MATHS

BOOKS - MBD NCERT SOLUTIONS

PAIR OF LINEAR EQUATIONS IN TWO VARIABLES

Multiple Choice Questions

1. The value of x and y from the equation $x + y = 14$ and $x - y = 4$ are

A. $x = 9, y = 4$

B. $x = 9, y = 5$

C. $x = 5, y = -9$

D. None of these

Answer: B

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2. The value of x and y from the equation $x - y = 3$ and $\frac{x}{3} + \frac{y}{2} = 6$ are

A. $x = 6, y = 9$

B. $x = 9, y = 6$

C. $x = 8, y = 5$

D. None of these

Answer: B

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3. The value of x and y from the equation $3x - y = 3$ and $9x - 3y = 9$ are

A. One solution

B. No solution

C. Infinite solution

D. Noen of these.

Answer: C

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4. The value of x and y from the equation $2x - y = 3$ and $4x + y = 3$ are

A. $x = 1, y = -1$

B. $x = 2, y = 1$

C. $x = -1, y = 1$

D. None of these

Answer: A

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5. If in equation $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0 \frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$ then which of the following is true?

A. Intersecting lines

B. Coincident lines

C. Parallel lines

D. None of these

Answer: C

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6. If in equation $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0 \frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$ then which of the following is true?

A. Intersecting lines

B. Coincident lines

C. Parallel lines

D. None of these

Answer: B

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7. If in equation $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + z_2 = 0\frac{a_1}{a_2} \neq \frac{b_1}{b_2}$ then which of the following is true?

A. Parallel lines

B. Intersecting lines

C. Coincident lines

D. None of these

Answer: B

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8. If in equation $a_1x + b_1y + c_1 = 0$ and $a_2x + b_yy + c_2 = 0$, $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_3}$, then which of the following is true?

A. Unique solution

B. No solution

C. Infinite solution

D. None of these

Answer: C

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9. If in equation $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$ are such that $\frac{a_1}{a_2} \neq \frac{b_1}{b_2}$, then which of the following is true?

A. No solution

B. Infinite solution

C. Unique solution

D. None of these

Answer: C

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10. If in equation $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$, $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$ then which of the following is true?

A. Unique solution

B. No solution

C. Infinite solution

D. None of these

Answer: B

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11. For what value of k, the pair of equation $2x + ky = 1, 3x - 5y = 7$ has a unique solution?

A. $k = \frac{-10}{3}$

B. $k \neq \frac{-10}{3}$

C. $k \neq \frac{10}{3}$

D. $k \neq \frac{3}{10}$.

Answer: B

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12. The graph of $x = 5$ is :

A. x - axis

B. y - axis

C. A line parallel to x - axis

D. A line parallel to y - axis.

Answer: D

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13. Linear polynomial $3x - 2y = 5$ represents a :

A. Parabola

B. Straight line

C. Circle

D. None of these

Answer: B

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14. For what value of k, the following pair of linear equations have infinitely many solution?

$kx + 4y + 6 = 0$

$3x + 8y + 12 = 0$

A. $k = 6$

B. $k = 3$

C. $k = 2$

D. $k = 1.5$

Answer: D

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15. The value of k for which the pair of linear equations $kx + 3y + (3 - k) = 0$ and $12x + ky - k = 0$ have infinitely many solution is :

A. -6

B. 12

C. -12

D. $+6$.

Answer: D

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16. Half the perimeter of a rectangular garden whose length is 4 m more than its width, is 36m. The dimensions of the

garden are :

A. 26m, 10 m

B. 20m, 16m

C. 22m, 14m

D. None of these

Answer: B

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17. The value of p, for which the equations $6x + py - 5 = 0$ and $3x + 2y - 8 = 0$ have unique solution is :

A. $p = 4$

B. $p \neq 4$

C. $p = -4$

D. $p \neq -4$.

Answer: B

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18. The solution of equations $3x + 4y = 10$ and $x - y = 1$ is :

A. $x = 2, y = 3$

B. $x = -2, y = 1$

C. $x = 2, y = 1$

D. None of these

Answer: C

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19. Linear equation $5x + 2y = 16$ and $7x - 4y = 2$ will have :

A. Many solutions

B. No solution

C. A unique solution

D. Two solutions.

Answer: C

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20. After solving the linear equations $-6x + 5y = 2$ and $-5x + 6y = 9$. The value of y will be :

A. 3

B. 4

C. -3

D. -4.

Answer: B

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21. A graph of linear equation always represents a :

A. straight line

B. parabola

C. circle

D. None of these

Answer: A

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22. For what value of k the equations $2x + ky = 5$ and $3x - 3y = 6$ have unique solution?

