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 $x$, $y$, $z$.)

$$\begin{bmatrix} 1 & 2 & 3 & 7 \\ 2 & 1 & 2 & 8 \\ 0 & 2 & 3 & 4 \end{bmatrix}$$

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

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