

t52_xboolean
(TMPnzU8mt4rpmrSizWWUhfoAPGpaNiZxV1w)

October 27, 2020

Let $v1_xboolean : \iota \Rightarrow o$ be given. Let $k4_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboolean : \iota \Rightarrow \iota$ be given. Let $k5_xboolean : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (k4_xboolean X0 (k5_xboolean (k3_xboolean X0) X1) = k4_xboolean X0 X1)) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (k3_xboolean (k3_xboolean X0) = X0) \quad (2)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (v1_xboolean (k3_xboolean X0)) \quad (3)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (k8_xboolean X0 X1 = k3_xboolean (k4_xboolean X0 X1))) \quad (4)$$

Assume the following.

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (k5_xboolean X0 X1 = k3_xboolean (k4_xboolean (k3_xboolean X0) (k3_xboolean X1)))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xboolean X0) \wedge (v1_xboolean X1)) \Rightarrow (k8_xboolean X0 X1 = k8_xboolean X1 X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xboolean X0) \wedge (v1_xboolean X1)) \Rightarrow (k5_xboolean X0 X1 = k5_xboolean X1 X0) \quad (7)$$

Theorem 1

$$\forall X0.(v1_xboolean X0) \Rightarrow (\forall X1.(v1_xboolean X1) \Rightarrow (k4_xboolean X0 (k8_xboolean X0 X1) = k4_xboolean X0 (k3_xboolean X1)))$$