Name (Last, First): _____

Student ID: _____

1. Write down the linear system corresponding to the following **augmented** matrix and find the general solution of the system. (Please use variables x, y, z.)

$$\begin{bmatrix} 1 & -3 & 2 & 2 \\ -2 & 6 & 3 & 5 \\ 0 & 0 & 1 & -1 \end{bmatrix}$$

2. Determine if $\mathbf{b}$ is a linear combination of the vectors formed from the columns of the matrix A.

$$A = \begin{bmatrix} 0 & 2 & -6 \\ 1 & 2 & 7 \\ 0 & 1 & -3 \end{bmatrix}, \mathbf{b} = \begin{bmatrix} 2 \\ 0 \\ 1 \end{bmatrix}$$