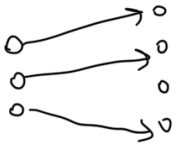
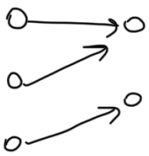
functions

injective



one-to-one

surjective



onto (codomain = hosts elem yokes)

to show that f is $f: A \to B$

injective

show that if $f(x) = f(y)$ for arbitrary $x, y \in A$ with $x \neq y$ then $x = y$.

not injective

find particular elements $x, y \in A$ such that $x \neq y$ and $f(x) = f(y)$

surjective

Consider an arbitrary element y and find an element $x \in A$ such that $f(x) = y$

not surjective

find a particular $y \in B$ such that $f(x) \neq y$ for all $x \in A$

bijective = injective + surjective