Testing

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Chapter 1

VectorSpaces

1.1 ZeroScalarMultiplication

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Definition 1. A *vector space* is a space over a field K with an abelian group V. It has four main properties:

- **smul_add**: $\forall (a : K)(xy : V), a \bullet (x + y) = a \bullet x + a \bullet y$
- **add_smul**: $\forall (ab : K)(x : V), (a + b) \bullet x = a \bullet x + b \bullet x$
- **mul_smul**: $\forall (ab : K)(x : V), (a * b) \bullet x = a \bullet (b \bullet x)$
- **one_smul**: $\forall (x : V), (1 : K) \bullet x = x$