

## Determinants and Cramer's Rule

Name: \_\_\_\_\_

Period: \_\_\_\_\_

**Directions:** Find the determinant of each matrix.

1.  $\begin{bmatrix} 5 & 8 \\ -6 & -9 \end{bmatrix}$

2.  $\begin{bmatrix} 10 & -4 \\ 3 & 2 \end{bmatrix}$

3.  $\begin{bmatrix} 4 & 2 & -9 \\ -7 & 6 & -3 \\ 1 & -5 & 8 \end{bmatrix}$

**Directions:** Use Cramer's Rule to find the solution to each system of equations. **Show all the matrices used.**

4.  $\begin{cases} 3x + 8y = -23 \\ 5x - 7y = 104 \end{cases}$

5.  $\begin{cases} 7x - 11y = 57 \\ 8x + 9y = -129 \end{cases}$

6.  $\begin{cases} 13x - 9y = 14 \\ 3x + 10y = 124 \end{cases}$

7.  $\begin{cases} 4x + 13y = 149 \\ 10x + 9y = 67 \end{cases}$

$$\begin{aligned} &15x + 7y + 6z = 67 \\ 7. \quad &4x - 2y - 5z = -9 \\ &7x + 5y - 11z = -74 \end{aligned}$$

$$\begin{aligned} &8x - 5y + 11z = 50 \\ 8. \quad &6x + 7y - 6z = -98 \\ &5x - 12y - 4z = -38 \end{aligned}$$