1

SHORT ANSWER TYPE QUESTIONS

Q1. Solve the following pair of linear equations:

a) $ax + by = a - b$, $bx - ay = a + b$

b) $(a + 2b) x + (2a - b) y = 2$ $(a - 2b) x + (2a + b) y = 3$

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

d) $ax/b - by/a = a + b$ $ax - by = 2ab$

e) $5/(x+1) - 2/(y- 1) = 1/2$ $10/(x+1) + 2/(y-1) = 5/2$

f) $a^2/x - b^2/y = 0$ $a^2b/x + b^2a/y = a + b$, $x, y \neq 0$

g) $mx - ny = m^2 + n^2$ $x - y = 2n$

h) $xy/(x + y) = 6/5$ $xy/(y - x) = 6$ $\{(x +y) \neq 0, (y - x) \neq 0\}$

i) $x/a - y/b = (a- b)$ $x/a^2 - y/b^2 = 0$

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

Solution :

ANSWERS

1. a) $x = 1, y = -1$

b) $x = (5b - 2a)/10ab, y = (a+10b)/10ab$

c) $x = a + b, y = -2ab/(a + b)$

d) $x = b, y = -a$

e) $x = 4, y = 5$

f) $x = a^2, y = b^2$

g) $x = m + n, y = m - n$

h) $x = 2, y = 3$

i) $x = a^2, y = b^2$

j) $x = a^2, y = -b^2$

2

If 1 is added to each of the given two numbers, then their ratio is 1:2. If 5 is subtracted from each of the numbers, then their ratio is 5:11. Find the numbers.

Solution : 35,71

3

The ratio of the incomes of two persons is 9:7 and the ratio of their expenditures is 4:3. If each of them Saves Rs.200 per month, find their monthly incomes.

Solution : 1800,1400

4

Seven times a 2- digit number is equal to four times the number obtained by reversing the order of the digits. If the sum of both the digits is 9, find the number.

Solution : 36

5	A father's age is three times the sum of the ages of his two children. After 5 years, his age will be two times the sum of their ages. Find the present age of the father. (CBSE 2019) **Solution : 45**
6	The students of a class are made to stand in rows. If 3 students are extra in a row, there would be 1 row less. If 3 students are less in a row, there would be 2 rows more. Find the number of students in the class. **Solution : 36**