1 | **Readings**

- Axler 2.A
  - Under "Linear Independence", what is the whole thing about subtracting equations and "if the only way to do this is the obvious way"? pg.32
  - Linear independence feels somewhat okay, but everything past linear dependence lost me.
- Axler 2.C
  - Under example 2.41, near the end, why can't dim U not equal 4? Why must you be able to expand it by at least one element?
    - Maybe because there are elements in $\mathcal{P}_m(\mathbb{R})$ that aren't in U, so the basis of U must be a different length from the basis of V (else U would equal V and all elements of V would be in U by 2.39)
    - We can shove $f(x) = x$ into the basis of U and it will still be linearly independent (because f was not in U), so dim U must be less than 4.