1. Solve the following system of equations by eliminating variables and back substituting.

\[
\begin{align*}
    x_1 - 3x_3 &= 8, \\
    2x_1 + 2x_2 + 9x_3 &= 7, \\
    x_2 + 5x_3 &= -2
\end{align*}
\]

2. If a matrix has 4 rows and 6 columns, what is the largest number of pivots it can have?

3. Is the following matrix in row echelon form, reduced row echelon form, or neither?

\[
M = \begin{bmatrix}
0 & 1 & 2 & 4 \\
0 & 0 & 1 & 3 \\
0 & 0 & 0 & 1 \\
0 & 0 & 0 & 0
\end{bmatrix}
\]