## $\begin{array}{c} \text{Math 320 Linear Algebra} \\ \text{Assignment $\#$ 2} \end{array}$

- 1. Let  $A = \begin{bmatrix} 2 & 3 \\ -1 & 2 \end{bmatrix}$  and  $B = \begin{bmatrix} -3 & 1 \\ -2 & -2 \end{bmatrix}$ . Find the following:
  - (a) det(A)
  - (b) det(B)
  - (c) AB
  - (d) det(AB)
  - (e) Show det(A) det(B) = det(AB).

2. Suppose that A is an  $n \times n$  matrix. Show that if  $A^2 = I_n$  then  $det(A) = \pm 1$ .