

Quiz 4

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1. The matrix A is defined as:

$$A = \begin{bmatrix} -3 & 6 & -1 & 1 & -7 \\ 1 & -2 & 2 & 3 & -1 \\ 2 & -4 & 5 & 8 & -4 \end{bmatrix}$$

The reduced row echelon form for the matrix A is:

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

Give a set of vectors whose span is equal to the null space of A.

2. The vector space \mathbb{P}_4 is defined to be all polynomials of degree at most 4. Define the set H to be all polynomials $p(t)$ of degree at most 4 such that $p(0) = 0$. Is H a subspace of \mathbb{P}_4 ? Why or why not? Remember there are three things that need to be verified to determine if H is a subspace of \mathbb{P}_4 .