Vectors

I assume you know enough about $\mathbb{R}^n$. R^n satisfies some axioms, which we can identify and thus generalize.

Group poperties

Pretty much boring stuff.

Associativity of addition
Additive Identity
Inverse
Commutativity

Scalars

Getting interesting.

Multplicative Identity
Associativity of multiplication
Distributivity (r+s)X=rX+sX. r(X+Y)=rX+rY.

$$1 = 1$$