Linear Algebra Done Wrong Solutions

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1 Chapter 1: Basic Notions

1.1 Vector Spaces

1.

2. (a) Yes

   (b) No, because of multiplication by a non-negative scalar.

   (c) Yes

   (d) uhh

3. (a) Yes

   (b) Suppose 0 and $0'$ are two zero vectors in a vector space. Then, $0 + 0' = 0 = 0'$.

   (c) True, duhh

   (d) True

   (e) True

4.

5. $\begin{matrix} 0 & 0 & 0 \\ 0 & 0 & 0 \end{matrix}$

6. Suppose a vector v in a vector space has two additive inverses: $v' and v''$. Then, $v + v' = v + v'' = 0$