



INDIAN SCHOOL DARSAIT

DEPARTMENT OF MATHEMATICS



Subject : Mathematics	Topic : Pair Of Linear Equations In Two Variables	Date of Worksheet : 25- 4 -2018
Worksheet no: 3		
Resource Person: Mrs. Anu Likson		

Name of the Student : _____ Class & Division : X Roll Number : ____

Section A-[Basic skills]

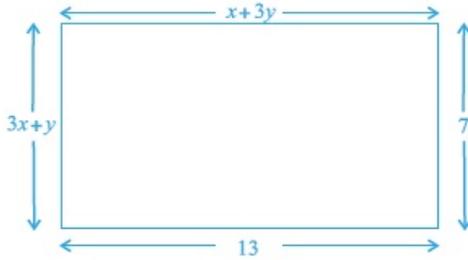
1. Solve for x : $-4(x + 2) = 3(x - 1)$
2. Solve for x : $5(x - 4) = -5$
3. $5 \frac{1}{2} \div \frac{77}{4}$
4. 3214×435
5. $456 \div 7$

Section B - [Chapter based questions]

- 1.. For which value of 'p' does the pair of equations given below has unique solution. 1
 $4x + py + 8 = 0$ and $2x + 2y + 2 = 0$.
- 2.. Find the value of 'k ' for which the system of equations $kx + 3y = 1$, $12x + ky = 2$ has no solution. 1
3. Solve: $23x - 13y = 270$; $13x - 23y = 90$ 2
4. Find the value(s) of k for which the pair of linear equations $kx + y = k^2$ and $x + ky = 1$ have infinitely many solutions. 2
5. In a parallelogram , one angle is $\left(\frac{4}{5}\right)^{\text{th}}$ of the adjacent angle. Determine the angles of the parallelogram. 2
6. Find the four angles of a cyclic quadrilateral ABCD in which $\angle A = (2x - 1)^0$, $\angle B = (y + 5)^0$, $\angle C = (2y + 15)^0$ and $\angle D = (4x - 7)^0$. 3
7. Solve graphically 3
 i) $2x + 3y = 8$ ii) $x + y = 3$
 $x - 2y + 3 = 0$ $3x - 2y = 4$
- 8.. Solve for x and y : 3
 i) $x + \frac{6}{y} = 6$; $3x - \frac{8}{y} = 5$ ii) $\frac{5}{x+y} - \frac{2}{x-y} = -1$; $\frac{15}{x+y} + \frac{7}{x-y} = 10$
- 9.. Find the values of x and y in the following rectangle: 4



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10. Ankita travels 14km to her home partly by rickshaw and partly by bus. She takes half an hour if she travels 2km by rickshaw and the remaining distance by bus. On the other hand, if she travels 4km by rickshaw and the remaining distance by bus, she takes 9 minutes longer. Find the speed of the rickshaw and of the bus. 4
11. A motor boat can travel 30km upstream and 28km downstream in 7 hours. It can travel 21km upstream and return in 5 hours. Find the speed of the boat in still water and the speed of the stream. 4
12. The age of the father is twice the sum of the ages of his children.. After 20 years, his age will be equal to the sum of the ages of his children. Find the age of the father. 4

Section B - [HOT QUESTIONS]

1. A chemist has one solution which is 50% acid and a second which is 25% acid. How much of each should be mixed to make 10 litres of 40% acid solution. 3
2. Solve the following system of equations: 4
 $(a+c)x - (a-c)y = 2ab$
 $(a+b)x - (a-b)y = 2ab$
3. There are some students in the two examination halls A and B. To make the number of students equal in each hall, 10 students are sent from A to B. But if 20 students are sent from B to A, the number of students in A becomes double the number of students in B. find the number of students in the two halls. 4
4. Draw the graphs of the equations $x = 3$, $x=5$ and $2x-y-4 =0$. Also find the area of the quadrilateral formed by the lines and the x axis. 4
5. If a bag containing red and white balls, half the number of white balls is equal to one third the number of red balls. Thrice the total number of balls exceeds seven times the number of white balls by 6. How many balls of each colour does the bag contain? 4