

Source:

1 | **Axler3.6 sum** $(S + T)$

If $S, T \in \mathcal{L}(V, W)$ then the *sum* $S + T$ is defined by

$$(S + T)(v) = Sv + Tv$$

$(S + T)$ is a linear map.

2 | **Axler3.6 scalar product** λT

If $T \in \mathcal{L}(V, W)$ and $\lambda \in \mathbb{F}$ then the *product* $(\lambda T)v = \lambda Tv$. λT is a linear map.

3 | **Results**

3.1 | **Axler3.7** $\mathcal{L}(V, W)$ is a vector space over \mathbb{F}