

Math 2550
HW 5 - Part 1
Determinants

1. For each matrix: (i) compute the determinant, and (ii) determine if the matrix is invertible.

(a) $\begin{pmatrix} 3 & 5 \\ -2 & 4 \end{pmatrix}$ (b) $\begin{pmatrix} 4 & 1 \\ 8 & 2 \end{pmatrix}$ (c) $\begin{pmatrix} -5 & 6 \\ -7 & -2 \end{pmatrix}$

(d) $\begin{pmatrix} -2 & 7 & 6 \\ 5 & 1 & -2 \\ 3 & 8 & 4 \end{pmatrix}$ (e) $\begin{pmatrix} -2 & 1 & 4 \\ 3 & 5 & -7 \\ 1 & 6 & 2 \end{pmatrix}$ (f) $\begin{pmatrix} 1 & 0 & 1 \\ 3 & 1 & 2 \\ 4 & 1 & 3 \end{pmatrix}$

2. For each matrix: (i) compute the determinant, and (ii) determine if the matrix is invertible.

(a) $\begin{pmatrix} -3 & 0 & 7 \\ 2 & 5 & 1 \\ -1 & 0 & 5 \end{pmatrix}$ (b) $\begin{pmatrix} 3 & 3 & 1 \\ 1 & 0 & -4 \\ 1 & -3 & 5 \end{pmatrix}$

(c) $\begin{pmatrix} 3 & 3 & 0 & 5 \\ 2 & 2 & 0 & -2 \\ 4 & 1 & -3 & 0 \\ 2 & 10 & 3 & 2 \end{pmatrix}$ (d) $\begin{pmatrix} 4 & 0 & 0 & 1 & 0 \\ 3 & 3 & 3 & -1 & 0 \\ 1 & 2 & 4 & 2 & 3 \\ 9 & 4 & 6 & 2 & 3 \\ 2 & 2 & 4 & 2 & 3 \end{pmatrix}$