Math 3160 - Quiz 2

Name:_____

1. Solve the following systems of linear equations.

(a)
$$\begin{cases} x_1 & -2x_2 & & & -6x_5 & = 0 \\ & x_2 & +x_3 & +6x_4 & & = 5 \\ & 2x_2 & & +6x_4 & +x_5 & = 4 \\ & x_2 & -x_3 & & +x_5 & = -1 \end{cases}$$

(b)
$$\begin{cases} 2x_1 & -2x_2 & +4x_3 & = 2 \\ & & x_3 & = 0 \\ x_1 & +x_2 & +2x_3 & = 0 \end{cases}$$

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

2. Let $A = \begin{bmatrix} 1 & 2 & 3 \\ 1 & 0 & -1 \\ 0 & 1 & 1 \end{bmatrix}$ $B = \begin{bmatrix} 4 & 0 & -1 \\ -1 & 2 & 0 \end{bmatrix}$ and $C = \begin{bmatrix} 2 & 0 \\ -3 & 0 \\ -1 & 1 \end{bmatrix}$

   Compute the following: AB, AC, BC, CB