

Math 350' Homework

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In class we discussed the Axiom of Choice, and some of its associated controversy. Spend a little time reading what you find on the web about Choice and its uses, then answer the following.

What do you think about Choice? As an Axiom, it allows us to prove many wonderful things, like de Bruijn-Erdős as we did in class, but it also allows us to prove many bizarre things, like the Banach-Tarski paradox, or the existence of subsets of \mathbb{R} that cannot be measured (not of size/measure 0, but literally an unknowable size).

Reflect on whether this Axiom is, to you, reasonable or not. If so, why? If not, why not? What would happen to mathematics if we started deleting or adding axioms whenever we wanted? Would that be a good thing or bad thing?