Take-Home Quiz 1 *(Due at 7:00 p.m. on Fri. September 10, 2010)*

Division: **ID#:**   **Name:**

Let us consider the following system of linear equations in 6 unknowns $x_1, x_2, \ldots, x_6$.

$$
\begin{cases}
-2x_1 + 2x_2 + 5x_3 + 4x_4 - 9x_5 - 10x_6 &= -13 \\
-x_1 + x_2 + 3x_3 + 3x_4 - 8x_5 - 7x_6 &= -6 \\
2x_1 - 2x_2 - 4x_3 - x_4 - 3x_5 + 4x_6 &= 14 \\
x_1 - x_2 - 2x_3 - x_4 + x_5 + 3x_6 &= 7
\end{cases}
\qquad
B = \begin{bmatrix}
1 & -1 & -2 & -1 & 1 & 3 & 7 \\
0 & 0 & 1 & 2 & -7 & -4 & 1 \\
2 & -2 & -4 & -1 & -3 & 4 & 14 \\
-2 & 2 & 5 & 4 & -9 & -10 & -13
\end{bmatrix}
$$

1. Find the augmented matrix A of the system of linear equations above.

2. The matrix B is obtained by applying elementary row operations twice to the augmented matrix A. Write the elementary row operation using the notation $[i; c]$, $[i, j]$, or $[i, j; c]$.

3. Find the reduced row echelon form of the augmented matrix A. (Solution only.)

4. Find the solution of the system of linear equations. Use parameters if necessary.

Message: (1) この授業に期待すること (2) あなたにとって数学とは [HP 掲載不可のときは明記のこと]