

t124\_xboolean  
(TMXWBj6eD8LTJJRh6peb7QwiHzMEiy7uKHw)

October 27, 2020

Let  $v1\_xboolean : \iota \Rightarrow o$  be given. Let  $k5\_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboolean : \iota \Rightarrow \iota$  be given. Let  $k6\_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboolean : \iota$  be given. Assume the following.

$$\forall X0.(v1\_xboolean X0) \Rightarrow (\forall X1.(v1\_xboolean X1) \Rightarrow (k6\_xboolean X0 (k6\_xboolean (k6\_xboolean X0 X1) X1) = k2\_xboolean)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xboolean X0) \wedge (v1\_xboolean X1)) \Rightarrow (v1\_xboolean (k6\_xboolean X0 X1)) \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xboolean X0) \Rightarrow (\forall X1.(v1\_xboolean X1) \Rightarrow (k6\_xboolean X0 X1 = k5\_xboolean (k3\_xboolean X0) X1)) \quad (3)$$

**Theorem 1**

$$\forall X0.(v1\_xboolean X0) \Rightarrow (\forall X1.(v1\_xboolean X1) \Rightarrow (k5\_xboolean (k3\_xboolean X0) (k6\_xboolean (k6\_xboolean X0 X1) X1) = k2\_xboolean))$$