Injective Functions

1. Definition: when a function is one-to-one.

1) A function $f:(a,b)\to\mathbb{R}$ is injective on (a,b) if $\forall x\in(a,b), \forall y\in(a,b), x\neq y \Rightarrow f(x)\neq f(y)$.

① When working in proof, it's hard to show, using definition since we have to check all numbers in the inteval

use the contrapositive.

↓

A function $f:(a,b)\to\mathbb{R}$ is injective if for all $x,y\in(a,b)$, $f(x)=f(y)$ implies $x=y$.