VSA
A Real English Medium School
Little Steps
Pre Primary wing of VSA

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SR. SEC. SCHOOL

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Class – 12th **Chapter-5** **Subject Maths**

Worksheet-21 Inverse of a Matrix and Linear Equations

1. Solve the following system of equations using Cramer's rule

$$x+y+z=9$$
$$2x+5y+7z=52$$
$$2x+y-z=0$$

2. Solve the system of equation using matrix inverse method.

$$5x-3y=2$$
$$x+2y=3.$$

3. Solve the following system of equations in matrix form and find A^{-1}.

$$2x-y+3z=9$$
$$x+y+z=6$$
$$x-y+z=2.$$

4. If $A=\begin{bmatrix}1 & -1 & 0\\ 2 & 3 & 4\\ 0 & 1 & 2\end{bmatrix}$ and $B=\begin{bmatrix}2 & 2 & -4\\ -4 & 2 & -4\\ 2 & -1 & 5\end{bmatrix}$ then find AB and solve the following equations

$$x-y=3;\quad 2x+3y+4z=17,\quad y+2z=7\,.$$

5. Solve the following system of equations

$$\begin{bmatrix}3 & 0 & 3\\ 2 & 1 & 0\\ 4 & 0 & 2\end{bmatrix}\begin{bmatrix}x\\ y\\ z\end{bmatrix}=\begin{bmatrix}8\\ 1\\ 4\end{bmatrix}+\begin{bmatrix}2y\\ z\\ 3y\end{bmatrix}$$

6. Solve the equations using determinants : $6x+y-3z=5$
$$x+3y-2z=5$$
$$2x+y+4z=8$$