

Name: _____ Date: _____

Show your work very clearly, neatly, and box your final answer.**One Side Only**

1. Solve by Gauss-Jordan elimination method

$$\begin{cases} x_1 + 3x_2 - 2x_3 + 2x_5 = 0 \\ 2x_1 + 6x_2 - 5x_3 - 2x_4 + 4x_5 - 3x_6 = -1 \\ 5x_3 + 10x_4 + 15x_6 = 5 \\ 2x_1 + 6x_2 + 8x_4 + 4x_5 + 18x_6 = 6 \end{cases}$$

2a. What is a homogeneous system of linear equations? Give an example.

2b. What is a trivial solution?

2c. What is a nontrivial solution?

3a. What is a Row Echelon Form of a matrix? Give all the conditions and an example.

3b. What is a reduced Row echelon Form? Give all the conditions and an example.

4. Give a brief biography of Carl Friedrich Gauss and Wilhelm Jordan?