

**PRACTICE 2a:** This assignment will make use of the systems given in question B5 on page 81, but is not actually any of the parts listed with B5. Instead, for each of system (b) through (f) I will give a list of three potential solutions to the system. For each potential solution, determine whether or not it is a solution. I will do (a) as an example:

**Example:** (a)  $\begin{bmatrix} -2 \\ 0 \\ 0 \end{bmatrix}, \begin{bmatrix} 2 \\ -5 \\ 1 \end{bmatrix}, \begin{bmatrix} 6 \\ -6 \\ -2 \end{bmatrix}$

Since  $2(-2) + (0) + 5(0) = -4$  and  $-2 + 0 + 0 = -2$ , we see that  $\begin{bmatrix} -2 \\ 0 \\ 0 \end{bmatrix}$  IS a solution to the system.

Since  $2(2) + (-5) + 5(1) = 4 \neq -4$ , we see that  $\begin{bmatrix} 2 \\ -5 \\ 1 \end{bmatrix}$  is NOT a solution to the system.

Since  $2(6) + (-6) + 5(-2) = 12 - 6 - 10 = -4$  and  $6 + (-6) + (-2) = -2$ , we see that  $\begin{bmatrix} 6 \\ -6 \\ -2 \end{bmatrix}$  IS a solution to the system.

(b)  $\begin{bmatrix} 1 \\ 2 \\ -2 \end{bmatrix}, \begin{bmatrix} 0 \\ 3 \\ -3 \end{bmatrix}, \begin{bmatrix} 5 \\ -1 \\ 3 \end{bmatrix}$

(c)  $\begin{bmatrix} 1 \\ 1 \\ 1 \end{bmatrix}, \begin{bmatrix} 0 \\ 2 \\ 1 \end{bmatrix}, \begin{bmatrix} -2 \\ -2 \\ -2 \end{bmatrix}$

(d)  $\begin{bmatrix} -3 \\ -4 \\ 0 \end{bmatrix}, \begin{bmatrix} -8 \\ 1 \\ -4 \end{bmatrix}, \begin{bmatrix} 11 \\ -18 \\ 34 \end{bmatrix}$

(e)  $\begin{bmatrix} 1 \\ 1 \\ 0 \\ 1 \end{bmatrix}, \begin{bmatrix} 1 \\ -1 \\ 1 \\ -1 \end{bmatrix}, \begin{bmatrix} -10 \\ 8 \\ 8 \\ -11 \end{bmatrix}$

(f)  $\begin{bmatrix} 3 \\ -2 \\ 0 \\ 0 \end{bmatrix}, \begin{bmatrix} 2 \\ 0 \\ -1 \\ 1 \end{bmatrix}, \begin{bmatrix} -1 \\ 2 \\ -2 \\ 4 \end{bmatrix}$