Homework - June 8
Section 1.2

2. a) Reduced Echelon Form
b) Echelon Form
c) Neither
d) Echelon Form

12. $\begin{bmatrix} 1 & -7 & 0 & 6 & 5 \\ 0 & 0 & 1 & -2 & -3 \\ -1 & 7-4 & 2 & 7 & \end{bmatrix} \sim \begin{bmatrix} 1 & -7 & 0 & 6 & 5 \\ 0 & 0 & 1 & -2 & -3 \\ 0 & 0 & -4 & 8 & 12 \end{bmatrix} \sim \begin{bmatrix} 1 & -7 & 0 & 6 & 5 \\ 0 & 0 & 1 & -2 & -3 \\ 0 & 0 & 0 & 0 & 0 \end{bmatrix}$

The general solution is $s = \begin{cases} x_1 = 7x_2 \\ x_2 \text{ free} \\ x_3 = 2x_4 - 3 \\ x_4 \text{ free} \end{cases}$

22. a) False. Only the reduced echelon form is unique.
b) False. The pivot positions are the same in any echelon form of the matrix.
c) True.
d) False. The system must also be consistent.
e) True.