1. Sumit is 3 times as old as his son. Five years later he shall be two and a half times as old as his son. How old is Sumit at present?

2. A boat covers 32 km upstream and 36 km downstream in 7 hours. Also, it covers 40 km upstream and 48 km downstream in 9 hours. Find the speed of the boat in still water and that of the stream.

3. A motor boat can travel 30 km upstream and 28 km downstream in 7 hours. It can travel 21 km upstream and return in 5 hours. Find the speed of the boat in still water and the speed of the stream.

4. The population of a village is 5000. If in a year, the number of males were to increase by 5% and that of a female by 3% annually, the population would grow to 5202 at the end of the year. Find the number of males and females in the village.

5. A cyclist, after riding a certain distance, stopped for half an hour to repair his bicycle, after which he completes the whole journey of 30 km at half speed in 5 hours. If the breakdown had occurred 10 km farther off, he would have done the whole journey in 4 hours. Find where the breakdown occurred and his original speed

6. When 6 boys were admitted and 6 girls left, the percentage of boys increased from 60% to 75%. Find the original no. of boys and girls in the class

7. At a certain time in a deer, the number of heads and the number of legs of deer and human visitors were counted and it was found that there were 39 heads and 132 legs. Find the number of deer and human visitors in the park.

8. One says, "Give me a hundred, friend! I shall then become twice as rich as you." The other replies, "If you give me ten, I shall be six times as rich as you." Tell me what is the amount of their (respective) capital.

9. The ages of two friends Soham and Mahitha differ by 3 years. Sohami's father Drams is twice as old as Soham and Mahitha is twice as old as her sister Kim. The ages of Kim and Drams differ by 30 year. Find the ages of Soham and Mahitha.

10. The area of a rectangle gets reduced by 9 square units, if its length is reduced by 5 units and the breadth is increased by 3 units. The area is increased by 67 square units if length is increased by 3 units and breadth is increased by 2 units. Find the perimeter of the rectangle.

11. A two digit number is obtained by either multiplying the sum of digits by 8 and then subtracting 5 or by multiplying the difference of digits by 16 and adding 3. Find the number.

12. It can take 12 hours to fill a swimming pool using two pipes. If the pipe of larger diameter is used for four hours and the pipe of smaller diameter for 9 hours, only half of the pool can be filled. How long would it take for each pipe to fill the pool separately?

13. 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 litre of 40% acid solution.

14. Solve the following pair of equations graphically: 2x + 3y = 12, x - y = 1. Shade the region between the two lines represented by the above equations and the X -axis.

15. Draw the graphs of the pair of linear equations : $x + 2y = 5$ and $2x - 3y = -4$. Also find the points where the lines meet the x -axis.

16. Solve the following pair of equations :
$$2/\sqrt{x} + 3/\sqrt{y} = 2 \qquad 4/\sqrt{x} - 9/\sqrt{y} = -1$$

17. Find c if the system of equations :
$cx + 3y + (3-c) = 0$
$12x + cy - c = 0$ has infinitely many solutions?

18. Determine graphically the coordinates of the vertices of triangle, the equations of whose sides are given by $2y - x = 8$, $5y - x = 14$ & $y - 2x = 1$

19. Find the value of p and q for which the system of equations represent coincident lines:
$2x + 3y = 7$ & $(p + q + 1)x + (p + 2q + 2)y = 4(p+q) + 1$

20. Given the linear equation $x + 2y = 3$
Write another linear equation in these two variables such that the geometrical representation of the pair so formed is: (1) intersecting lines (2) coincident lines