

## Assignment : Determinant and Inverse

Evaluate each determinant.

1)  $\begin{vmatrix} 5 & -2 \\ -1 & 3 \end{vmatrix}$

2)  $\begin{vmatrix} -5 & -5 \\ 5 & 2 \end{vmatrix}$

Evaluate the determinant of each matrix.

3)  $\begin{bmatrix} 1 & 3 & -5 \\ 5 & -4 & 4 \\ 4 & 2 & 1 \end{bmatrix}$

4)  $\begin{bmatrix} 3 & 1 & -4 \\ 0 & 1 & 4 \\ -2 & 3 & -2 \end{bmatrix}$

Find the inverse of each matrix.

5)  $\begin{bmatrix} -9 & 4 \\ -2 & 4 \end{bmatrix}$

6)  $\begin{bmatrix} -8 & -9 \\ -6 & -10 \end{bmatrix}$

7)  $\begin{bmatrix} -7 & 7 \\ 8 & 0 \end{bmatrix}$

8)  $\begin{bmatrix} 0 & -4 \\ 6 & -5 \end{bmatrix}$

Use Cramer's Rule to solve each system.

9)  $\begin{cases} -x + y = 6 \\ 2x - 2y = -12 \end{cases}$

10)  $\begin{cases} -4x - y = 16 \\ 2x - y = -2 \end{cases}$

## Answers to Assignment : Determinant and Inverse

1) 13

5)  $-\frac{1}{28} \cdot \begin{bmatrix} 4 & -4 \\ 2 & -9 \end{bmatrix}$

9) No unique solution

2) 15

6)  $\frac{1}{26} \cdot \begin{bmatrix} -10 & 9 \\ 6 & -8 \end{bmatrix}$

10)  $(-3, -4)$

3) -109

7)  $-\frac{1}{56} \cdot \begin{bmatrix} 0 & -7 \\ -8 & -7 \end{bmatrix}$

4) -58

8)  $\frac{1}{24} \cdot \begin{bmatrix} -5 & 4 \\ -6 & 0 \end{bmatrix}$

