

---

**PAIR OF LINEAR EQUATIONS IN TWO VARIABLES**

---

**SECTION A: (1 MARK)**

1. What is the point of intersection of lines represented by  $3x - 2y = 6$  and the y-axis?  $\{0, -3\}$   
(CBSE 2011)
  2. Find the value of  $k$  for which the pair of equations  $4x - 5y = 5$  and  $kx + 3y = 3$  is consistent.  $\{k \neq -12/5\}$   
(CBSE 2010)
  3. If  $x = a$ ,  $y = b$  is the solution of the equations  $x - y = 2$  and  $x + y = 4$ , then find the values of  $a$  and  $b$ .  $\{3, 1\}$
- 

**SECTION B: (2 MARKS)**

4. Solve for  $x$ :  $99x + 101y = 499$  ;  $101x + 99y = 501$  (CBSE 2012)  $\{3, 2\}$
  5. The angles of a cyclic quadrilateral taken in order are  $(3y - 5)$ ,  $(4y + 20)$ ,  $(7x + 5)$  and  $4x$ . Find the angles of the cyclic quadrilateral.  $\{70, 120, 110, 60\}$   
(NCERT EXEMPLAR PROBLEM)
  6. For what value of  $k$  the following system of linear equations has a no solution?  $\{k=3\}$   
 $x + 2y = 3$   
 $(k - 1)x + (k + 1)y = k + 2$
  7. Solve for  $x$  and  $y$ :  $3^{x-y} = 27$  ;  $3^{x+y} = 243$   $\{4, 1\}$   
(NCERT EXEMPLAR PROBLEM)
- 

**SECTION C: (3 MARKS)**

8. Solve for  $x$  and  $y$ :  $(a + b)x + (a - b)y = a^2 + b^2$   
 $(a - b)x + (a + b)y = a^2 + b^2$   $\{x = \frac{a^2 + b^2}{2a}, y = \frac{a^2 + b^2}{2a}\}$   
(NCERT EXEMPLAR PROBLEMS)
  9. Determine the values of  $m$  and  $n$  so that the following system of linear equations have infinite number of solutions:  $\{m=17/4, n=11/5\}$   
 $(2m - 1)x + 3y - 5 = 0$   
 $3x + (n - 1)y - 2 = 0$
  10. Solve for  $x$  and  $y$ :  $\frac{x}{a} + \frac{y}{b} = a + b$   $\{a^2, b^2\}$   
 $\frac{x}{a^2} + \frac{y}{b^2} = 2$  (CBSE 2008)
  11. Solve graphically the pair of linear equations and write the coordinates of the vertices of the triangle formed by these two lines with  $x$  - axis.  $\{(-1, 6)(1, 0)(-4, 0)\}$   
 $3x + y - 3 = 0$  ;  $2x - y + 8 = 0$
-

---

**SECTION D: (4 MARKS)**

- 12.** An honest person invested some amount at the rate of 12% simple interest and some other amount at the rate of 10% simple interest. He received yearly interest of ₹130. But if he had interchanged amounts invested, he would have received ₹4 more as interest. How much amount did he invest at different rates? {₹500, ₹700}  
(HOTS QUESTION)
- 13.** If a box containing red and white marbles, half the number of white marbles is equal to one-third the number of red marbles. Thrice the total number of marbles exceeds seven times the number of white marbles by 6. How many marbles of each colour does the box contain? {Red-18, White-12}  
(NCERT EXEMPLAR PROBLEM)
- 14.** Two candles of equal height but different thickness are lighted. The first burns off in 6 hours and the second in 8 hours. How long, after lighting both, will the first candle be half the height of the second? {4hrs 48mins}  
(HOTS QUESTION)
- 15.** The ages of two friends Sunaina and Tanishtha differ by 2 years. Sunaina's father is twice as old as Sunaina and Tanishtha is twice as old as his brother Shiva. The ages of Sunaina's father and Shiva differ by 40 years. Find the ages of Sunaina and Tanishtha. {26,24}  
(NCERT EXEMPLAR PROBLEM)
-