CLASS X
SAMPLE PAPER
MATHS

LINEAR EQUATION

1. Write the condition of pair or linear equation $a_1x+b_1y+c_1 = 0$ and $a_2x+b_2y+c_2 = 0$ to be intersecting.
2. Is the pair of linear equation consistent: 2x - 3y + 2 = 0, 3x - 5y + 4 = 0.
3. Is the pair of linear equation has unique solution: x - ½y = 1, 4x - 2y + = 5.
4. Does (1,-1) lie on the linear equation 2x - 3y - 5 = 0,
5. Write the value of 'k' for which the following pair of linear equation has unique solution. 2x + ky + 5 = 0, 3x + 3y + 6 = 0,
6. Are the lines represented by linear equations x=y , 2x-y-2=0 intersecting ?
7. For what value of m, the linear equations mx=2y, 2x-y+5=0 has unique solution.
8. State whether $\frac{x}{y} = 2$ is a linear equation in two variables.
9. For what value of k the pair of linear equations 7x - 3y = 4 , 14x + ky + 5 = 0 has unique solution.
10. Is the pair of linear equations 2x+3y-6=0, 4x+6y=24 is consistent.
11. For what value of k. the pair of linear equations 3x-ky+7=0,x-2y+5=0 has unique solution?
12. Write the condition for which the pair of linear equations $a_1x+b_1y+c_1 = 0$ and $a_2x+b_2y+c_2 = 0$ are parallel.
13. Find the value of k for which the pair of linear equations x+3y+5=0, (k-1)x+(k+5)y+15=0 has infinitely many solutions.
14. Find the value of k for which the pair of linear equations 2x+3y+2=0, (k-2)x+(k+1)y+6=0 has unique solution.
15. Find the value of k for which the pair of linear equations kx+3y-1=0, 3x+ky+1=0 has infinitely many solutions.
16. Solve for x and y : 3x-y-2=0, 2x+y=8.
17. Find the value of k for which the pair of linear equations (k-2)x+4y=k, kx + ky=9 has infinitely many solutions.
18. Raju borrowed Rs. 2000 form a person. He got 25 notes in all from the person having Rs. 50 and Rs. 100 notes only. Find how many notes of Rs. 50 he received from the person.
19. Find the value of a and b for which the pair of linear equations x +ay=b-4, 2x+(a+3)y=b has infinitely many solutions.

20. In class x of a school there are 20 students who took part in a mathematics Exam . If the number of boys exceeds the number of girls by 6 , find the number of boys and girls who took part in the exam.
21. Find the value of m for which the pair of linear equations mx+3y=m-3, 12x+my=m has no solution.
22. Check whether the following pair of the linear equations are consistent or inconsistent. A) 2x – 3y – 5 = 0, 4x-9y-10=0 B) 3x + y- 5 = 0 , 6x + 2y + 15=0
23. The cost of pencil is Rs. 1.50 and cost of a ball is Rs. 2. A student bought some pencils and ball pens from a stationary shop, and paid Rs. 44 to the shopkeeper for two dozen pencils and ball pens all together. Find the number of pencils he bought from the stationary shop.
24. Find the value of m for which the pair of linear equations mx+3y – (m-3)=0, 12x+my=m has infinitely many solutions.
25. The sum of two number is 45. If one of the number is twice the other, find the numbers.
26. Solve graphically the pair of linear equations 3x+y-3=0, 2x-y+8=0, write the coordinates of the vertices of the triangle formed by two lines with x-axis.
27. Solve for x and y: ax+by=2a-3b, bx-ay=3a+2b
28. Solve for x and y: $\frac{2}{x} + \frac{1}{y} = 7$, $\frac{3}{x} - \frac{5}{y} = 0$
29. Four years ago a father was six times as old as his son. Ten years later, the father will be two and a half times as old as his son. Determine the present age of father and his son.
30. Solve for x and y: $\frac{x}{a} + \frac{y}{b} = 2$, $ax - by = a^2 - b^2$
31. Solve 2x+y-6=0 and 3x+2y=11 and hence find the value of p for which y=px+3.
32. Solve graphically the pair of linear equations 2x+3y=12, 2x-3y-12=0 also find the area of the triangle formed by these two lines with y-axis.
33. Solve for x and y: $\frac{6}{x+y} + \frac{5}{x-y} = 7$, $\frac{3}{x+y} - \frac{4}{x-y} + 3 = 0$
34. The area of a rectangle increased by 30 square units, if the length and breadth of the rectangle is increased by 2 units. However , if the length is decreased by 3 units and breadth is increased by 3 units, the area of rectangle remain same as the area of original rectangle. Find the dimension of rectangle.
35. Solve for x and y: $ax + by = 2ab$, $bx - ay = a^2 + b^2$
36. A fractions becomes ⅓ if 1 is subtracted from both its numerator and denominator. The fraction becomes ½ if 2 is added to numerator and 3 is added to denominator. Find the fraction.
37. Solve graphically the pair of linear equations x=y, x+y=6, write the coordinates of the vertices of the triangle formed by two lines with y-axis.
38. Solve graphically the pair of linear equations 3x+y-5=0, 2x-y-5=0, write the coordinates of the vertices of the triangle formed by two lines with y-axis. also find the area of triangle.
39. Solve for x and y: $\frac{x}{a} + \frac{y}{b} = a + b$, $\frac{x}{a} + \frac{y}{b} = 2$

40. A person starts his job with a certain monthly salary and earns a fixed increment every year. If his salary was Rs. 6000 after four years of his service and Rs. 7500 after ten years of service, find his initial salary when he started the job and the annual increment.

BY MR. SHYAM RATAN

Shyam.ratan14@gmail.com

www.educationfun.webs.com

sam.ratan@yahoo.co.in

9871667265