Math 245 Written Homework 6 Due 5/30 Name:

1. Solve the following systems of linear equations. They are on the next 3 pages. Please show all your work: If you row reduced a matrix show me all steps you did, if you found another way explain it. If there is no solution, say why there isn't one (showing a row reduced matrix with no solution is enough.) If there are infinitely many solutions, write the solutions in terms of one of the free variables.

   (a)

$$\begin{cases} 6x - 2y + 2z = 4 \\ 3x - y + 2z = 2 \\ -12x + 4y - 8z = -8 \end{cases}$$

(b)

$$\begin{cases} 4x - 4y + 4z = -8 \\ x - 2y - 2z = -1 \\ 2x + y + 3z = 1 \end{cases}$$

(c)

$$\begin{cases} x + 2y + 3z = 4 \\ 5x + 6y + 7z = 8 \\ x + 2y + 3z = 5 \end{cases}$$