Name: _____

Quiz 2

This quiz is graded out of 11 marks. No books, watches, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. Given

$$M = \begin{bmatrix} 1 & 2 & 2 & -1 & 3 & 1 \\ 0 & 0 & 1 & 1 & 2 & 2 \\ 0 & 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix}$$

where M is in row echelon form.

a. *(3 marks)* Find the reduced row echelon form of M.

b. *(1 mark)* Find two different row echelon form of M.

c. *(3 marks)* Find the solution set of the system of linear equations whose augmented matrix is M by using back substitution.

d. *(1 mark)* Find two particular solution of the system of linear equations whose augmented matrix is M.

e. *(2 marks)* Find the solution set of the homogeneous system of linear equations whose coefficient matrix is M.

f. *(1 marks)* Find a particular solution the homogeneous system of linear equations whose coefficient matrix is M when the solution of the first variable is equal to 1.