

**Source:** [KBe2020math530floIndex](#)

## 1 | Span

### Smallest/largest containing subspaces

- Spans are not the largest vector space that contains the given vectors Pasted image 20200924131215.png
- The span of that vector is a line. It's a subspace. But it's not the biggest, because there's also  $\mathbb{R}^2$

### Spans tend to be infinite

- Usually a span has infinitely many vectors (unless you're in a weird field (modulo) or have the zero span)
  - In the span of just one vector, you can multiply by any scalar which there tends to be infinite of Pasted image 20200924131215.png
  - The span of that vector is a line. It's a subspace. But it's not the biggest, because there's also  $\mathbb{R}^2$
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