1 Finding Null Spaces

(a) 3

For any 3x5 matrix, the column vectors are 3x1 vectors, so they would at most span $(\mathbb{R}^3, \mathbb{R})$. Moreover, we have that $[1\ 0\ 0]^T, [0\ 1\ 0]^T, [0\ 0\ 1]^T$ is a Basis for $\mathbb{R}^3$, by definition of Basis, so this means that the maximum possible number of linearly independent column vectors is 3.