

## Successor Cardinals

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**Definition 0.1.** Let  $\kappa$  be a cardinal.  $\kappa^+$  is the cardinal such that  $\kappa < \kappa^+$  and there is no cardinal  $\nu$  such that  $\kappa < \nu < \kappa^+$ .

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**Definition 0.2.** A successor cardinal is a cardinal number  $\kappa$  such that  $\kappa = \nu^+$  for some cardinal number  $\nu$ .

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**Proposition 0.3.** Let  $\kappa$  be a cardinal. Then  $|\alpha| \leq \kappa$  for every  $\alpha \in \kappa^+$ .