

sci.math: What is a basis for vector space of $\{(a_1, a_2, \dots)\}$ a_i real?

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Hi

I'd be very grateful if anyone could answer the following.

If V is the set of all countable-tuples (a_1, a_2, a_3, \dots) where a_i are rational or real, then under usual pointwise addition and scalar multiplication it is a vector space. Every vector space has a basis – what then is a basis of V ? Also any book that deals with infinite-dimensional spaces – thanks

Ron Jones