

t2\_xboolean  
(TMYJbMx3MYbDRWgWaMcVVLhnBKjX9kW5DMx)

October 27, 2020

Let  $v1\_xboolean : \iota \Rightarrow o$  be given. Let  $k4\_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboolean : \iota$  be given. Let  $k2\_xboolean : \iota$  be given. Assume the following.

$$\forall X0.(v1\_xboolean X0) \Rightarrow (k4\_xboolean X0 X0 = X0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xboolean X0) \wedge (v1\_xboolean X1)) \Rightarrow (v1\_xboolean (k4\_xboolean X0 X1)) \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xboolean X0) \Leftrightarrow ((X0 = k1\_xboolean) \vee (X0 = k2\_xboolean)) \quad (3)$$

**Theorem 1**

$$\forall X0.(v1\_xboolean X0) \Rightarrow (\forall X1.(v1\_xboolean X1) \Rightarrow (k4\_xboolean X0 (k4\_xboolean X0 X1) = k4\_xboolean X0 X1))$$