Chapter 3

Math 2890-003
Fall 2016 **Name** _____
Due Nov 01

1. (1 point) Let

$$A = \begin{pmatrix} -8 & 0 & 0 & 0 & 0 & 0 \\ -9 & 6 & 0 & 0 & 0 & 0 \\ 7 & -2 & 1 & 0 & 0 & 0 \\ -5 & -2 & 5 & -4 & 0 & 0 \\ 0 & 2 & 2 & -1 & 1 & 0 \\ 9 & 9 & 2 & 8 & -1 & 2 \end{pmatrix}.$$

Find the determinant of A if it exists. Show and explain your computations. If the determinant doesn't exist, explain why it doesn't.

2. (1 point) Let

$$A = \begin{pmatrix} 3 & 5 & 6 & 4 & 0 & 1 & 0 & 4 \\ 1 & 1 & 7 & 2 & 0 & 6 & 5 & 0 \\ 0 & 0 & 9 & 2 & 4 & 1 & 2 & 3 \\ 0 & 0 & 3 & 7 & 4 & 6 & 7 & 2 \\ 0 & 0 & 0 & 0 & 0 & 8 & 9 & 4 \\ 0 & 0 & 0 & 0 & 5 & 9 & 3 & 4 \\ 0 & 0 & 0 & 0 & 0 & 0 & 9 & 7 \\ 0 & 0 & 0 & 0 & 0 & 0 & 3 & 8 \end{pmatrix}.$$

Find the determinant of A if it exists. Show and explain your computations. If the determinant doesn't exist, explain why it doesn't.

3. (1 point) Let

$$A = \begin{pmatrix} 2 & 8 & 1 & 0 \\ 1 & 8 & 3 & 3 \\ 3 & 6 & 1 & 1 \end{pmatrix}.$$

Find the determinant of A if it exists. Show and explain your computations. If the determinant doesn't exist, explain why it doesn't.

4. (1 point) Let

$$A = \begin{pmatrix} -4 & 0 & 0 & 0 & 0 \\ 4 & -1 & 0 & 0 & 0 \\ -4 & 4 & 2 & 0 & 0 \\ -3 & 5 & -3 & -1 & 0 \\ -3 & -1 & 0 & -5 & -3 \end{pmatrix} \begin{pmatrix} 4 & -5 & -2 & 1 & 2 \\ 0 & -2 & -3 & -5 & 2 \\ 0 & 0 & -1 & 5 & 1 \\ 0 & 0 & 0 & 5 & -4 \\ 0 & 0 & 0 & 0 & 3 \end{pmatrix}.$$

Find the determinant of A if it exists. Show and explain your computations. If the determinant doesn't exist, explain why it doesn't.

5. (1 point) Let

$$A = \begin{pmatrix} 5 & 5 & 3 & 9 \\ 1 & 8 & 0 & 2 \\ 3 & 6 & 3 & 5 \\ 1 & 9 & 0 & 3 \end{pmatrix}.$$

Find the determinant of A if it exists. Show and explain your computations. If the determinant doesn't exist, explain why it doesn't.

Total for assignment: 5 points