#ret #hw

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1 | Some questions to ponder

- **why is Axler even talking about polynomials in Chapter 2.A?**
  - Polynomials can also form a vector space, and thus the same rules apply. By talking about polynomials, Axler shows some of the unifying power of vector spaces.
- **is there an *intuitive* way to describe the span of a set of vectors?**
- is there an easy or quick way to check if a set of vectors is linearly independent?
- what is the relationship between linear independence (of a set of vectors) and systems of equations?
- what is the relationship between linear independence (of a set of vectors) and nonsingularity (of a matrix)?
- what is the relationship between linear independence (of a set of vectors) and direct sum (of subspaces)?

…for many of these questions, though, don't just ponder, look at lots of examples to gain intuition!!

You don't have to come up with a definitive answer for all of them, there is a lot here, do *at least* 30 minutes and no more than is sane for you in terms of sleep and other obligations.