

#flo #hw

1 | Linear Maps

no one gets excited about vector spaces -axler

the interesting part: linear maps!

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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!

```
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**
 $T(\lambda v) = \lambda T(v)$  for all  $\lambda \in F$  and  $v \in V$ .
```