

**Source:** 2020MATH530/KBe2020math530floIndex.md

#flo #disorganized #incomplete

## 1 | Administrative bits

- Will present problems from 2.B and/or 2.C next week
- Mini quiz, stop yourself after an hour
- and give your subconscious a chance to think about things # #icr Axler2.C #source Axler Linear Algebra Done Right 2.C ## Polynomials are vectors
  - because you can add and scale them and they are kind of nice in general ## The box under 2.38
- You can't understand a vector space just by knowing the vectors inside
  - you also need to know the field that you are in
  - See 2.A ex5
- The field that you are over changes your dimension: usually we think of  $\mathbb{C}$  as a vector space over  $\mathbb{R}$ , but in this class we think of it as over  $\mathbb{C}$ , which means  $\dim \mathbb{C} = 1$

### 1.1 | Axler2.41

- It's my question! See [\[KBe20math530floQuestions\]](#)

### 1.2 | Axler2.42

- #tip If it's a spanning list that's the right length, then it's a basis and therefore linearly independent.
- If it's a linearly independent list and it's the right length, then it's a basis and therefore spanning.

### 1.3 | Axler2.43 Dimension of a Sum

#### 1.3.1 | An Example

- If you have two planes
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