Vector Space Summary

Theory	***Example***
Let E be a non-empty set of vectors.	$E = \{(x, y) \in \mathbb{R}^2 \mid y = 2x\}$
Let "+" be an internal composition law.	$(2,3) + (1,4) = (3,7)$
Let "." Be an external composition law.	$3.(2,3) = (6,9)$
(E,+,.) form a *triple*.	
The triple is a vector space if it follows the 10 axioms.	
If (E,+,.) is a vector space and U$\subset E$, then (U,+,.) is a vector subspace of (E,+,.) if closure can be proved.	$E \subset \mathbb{R}^2$ Prove closure for "+" & "." in E, then (E,+,.) is a vector subspace of ($\mathbb{R}^2$,+,.).