

Source:

1 | Definition

#definition Axler3.2 Linear Map #aka linear transformation A *linear map* from V to W is a function $T : V \rightarrow W$ with the following properties:

1.1 | Additivity

$$T(u + v) = Tu + Tv \forall u, v \in V$$

1.2 | Homogeneity

$$T(\lambda v) = \lambda(Tv) \forall \lambda \in \mathbb{F}, v \in V$$

2 | Other Notation

2.1 | Set of Maps

#definition Axler3.3 $\mathcal{L}(V, W)$

The set of all linear maps from V to W is denoted $\mathcal{L}(V, W)$.