A. $k = 2$

B. $k = -2$

C. $k \neq 2$

D. $k \neq -2$

Answer: D

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23. For unique solution of the equations $x - 2y - 3 =$ and $3x + ky - 1 = 0$, the value of k is :

A. $k \neq 6$

B. $k \neq 3$

C. $k \neq -6$

D. None of these

Answer: C

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Short Answer Type Questions

1. Solve : $\frac{2}{x} + \frac{3}{y} = 13$ and $\frac{5}{x} - \frac{4}{y} = -2$.

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2. Solve the following equations :

$0.2x + 0.3y = 1.3$

$0.4x + 0.5y = 2.3$

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3. Solve the following equations :

$3x - y = 3$

$x - y = 4$

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4. Solve the following equations :

$$1.5x - \frac{5}{3}y + 2 = 0$$

$$\frac{1}{3}x + 0.5y - \frac{13}{6} = 0$$

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5. Solve the following equations :

$$\sqrt{2}x + \sqrt{3}y = 0$$

$$\sqrt{3}x - \sqrt{8}y = 0$$

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6. Solve the pair of linear equations :

$$\frac{3x}{2} - \frac{5y}{3} = -2 \text{ and } \frac{x}{3} + \frac{y}{3} = \frac{13}{6}.$$

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7. Solve the following equations :

$$\frac{2x}{3} + \frac{y}{2} = 3$$
$$\frac{x}{2} - \frac{2y}{3} = \frac{1}{6}.$$

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8. Solve the following equations :

$$\frac{x}{2} + \frac{2y}{3} = -1$$
$$\frac{x}{3} - \frac{y}{2} = \frac{13}{6}.$$

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9. Solve the following equation :

$$\frac{2x}{3} - \frac{3y}{2} = -2$$
$$\frac{x}{2} + \frac{4y}{3} = \frac{25}{3}.$$

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10. Solve the pair of linear equations

$3x - y = 3$ and $7x + 2y = 20.$

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11. Solve the following pair of linear equations by elimination method :

$x + y = 5$ and $2x - 3y = 4.$

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12. Solve the pair of linear equations

$2x + 3y = 11$ and $2x - 4y = -24.$

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13. 5 Pencils and 7 Pens together cost Rs 50, 7 Pencils and 5 Pens together cost Rs 46. Find the cost of one Pencil and that of one Pen.

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

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15. Draw the graphs of the equations $x - y + 1 = 0$ and $3x + 2y - 12 = 0$. Determine the co-ordinates of the vertices of the triangle formed by these lines and the x-axis, and shade the triangular region.

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16. A fraction becomes 9/11 if 2 is added to both numerator and the denominator. If 3 is added to both the numerator and the denominator it becomes 5/6. Find the fraction.

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17. 20. Five years hence, the age of Jacob will be three times that of his son. Five years ago, ag was years Jacob's seven times that of his son. What are their present ages?

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18. A fraction becomes $\frac{1}{3}$ when 1 is subtracted from the numerator and it becomes $\frac{1}{4}$ when 8 is added to its

denominator. Find the fraction.

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19. Solve the following pair of equations by reducing them to a pair of linear equations: $\frac{5}{x-1}+\frac{1}{y-2}=2$; $\frac{6}{x-1}-\frac{3}{y-2}=1$

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20. Solve the following pair of equations by reducing them to a pair of linear equations :

$\frac{10}{x+y}+\frac{2}{x-y}=4$ and $\frac{15}{x+y}-\frac{5}{x-y}=-2.$

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