

Matrix Inverses and Determinants**Evaluate each determinant.**

1) $\begin{vmatrix} -1 & 2 \\ 1 & -4 \end{vmatrix}$

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

3) $\begin{vmatrix} -4 & 4 \\ -5 & -3 \end{vmatrix}$

4) $\begin{vmatrix} -2 & 3 \\ 0 & 5 \end{vmatrix}$

5) $\begin{vmatrix} -5 & 2 & 1 \\ 1 & 0 & 0 \\ 0 & 4 & 0 \end{vmatrix}$

6) $\begin{vmatrix} -5 & -4 & 1 \\ -3 & 0 & 5 \\ -1 & 0 & 3 \end{vmatrix}$

7) $\begin{vmatrix} 3 & 3 & 1 \\ -3 & -1 & -3 \\ -4 & -3 & 1 \end{vmatrix}$

8) $\begin{vmatrix} -2 & 1 & -2 \\ 0 & 5 & -5 \\ 0 & 2 & -5 \end{vmatrix}$

For each matrix state if an inverse exists.

9) $\begin{bmatrix} 10 & -1 \\ 0 & 0 \end{bmatrix}$

10) $\begin{bmatrix} -10 & 5 \\ -2 & -1 \end{bmatrix}$