Math 3160 - Test 1 plus - only Row Reduction

Name:_____

No calculators and show all work.

1. Solve the following systems of linear equations using row reduction.

$$\begin{cases} 2x_1 & +x_2 & +2x_3 & = 7 \\ & -2x_2 & & = -2 \\ 3x_1 & x_2 & & = 4 \end{cases}$$

2. Solve the following systems of linear equations using row reduction.

$$\begin{cases} x_1 & -2x_2 & +2x_3 & = 3 \\ 2x_1 & & +x_3 & = 3 \\ -x_1 & -2x_2 & +x_3 & = 0 \end{cases}$$

3. Solve the following systems of linear equations using row reduction.

$$\begin{cases} x_1 & +2x_2 & +3x_3 & = 0 \\ 4x_1 & +5x_2 & +6x_3 & = 3 \\ 7x_1 & +8x_2 & +9x_3 & = 0 \end{cases}$$

4. Solve the following systems of linear equations using row reduction.

$$\begin{cases} 2x_1 & -2x_2 & +2x_3 & & -6x_5 & = 6 \\ x_1 & -2x_2 & +2x_3 & +3x_4 & -6x_5 & = 3 \\ x_1 & -2x_2 & +2x_3 & & -6x_5 & = 3 \\ & & & x_4 & +x_5 & = 6 \end{cases}$$

5. Solve the following systems of linear equations using row reduction.

$$
\begin{cases}
X_1 & +2X_2 & +-X_3 & = 4 \\
& X_2 & +2X_3 & = 6 \\
2X_1 & +3X_2 & +-4X_3 & = 2 \\
-X_1 & +-X_2 & +3X_3 & = 2 \\
X_1 & +X_2 & +-3X_3 & = -2 \\
X_1 & & +-5X_3 & = -8
\end{cases}
$$