

#flo #hw

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## 1 | Linear Maps

no one gets excited about vector spaces -axler

the interesting part: linear maps!

title: learning objectives

- fundamentals theorem of linear maps
- matrix of linear map w.r.t. given bases
- isomorphic vec spaces
- product spaces
- quotient spaces
- duals spaces
  - vector space
  - linear map

## 2 | The vector space of linear maps

**key definition!**

“ad-def title: linear map a *linear map* from  $V$  to  $W$  is a function  $T : V \rightarrow W$  with the following properties:

**additivity**  $T(u + v) = Tu + Tv$  for all  $u, v \in V$  **homogeneity**  $T(\lambda$