MA322-001 Jan 17 quiz Name:_____

1.1 These questions cover the old material from Wed Jan 15. You may recognize the following two questions as part of HW1.1#9, and as HW1.1#5, 29, and 31 "with numbers changed."

1.1.1 Describe the row operations to transform this matrix into reduced (row) echelon form. You don't need to do them, just describe them clearly.

$$\begin{bmatrix} 1 & -1 & 0 & 9 & -5 \\ 0 & 1 & -2 & 0 & 7 \\ 0 & 0 & 1 & -3 & 2 \\ 0 & 0 & 0 & 1 & 4 \end{bmatrix}$$

1.1.2 Describe the solution set of the system of equations that has the following augmented matrix. The variables are x_1, x_2, x_3, and x_4. This pattern is used pretty consistently throughout the book.

$$\begin{bmatrix} 1 & 0 & 0 & 0 & 16 \\ 0 & 1 & 0 & 0 & 21 \\ 0 & 0 & 1 & 0 & 14 \\ 0 & 0 & 0 & 1 & 4 \end{bmatrix}$$

1.2 These are questions over today's material.

1.2.1 Find the general solution to the linear system whose augmented matrix is given below. Make sure to answer in complete sentences. "x=4" is a complete sentence (it is read, "x is 4," and while not very poetic, it does contain the essential features of the complete sentence).

$$\begin{bmatrix} 1 & 0 & -2 & 9 \\ 0 & 1 & 3 & 5 \end{bmatrix}$$

$$\begin{cases} x_1 \_\_\_\_\_ \\ x_2 \_\_\_\_\_ \\ x_3 \_\_\_\_\_ \end{cases}$$

1.2.2 "Just give me some numbers!!!" For the same matrix, give specific numeric values for variables that do actually work (even if there might be other answers).

$$\begin{bmatrix} 1 & 0 & -2 & 9 \\ 0 & 1 & 3 & 5 \end{bmatrix}$$

$$\begin{cases} x_1 = \_\_\_\_\_ \\ x_2 = \_\_\_\_\_ \\ x_3 = \_\_\_\_\_ \end{cases}$$

You should get this back on Wed Jan 22. The following note is for you to read then:

Before next class (Fri Jan 24) (a) reread 1.3 and fix your notes, (b) read 1.4 and get your notes ready for next class, and (c) do HW1.3 #5,7,9,11,13*,22,29*. For 13, convince yourself it is solved the same way as 11. Read 29, and convince yourself that it makes sense. You don't need to do the calculations on these two if you are pressed for time.