

CLASS X- MATHEMATICS
LINEAR EQUATION IN TWO VARIABLES

ASSIGNMENT-1

MULTIPLE CHOICE QUESTION- 1.1

1. The equations $3x - 5y + 2 = 0$, and $6x + 4 = 10y$ have :
(A) No solution (B) A single solution
(C) Two solutions (D) An infinite number of solution
2. If $p + q = 1$ and the ordered pair (p, q) satisfy $3x + 2y = 1$ then is also satisfies :
(A) $3x + 4y = 5$ (B) $5x + 4y = 4$ (C) $5x + 5y = 4$ (D) None of these.
3. If $x = y$, $3x - y = 4$ and $x + y + z = 6$ then the value of z is :
(A) 1 (B) 2 (C) 3 (D) 4
4. The system of linear equation $ax + by = 0$, $cx + dy = 0$ has no solution if :
(A) $ad - bc > 0$ (B) $ad - bc < 0$ (C) $ad + bc = 0$ (D) $ad - bc = 0$
5. The value of k for which the system $kx + 3y = 7$ and $2x - 5y = 3$ has no solution is :
(A) 7 & $k = -\frac{3}{14}$ (B) 4 & $k = \frac{3}{14}$ (C) $\frac{6}{5}$ & $k \neq \frac{14}{3}$ (D) $-\frac{6}{5}$ & $k \neq \frac{14}{3}$
6. If $29x + 37y = 103$, $37x + 29y = 95$ then :
(A) $x = 1, y = 2$ (B) $x = 2, y = 1$ (C) $x = 2, y = 3$ (D) $x = 3, y = 2$
7. On solving $\frac{25}{x+y} - \frac{3}{x-y} = 1, \frac{40}{x+y} + \frac{2}{x-y} = 5$ we get :
(A) $x = 8, y = 6$ (B) $x = 4, y = 6$ (C) $x = 6, y = 4$ (D) None of these
8. If the system $2x + 3y - 5 = 0$, $4x + ky - 10 = 0$ has an infinite number of solutions then :
(A) $k = \frac{3}{2}$ (B) $k \neq \frac{3}{2}$ (C) $k \neq 6$ (D) $k = 6$
9. The equation $x + 2y = 4$ and $2x + y = 5$
(A) Are consistent and have a unique solution (B) Are consistent and have infinitely many solution
(C) are inconsistent (D) Are homogeneous linear equations
10. If $\frac{1}{x} - \frac{1}{y} = \frac{1}{z}$ then z will be :
(A) $y - x$ (B) $x - y$ (C) $\frac{y-x}{xy}$ (D) $\frac{xy}{y-x}$

SUBJECTIVE QUESTION - 1.2

Solve each of the following pair of simultaneous equations.

1. $\frac{x}{3} + \frac{y}{12} = \frac{7}{2}$ and $\frac{x}{6} - \frac{y}{8} = \frac{6}{8}$
2. $0.2x + 0.3y = 0.11 = 0, 0.7x - 0.5y + 0.08 = 0$

3. $3\sqrt{2}x - 5\sqrt{3}y + \sqrt{5} = 0$
 $2\sqrt{3}x + 7\sqrt{2}y - 2\sqrt{5} = 0$
4. $\frac{x}{3} + y = 1.7$ and $\frac{11}{x + \frac{y}{3}} = 10 \sqrt{x + \frac{y}{3} \neq 0}$
5. Prove that the positive square root of the reciprocal of the solutions of the equations $\frac{3}{x} + \frac{5}{y} = 29$ and $\frac{7}{x} - \frac{4}{y} = 5 (x \neq 0, y \neq 0)$ satisfy both the equation $2(\sqrt{3}x + 4) - 3(4y - 5) = 5$ and $7\left(\frac{9x}{\sqrt{3}} + 8\right) + 5(7y - 25) = 64$.
6. For what value of a and b, the following system of equations have an infinite no. of solutions. $2x + 3y = 7$; $(a-b)x + (a+b)y = b - 2$
7. Solve :
 (i) $\frac{7}{x^3} - \frac{6}{2^y} = 15$; $\frac{8}{3^x} = \frac{9}{2^y}$ (ii) $119x - 381y = 643$; $381x - 119y = -143$
8. Solve: $\frac{bx}{a} - \frac{ay}{b} + a + b = 0$; $bx - ay + 2ab = 0$
9. Solve : $\frac{1}{3x} + \frac{1}{5y} = 1$; $\frac{1}{5x} + \frac{1}{3y} = 1$ $\frac{2}{15}$
10. Solve $x - y + z = 6$
 $x - 22y - 2z = 5$
 $2x + y - 3z = 1$
11. Solve, $px + qy = r$ and $qx = 1 + r$
12. Find the value of k for which the given system of equations
 (A) has a Unique solution. (B) becomes consistent.
 (i) $3x + 5y = 12$ (ii) $3x - 7y = 6$
 $4x - 7y = k$ $21x - 49y = 1 - 1$
13. Find the value of k for which the following system of linear equation becomes infinitely many solution. or represent the coincident lines.
 (i) $6x + 3y = k - 3$ (ii) $x + 2y + 7 = 0$
 $2kx + 6y = 6$ $2x + ky + 14 = 0$
14. Find the value of k or C for which the following systems of equations be in consistent or no solution.
 (i) $2x + ky + k + 2 = 0$ (ii) $Cx + 3y = 3$
 $kx + 8y + 3k = 0$ $12x + Cy = 6$
15. Solve for x and y :
 $(a - b)x + (a + b)y = a^2 - 2ab - b^2$
 $(a + b)(x + y) = a^2 + b^2$ [CBSE - 2019]
16. Solve for x and y :
 $37x + 43y = 123$
 $43x + 37y = 117$ [CBSE - 2018]