MTH 266, Quiz #1, Fall 2018   Name _____

Instructions: Show all work. Use exact answers unless otherwise asked to round.

1. Suppose that the matrix below is the augmented matrix representing a system of equations.

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

a. State the size of the matrix.

b. If we call the matrix A, what is the element A_{23}?

c. Write the system of equations represented by the matrix using the variables x_1, x_2,… as needed.

d. Solve the system by reducing the matrix, by hand, to *reduced* row echelon form.

e. Circle the pivots in your reduced matrix.
f. State whether the solution is consistent or inconsistent; dependent or independent. If independent, state the solution in vector (coordinate point) form. If dependent, use set notation to write the reduced set of equations the system must satisfy.