GEORGIA TECH   SCHOOL OF MATHEMATICS
                                                                          MATH 1502

<div align="center">

CALCULUS II, SECTION D
Quiz # 8
October 22nd 2008

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First Name : _____

Last Name : _____

This quiz is devoted to solving the following system of linear equations :

$$
\begin{aligned}
x_1 - x_2 - 3x_3 + 2x_4 &= 1 \\
-x_1 + x_2 + 2x_3 - x_4 &= 0 \\
2x_1 - 2x_2 - 5x_3 + 3x_4 &= 1 \\
3x_1 - 3x_2 - 8x_3 + 7x_4 &= 0
\end{aligned}
\tag{1}
$$

1. Writing this system as $A\mathbf{x} = \mathbf{b}$ give the expression of the matrix A

$$A =$$

2. Give a row reduced form for the augmented matrix

   (Give results here and use the back pages for your calculations)

Reduced form =

3. Give a one-to-one parametrization of the kernel of A

   (Give results here and use the back pages for your calculations)

$\mathrm{Ker} A \; =$

4. Give a one-to-one parametrization of the set of solutions of eq. (1)

   (Give results here and use the back pages for your calculations)

$S(A|\mathbf{b}) \; =$

5. Give a one-to-one parametrization of the image of A

(Give results here and use the back pages for your calculations)

$$\text{Im}A \ =$$

_____

Use the bottom of this page and the back page for your calculations

Use this page for your calculations