

Su 96  
EGN 3420

Quiz

Name \_\_\_\_\_

For the system of equations below:

$$\begin{array}{rcccccccc} w & + & x & & & + & z & = & 2 \\ 3w & - & x & + & 3y & & & = & 3 \\ & & & x & - & 4y & + & 4z & = & 4 \\ w & - & x & + & 2y & - & z & = & 0 \end{array}$$

1. Find the Echelon form of the augmented matrix. Are there any arbitrary unknowns? If so, how many arbitrary unknowns are there?
2. Without solving for  $x$ , determine if  $x$  can be arbitrary. If  $x$  can be arbitrary, find the solution for  $w$ ,  $y$  and  $z$  in terms of  $x$ .
3. Without solving for  $y$ , determine if  $y$  can be arbitrary. If  $y$  can be arbitrary, find the solution for  $w$ ,  $x$  and  $z$  in terms of  $y$ .