Linear equations in 2 variables: class test

1 mark questions

1. Solve the following pair of linear equations graphically $6x - y + 4 = 0$ and $2x - 5y = 8$. Shade the region bounded by the lines and y-axis.

2. If $17x - 19y = 53$ and $19x - 17y = 55$, then the value of $(x + y)$ is

   a. 1

   b. -1

   c. 3

   d. -3

3. If the system of equations $3x + y = 1$ and $(2k - 1)x + (k - 1)y = 2k + 1$ is inconsistent, then $k =$

   a. -1

   b. 0

   c. 1

   d. 2

4. The value of k for which the system of equations $x + y - 4 = 0$ and $2x + ky = 3$, has no solution, is

   a. -2

   b. $\neq 2$

   c. 3

   d. 2

2 mark questions

5. The larger of two supplementary angles exceeds the smaller by $18°$. Find the angles.

6. The present age of a father is three years more than three times the age of his son. Three years hence the father's age will be 10 years more than twice the age of the son. Determine their present ages.

7. Find k so that the following pair of linear equations has no solution.

   $3x + y = 1$
   $(2k - 1)x + (k - 1)y = 2k + 1.$

3 marks questions

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

4 marks questions

9. A train covered a certain distance at a uniform speed. If the train would have been $6\text{km}/\text{h}$ faster, it would have taken 4 hours less than the scheduled time. And, if the train were slower by $6\text{km}/\text{hr}$; it would have taken 6 hours more than the scheduled time. Find the length of the journey.

10. Solve the following pair of linear equations graphically $6x - y + 4 = 0$ and $2x - 5y = 8$. Shade the region bounded by the lines and y-axis.

11. Jamila sold a table and a chair for Rs 1050, thereby making a profit of 10% on the table and 25% on the chair. If she had taken a profit of 25% on the table and 10% on the chair she would have got Rs 1065. Find the cost price of each.