

Countable and Uncountable Sets

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Definition 0.1. Let x be a set. x is countable iff $|x| \leq \omega$.

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Definition 0.2. Let x be a set. x is uncountable iff x is not countable.

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Definition 0.3. Let x be a set. x is countably infinite iff $|x| = \omega$.

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Proposition 0.4. Let x be a set. Then x is uncountable iff $|x| > \omega$.