Function Inverses

1 Why

We want a notion of reversing functions.

2 Definition

An **identity function** is a relation on a set which is functional
and reflexive. It associates each element in the set with itself.

Consider two functions for which the codomain of the first
function is the domain of the second function and the codomain
of the second function is the domain of the first function. These
functions are inverse functions if the composition of the second
with the first is the identity function on the first's domain and
the composition of the first with the second is the identity func-
tion on the second's domain.