Math 2802 N1-N3 Quiz

February 16th, 2018

The quiz has a total of 10 points and you have 15 minutes. Read carefully and clearly justify how you obtained your answers.

1. [2 points] *(Hint: use a specific example if you want to test your answer)*
Let A and B be a 3×3 matrix with $\det(A) = 8$. If the rows of A and B are place
as follows: $A = \begin{pmatrix} - & r_1 & - \\ - & r_2 & - \\ - & r_3 & - \end{pmatrix}$ $B = \begin{pmatrix} - & r_3 & - \\ - & r_2 & - \\ - & r_1 & - \end{pmatrix}$.

Then $\det(B)$ equals: _____

2. [1 point] Let B be a 3×3 matrix If $rank(B) = 2$, then
Dimension of $Nul(B)$ equals _____

3. Use the row reduction of A to find... $A = \begin{pmatrix} -3 & 9 & -2 & -7 \\ 2 & -6 & 4 & 8 \\ 3 & -9 & -2 & 2 \end{pmatrix} \sim \begin{pmatrix} 1 & -3 & 6 & 9 \\ 0 & 0 & 4 & 5 \\ 0 & 0 & 0 & 0 \end{pmatrix}$

    a) [2 points] the value for $rank(A)$

    b) [2 points] a basis for $ColA$,

    c) [3 points] a basis for $NulA$,