, $kx+3y-5=0$.
7. Romila went to a stationary shop and purchased 2 pencils and 3 erasers for Rs. 9. Her friend Sonali saw the new variety of pencils and erasers with Romila, and she also bought 4 pencils and 6 erasers of the same kind for Rs. 18. Represent this situation lgebraiclly and graphically.
8. Show that $x=2, y=1$ is a solution of the system of simultaneous linear equations $3x-2y=4$ and $2x+y=5$.
9. Find the values of a and b so that the following system of linear equations has infinite number of solutions.

   $2x-3y=7$ and $(a+b)x-(a+b-3)y=4a+b$
10. Solve the following system of equations graphically:

    $4x-5y-20=0$; $3x+5y-15=0$

    Determine the vertices of the triangle formed by the lines, representing the above equation and the y-axis.
11. Show graphically that the system of equations has infinite many solutions

    $3x-y=2$, $9x-3y=6$

12. Solve : $3x + 4y = 10$ and $2x - 2y = 2$.

13. Solve : $3a + 9b = 11ab$ and $3(2a + b) = 7ab$.

14. Solve : $x - y = 3$ and $\frac{x}{3} + \frac{y}{2} = 6$.

15. Solve $2x + 3y = 8$; $x - 5y = -9$

16. Solve : $0.4x + 0.3y = 1.7$ and $0.7x - 0.2y = 0.8$.

17. Solve the following system of equations in x and y.

$ax + by - a + b = 0$, $bx - ay - a - b = 0$

18. Solve the following system of equations

$\frac{2}{x} + \frac{2}{3y} = \frac{1}{6}$; $\frac{3}{x} + \frac{2}{y} = 0$; x, y ≠ 0

19. $217x + 131y = 913$ and $113x + 217y = 827$.

20. The sum of digits of a two digits number is 9. Also, nine times this number is twice the number obtained by reversing the order of the digits. Find the number.

21. Five years ago, Ashok was thrice as old as Nitin. Ten years later, Ashok will be twice as old as Nitin. How old are Ashok and Nitin?

22. X takes 3 hours more than Y to walk a distance of 30 kms, but if X doubles his race, he is able to be ahead of Y by $1\frac{1}{2}$ hours. Find their speed of walking.

23. If we buy 2 tickets from station A to station B and 3 from station A to C we have to pay Rs.795. But 3 tickets from A to B and 5 tickets from A to C, cost a total of Rs.1300. What is the fare from A to B and from A to C.

24. A railway half ticket costs half the full fare but the reservation charges are the same on a half ticket as on a full ticket. One reserved first class full ticket from station A to B costs Rs.2125. Also one reserved first class full ticket and one half first class ticket from A to B cost Rs.3200. Find the full fare from A to B and also the reservation charges for a ticket.

25. A man rowing at the rate of 5 km an hour in still water takes thrice as much time in going 40 km up the river as in going 40 km down. Find the rate at which the river flows.