Math 308 Discussion Problems
Spring 2017

2. Find a 3×4 matrix A, in *reduced* echelon form, with free variable x_3, such that the general solution of the equation $A\mathbf{x} = \begin{bmatrix} -1 \\ 1 \\ 6 \end{bmatrix}$ is

$$\mathbf{x} = \begin{bmatrix} -1 \\ 1 \\ 0 \\ 6 \end{bmatrix} + s \begin{bmatrix} -1 \\ 2 \\ 1 \\ 0 \end{bmatrix},$$

where s is any real number.

3. Find all values z_1 and z_2 such that $(2, -1, 3)$, $(-4, z_1, z_2)$ and $(1, 2, 2)$ do not span $\mathbb{R}^3$.