Class 10 - Pair of linear eq in 2 variables - 18/7/20

1. The equations $3x - 5y + 2 = 0$, and $6x + 4 = 10\,y$ 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. If $29x + 37y = 103,\ 37x + 29y = 95$ then :

(a) $x = 1, y = 2$
(b) $x = 2, y = 1$
(c) $x = 2, y = 3$
(d) $x = 3, y = 2$

6. 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

7. The graphs of $2x + 3y - 6 = 0, 4x - 3y - 6 = 0, x = 2$ and $y = \frac{2}{3}$ intersects in :

(a) Four points
(b) One point
(c) Two point
(d) Infinite number of points

8. The sum of two numbers is 20, their product is 40. The sum of their reciprocal is:

(a) $\frac{1}{2}$
(b) 2
(c) 4
(d) $\frac{1}{10}$

9. If Rs. 50 is distributed among 150 children giving 50 p to each boy and 25 p to each girl. Then the number of boys is :

(a) 25
(b) 40
(c) 36
(d) 50

10. In covering a distance of $30\ km$. Amit takes $2\ hrs$. more than Suresh. If Amit doubles his speed, he would take one hour less than Suresh. Amits' speed is :

(a) $5\ km/hr$
(b) $7.5\ km/hr$
(c) $6\ km/hr$
(d) $6.2\ km/hr$

11. If the pair of linear equations $x - y = 1, x + ky = 5$ has a unique solution $x = 2, y = 1,$ then value of k is $-$

(a) -2
(b) 3
(c) -3
(d) 4

12. The pair of linear equations $2kx + 5y = 7, 6x - 5y = 11$ has a unique solution if $-$

(a) $k \neq -3$
(b) $k \neq 3$
(c) $k \neq 5$
(d) $k \neq -5$

13. The pair of linear equations $3x + 5y = 3, 6x + ky = 8$ do not have any solution if

(a) $k = 5$
(b) $k = 10$
(c) $k \neq 10$
(d) $k \neq 5$

14. The pair of linear equations $kx + 4y = 5, 3x + 2y = 5$ is consistent only when —

(a) $k \neq 6$
(b) \mathrm \mathrm { k } = 6
(c) $k \neq 3$
(d) $k = 3$

15. The pair of linear equations $13x + ky = k, 39x + 6y = k + 4$ has infinitely many solutions if —

(a) $k = 1$
(b) $k = 2$
(c) $k = 4$
(d) $k = 6$

16. The pair of linear equations $3x - 5y + 1 = 0, 2x - y + 3 = 0$ has a unique solution $x = x_1, y = y_1$ then $y_1 =$

(a) 1
(b) -1
(c) -2
(d) -4

17. The pair of linear equations $x + 2y = 5, 3x + 12y = 10$ has —

(a) Unique solution
(b) No solution
(c) More than two solution
(d) Infinitely many solutions

18. If the sum of the ages of a father and his son in years is 65 and twice the difference of their ages in years is 50, then the age of the father is -

(a) 45 years
(b) 40 years
(c) 50 years
(d) 55 years

19. A fraction becomes $\frac{4}{5}$ when 1 is added to each of the numerator and denominator. However, if we subtract 5 from each then it becomes $\frac{1}{2}$. The fraction is -

(a) $\frac{5}{8}$
(b) $\frac{5}{6}$
(c) $\frac{7}{9}$
(d) $\frac{13}{16}$

20. Three chairs and two tables cost Rs. 1850 Five chairs and three tables cost Rs. 2850. Then the total cost of one chair and one table is-

(a) Rs. 800
(b) Rs. 850
(c) Rs. 900
(d) Rs. 950

21. Two horses start trotting towards each other, one from A to B and another from B to A. They cross each other after one hour and the first horse reaches B, $\frac{5}{6}$ hours before the second hoarse reaches A. If the distance between A and B is $50\ km$. What is the speed of the slower hours?

(a) $30\ km/h$
(b) $15\ km/h$
(c) $25\ km/h$
(d) $20\ km/h$

22. A motor boat takes 12 hours to go downstream and it takes 24 hours to return the same distance. What is the time taken by boat in still water ?

(a) $15\ h$
(b) $16\ h$
(c) $8\ h$
(d) $20\ h$

23. The length of the sides of a triangle are $3x + 2y, 4x + \frac{4}{3}y$ and $3(x + 1) + \frac{3}{2}(y - 1)$. If the triangle is equilateral, then its side is

(a) 8
(b) 10
(c) 12
(d) 16

24. The solution of the equations:
$\frac{x}{4} = \frac{y}{3} = \frac{z}{2}$, $7x + 8y + 5z = 62$ is :

(a) (4,3,2)
(b) (2,3,4)
(c) (3,4,2)
(d) (4,2,3)

25. The point of intersection of the straight lines
$2x - y + 3 = 0, 3x - 7y + 10 = 0$ lies in :

(a) I quadrant
(b) II quadrant
(c) III quadrant
(d) IV quadrant

Answer Key

1. **Answer:** d
2. **Answer:** a
3. **Answer:** b
4. **Answer:** d
5. **Answer:** a
6. **Answer:** c
7. **Answer:** b
8. **Answer:** a
9. **Answer:** d
10. **Answer:** a
11. **Answer:** b
12. **Answer:** a
13. **Answer:** b
14. **Answer:** a
15. **Answer:** b
16. **Answer:** b
17. **Answer:** a
18. **Answer:** a
19. **Answer:** c
20. **Answer:** b
21. **Answer:** d
22. **Answer:** b
23. **Answer:** c
24. **Answer:** a
25. **Answer:** b