

#flo #hw

---

## 1 | Finite-Dimensional Vector Spaces

title: Review

$F$  denotes  $\mathbb{R}$  or  $\mathbb{C}$

$V$  denotes a [\[\[file:KBe20math530refVectorSpace.org\] \[KBe20math530refVectorSpace\]\]](#) over  $F$

- lin alg does not focus on arbitrary vector spaces
- it focuses on finite-dimensional vector spaces!

title: learning objectives for the chapter

- span
- linear independence
- bases
- dimension

- **notation:**

- lists of vectors:

- \*  $(2,1,4), (3,2,5)$

- list len 2 of vectors in  $\mathbb{R}^3$

- \*  $n$ -tuples without surrounding parens

- linear combination

- a linear combination of  $x$  and  $y$  would be any expression of the form  $ax + by$ , where  $a$  and  $b$  are constants ~wiki
  - multiply each element in a list of vectors by an element in  $F$