SHRI DHARMASTHALA MANJUNATHESHWARA SCHOOL, ASHOKNAGAR, MANGALURU

MATHEMATICS GRADE 10 - WORKSHEET 3

1. Solve the following system of equations: $4x + 3y = 32$ and $2x - 7y = -18$
2. Find the sum of *x* and *y* for the following system: $2x + 5y = 6xy$ and $4x - 5y = -3xy$
3. The difference between the digits of a two-digit number is 3. If we reverse the digits of the number and multiply it by 4, we obtain 7 times the original number.
4. Jaya breeds chickens and ducks. Last month, she sold 50 chickens and 30 ducks for ₹550. This month, he sold 44 chickens and 36 ducks for ₹532. How much does a chicken and a duck cost?
5. Find the sum of *x* and *y* in the following system of equations:

   $10x + 3y = 75, \quad 6x - 5y - 11 = 0$
6. X takes 3 hours more than Y to walk 30 km. But, if X doubles his speed, he is ahead of Y by 1.5 hours. Find their speed of walking.
7. A vessel contains a mixture of 24 litres milk and 6 litres water and second vessel contains a mixture of 15 litres milk and 10 litres water. How much mixture of milk and water should be taken from the first and the second vessel separately and kept in a third vessel so that the third vessel may contain a mixture of 25 litres milk and 10 litres water.
8. Draw the graphs of the equations: $-x + 3y = 6$; $2x - 3y = 12$ and hence find '*a*' if $3x + 2y = 3 + a$. Find the area of the triangle formed by these lines with Y-axis.
9. A lab assistant has a solution of 50% acid and the other one having 25% acid. How much of each should be mixed to make 10 litres of 40% acid solution?
10. A boat covers 32 km upstream and 36km downstream in 7 hours. Also, it covers 40 km upstream and 48km downstream in 9 hours. Find the speed of the boat in still water and that of the stream.