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MTH 317: Linear Algebra
Professor Sussan
March 15th, 2025
Homework #3 - 1.18

✓ 1.18 Find the additive inverse, in the vector space, of the vector.
(a) In $\mathcal{P}_3$, the vector $-3-2x+x^2$.
(b) In the space 2×2,

$$\begin{pmatrix} 1 & -1 \\ 0 & 3 \end{pmatrix}.$$

(c) In $\{ae^x+be^{-x} \mid a,b\in\mathbb{R}\}$, the space of functions of the real variable x under the natural operations, the vector $3e^x-2e^{-x}$.

(a) $\vec{v} = [-3\ -2\ 1^2]$ additive inverse = $3+2x-x^2$

(b) $\begin{pmatrix} -1 & 1 \\ 0 & -3 \end{pmatrix}$

(c) $-3e^x+2e^{-x}$