

Math 320 Linear Algebra Assignment # 8

1. Show that vector space properties 4,5 and 9 hold for the vector space P_n (that is the space of polynomials of degree n or less.)

This video might help: [Polynomial Vector Spaces](#)

2. The polynomials $x + 1$ and $x^2 + 2$ are “vectors” in the vector space P_2 . Describe the set $\text{span}(x + 1, x^2 + 2)$.

3. Let V be a vector space.

(a) Show that if $\vec{v}, \vec{w} \in V$ and $\vec{v} + \vec{w} = \vec{0}$ then $\vec{w} = -\vec{v}$.

(b) Show that if $\vec{v} \in V$ then $(-1)\vec{v} = -\vec{v}$.

This video might help: [Vector Space Proofs](#)