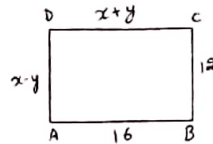


Class-X Ch-3 Pair of linear eq. in two variable (Maths Assignment)

1. Is the system of linear eqs. $2x+3y-9=0$ and $4x+6y-18=0$ Consistent? Justify your answer.

2. ABCD is a rectangle. Find the values of x and y. Ans($x = 14, y = 2$)



3. Solve for x and y.

$$4x + \frac{y}{3} = \frac{8}{3}, \quad \frac{x}{2} + \frac{3y}{4} = \frac{-5}{2} \quad \text{Ans}(x=1, y=-4)$$

4. Find the solution of foll. pair of linear eqs.

$$x - y = 3 \quad \text{and} \quad 4x + 2y = 0 \quad \text{Ans}(x=1, y=-2)$$

5. For what value of k will the foll. pair of linear eqs. have no sol. ?

$$3x + y = 1; \quad (2k-1)x + (k-1)y = 2k+1 \quad \text{Ans}(k=2, k \neq -2)$$

6. Solve for x and y $\frac{x}{a} + \frac{y}{b} = 2, \quad ax - by = a^2 - b^2 \quad \text{Ans}(x=a, y=b)$

7. Solve the foll. System of eqs. for x and y.

$$(a-b)x + (a+b)y = a^2 - 2ab - b^2$$

$$(a+b)(x+y) = a^2 + b^2$$

$$\text{Ans}(x = a+b, y = -\frac{2ab}{a+b})$$

8. The sum of two nos. is 1000 and the diff. between their squares is 256000. Find nos
Ans(628,372)

9. Solve the foll. System of linear eqs. for x and y.

$$\frac{5}{x-1} + \frac{1}{y-2} = 2, \quad \frac{6}{x-1} + \frac{3}{y-2} = 1,$$

$$\text{Ans}(x=4, y=5)$$

10. Solve for x and y

$$\frac{ax}{b} - \frac{by}{a} = a+b, \quad ax - by = 2ab$$

$$\text{Ans}(x=b, y=-a)$$

11. The sum of two nos. is 8. Determine the nos. if sum of their reciprocal is $\frac{8}{15}$.

$$\text{Ans}(3,5 \text{ or } 5,3)$$

12. The sum of two digits no. and the no. obtained by interchanging the digits is 99. If digits of no. is differ by 3, find the no.
Ans(36 or 63)

13. A person travels 600 km partly by train and partly by car. If he covers 400 km by train and rest by car it takes 6 h 30 min. But if he travels 200 km by train and rest by car, he take half an hour longer. Find the speed of car and that of train.

$$\text{Ans}(80 \text{ km/h } 100 \text{ km/h})$$

14. Father's age is three times the sum of his two children's age. After 5 years his age will be twice the sum of ages of two children. Find the age of father. Ans(45 years)

15. The monthly income of A and B are in the ratio of 5:4 and their monthly expenditure are in the ratio 7:5. If each saves Rs 3000 per month . Find the monthly income of each. Ans(Rs 10,000, Rs 8000)

16. A fraction becomes $\frac{5}{6}$, if 1 is added to each of its numerator and denominator.

However if we subtract 5 from each the fraction becomes $\frac{2}{3}$. Find the fraction.

Ans($\frac{9}{11}$)

17. A and B are friends and their ages differ by 2 years. A's father D is twice as old as A and B is twice as old as his sister C. The ages of D and C differ by 40 years. Find ages of D and C differ by 40 years. Find ages of A and B. Ans(A=26y or $27\frac{1}{3}$ y)

(B=24y or $29\frac{1}{3}$ y)

18. 2 men and 7 boys can do a piece of work in 4 days. The same work is done in 3 days by 4 men and 4 boys. How long would it take one man and one boy to do it.

Ans(M = 15 days, Boys = 60 days)