

Math 60
Homework 7

Name _____
Due Wednesday November 2 before 4:00 PM

1. Compute the determinant of the matrix $A = \begin{bmatrix} 1 & 0 & 2 & 1 \\ -1 & 1 & 1 & 2 \\ 2 & 1 & 1 & 0 \\ 0 & 1 & 1 & -1 \end{bmatrix}$ using row moves.

2. Compute the determinant of the matrix $A = \begin{bmatrix} 1 & 0 & 2 & 0 \\ 1 & 1 & -1 & 2 \\ 0 & 1 & 1 & 0 \\ 1 & 1 & 1 & -1 \end{bmatrix}$ using a row expansion and then using a column expansion.

3. Prove that the function $F_j(A) = \sum_{k=1}^n A_{jk}C_{jk}$ from lecture 22 is alternating.

4. State and prove a theorem about the determinant of orthogonal matrices.