Definition 1. Let x be a set. x is *countable* iff $|x| \leq \omega$.

Definition 2. Let x be a set. x is *uncountable* iff x is not countable.

Definition 3. Let x be a set. x is *countably infinite* iff $|x| = \omega$.

Proposition 4. Let x be a set. Then x is uncountable iff $|x| > \omega$.